



TOGETHER FOR YEARS



# HEATING SYSTEMS







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# We are E.C.A.

The Elginkan Group started production under trademark of E.C.A. in 1957.

The Group has reached its present product range by including in its activity matters, production and marketing of valves and sanitary fittings, ceramic sanitary wares central and individual heating and cooling equipment, gas and electrical water heaters, household appliances, cast iron products, molds, food and catering, construction, industrial raw materials, from the day it was founded.

While the Elginkan Group runs its activities with integrity from raw material to sales, the planning and execution of this chain is realized continuously and mainly with information dealing and managing within the company and among companies.

Today this group operates 14 factories and 21 companies in the heating and building industries. It is already presenting quality products to the consumer with trademarks such as E.C.A., SEREL, EMAS, ODÖKSAN, ELBA, AR and YAK. Eleks Dış Ticaret A.Ş. is the Elginkan Group's export company.





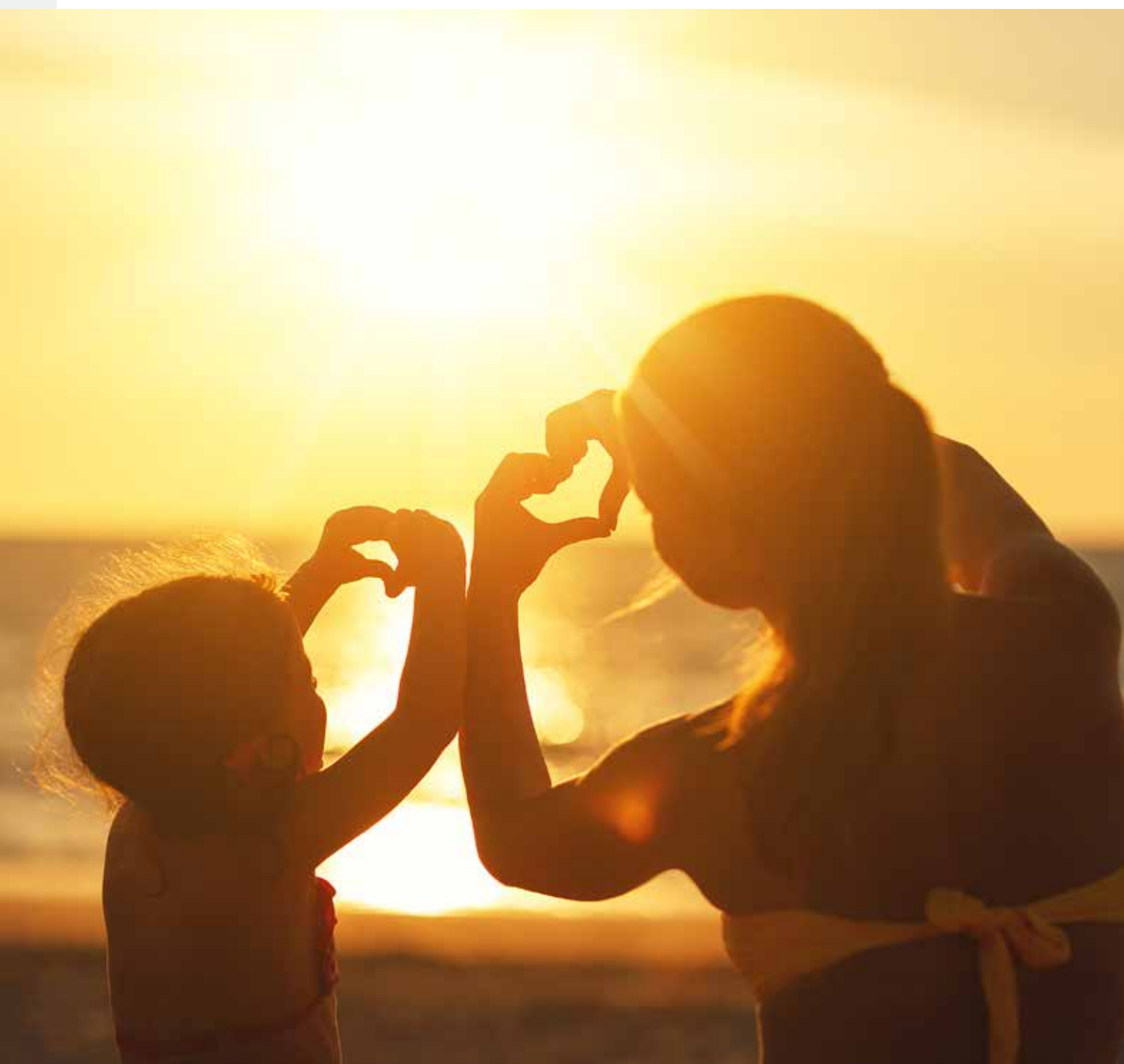
# A brand new future with E.C.A.

E.C.A. is aware of the fact that the sustainability of life depends on the sustainability of natural resources. With an awareness of the environment and the future since 1953, it has been designing products encouraging economy in energy and resources by minimising its consumption of non-renewable natural resources, beginning at the production process. Especially in the products that have been developed during the last twenty years, water and heat saving has been adopted as a standard application, and the technologies and designs that are developed are shaped accordingly.

In all products it develops, from radiators to combi boilers and valves, it introduces the consumer to environment-friendly technologies that aim at preserving non-renewable natural resources, mainly thermal energy.

Having stood by the consumer with its quality for many years, E.C.A. aims for an ecologically unchanged future through its environment-friendly products.

## "To be together for years..."





# COMBI BOILERS







# E.C.A. CONFEO PREMIX



# Superior Safety Systems

## Technical Design Properties

- 14-20-24-28-30-35 kW capacities (1/4 modulation)
- 24-28-30-35 kW capacities (1/10 modulation)
- Usage ability with Natural Gas and LPG (1/4 modulation)
- Gas adaptive system has usage ability with NG,LPG and optional H2 Blend Ready (1/10 modulation)
- Seasonal space heating energy efficiency 93%
- Safety combustion control and Gas Adaptive System (New Versions)
- ErP A energy efficiency class
- Eco and Comfort modes for the Central Heating
- 1/4 & 1/10 modulation rate options
- Low NOx and CO emissions
- With the help of an energy efficient automatic purger equipped circulation pump, less energy consumption and compatibility with every space.
- High combustion efficiency with stainless steel burner and low waste gas emission
- Protection of the fitting and combi boiler by the help of the automatic by-pass system

|                 |                                                           |
|-----------------|-----------------------------------------------------------|
| CAPACITY (1/4)  | 14-20-24-28-30-35 kW                                      |
| CAPACITY (1/10) | 24-28-30-35 kW                                            |
| MODELS          | Combi Boiler (HM)<br>CH Only (HCH)<br>System Boiler (HST) |
| FLUE TYPE       | C and B Types                                             |
| GAS TYPE        | Natural Gas / LPG / H2 Blend Ready                        |

- Protection against freezing
- "Pump over-run" feature that prevents thermal piling up within the fitting
- Plated exchanger in order to get hot water at a high comfort level
- Feed forward feature of potable water and ability to get water at constant temperature via the turbine system
- Boost feature in domestic water (possibility to get more comfortable hot water by exceeding 15% device capacity)
- Minimal dimensions to fit in (678 mm x 410 mm x 288 mm)
- Full touch glass screen
- Special design with glass front panel
- Design that facilitates servicing and maintenance
- Error message voice alert system
- Silent operation (<47 dB)
- 2 functions in 1 electrode (ignition - ionization)
- Compact Full Hermetic Structure
- Single body for 60/100 mm and 80/125 chimneys.
- Child lock
- TSE, CE, WRAS and EAC approved
- Ability to connect on/off and open therm room thermostat, external weather temperature sensor and timer
- Control availability with iOS and Android applications via the smart room thermostat (Optional)
- Pressured System Solar Energy Support (Optional)

1. High Water Pressure (3 bar) safety unit protects both the central heating system and the combi boiler against overpressure
2. Low Water Pressure (0,4 bar) safety unit switches the combi boiler off when the water pressure is low
3. Expansion Tank (8 l) compensates expansion of the hot water circulating within the central heating system
4. Flame Loss Protection
5. Pump Blockage unit protects the pump against blockage risk after it remains idle for a long time
6. 3-Way Blockage Protection unit for monothermic models
7. Automatic Air Purger for the pump
8. Over Heating Protection Unit for DHW (71 °C)
9. Over Heating Protection Unit for Flue Gas (95 °C)
10. Over Heating Safety Unit for CH (95 °C)
11. Low Voltage Safety Unit (170 VAC)
12. Internal By-Pass System
13. Anti-Freeze Protection
14. Hall Effect Flow Sensor Detection
15. Ingress of Water Protection from Air Inlet Side of Chimney
16. Annual Maintenance Reminding System

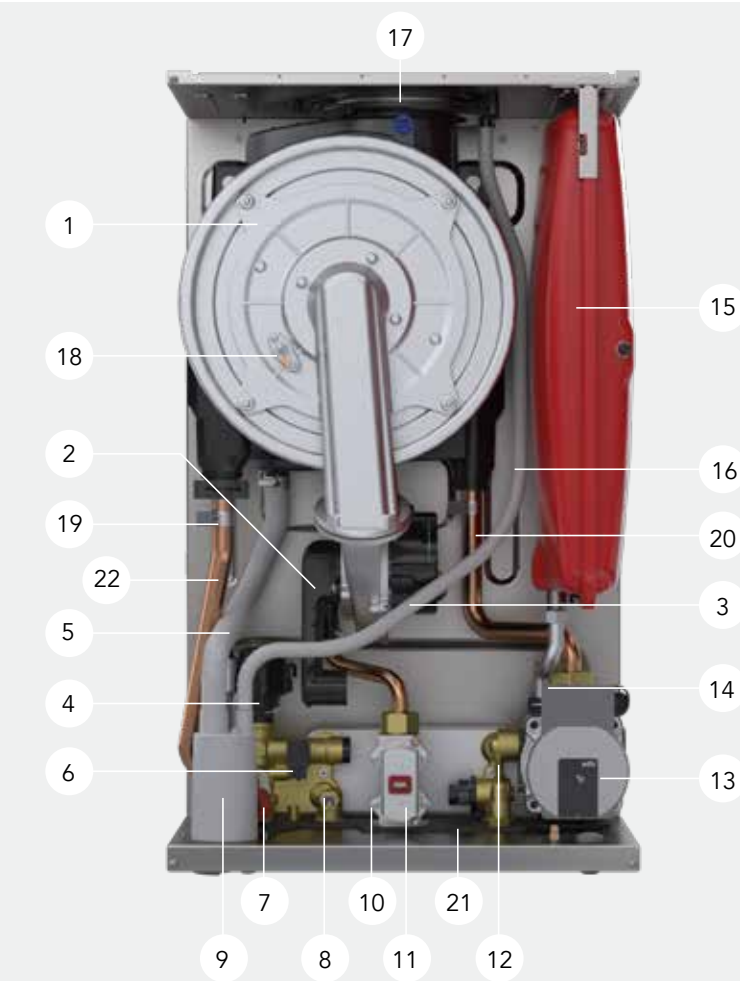




How to Adjust...



1. **Reset Button** When a lockout error condition occurs (EXX), the error must first be corrected so that the error code can be removed from the LCD screen. After pressing the "Reset" key once, the device can switch back to normal operation state. The first time the device starts, it will start working in Comfort mode. Once the Reset button is pressed when operating in Comfort mode, the device will switch to Eco mode. Then when Reset button is pressed again, the unit will switch to Comfort mode.
2. **Domestic Hot Water Increase Temperature Button** The temperature of the domestic water can be increased up to 65 °C
3. **Button: Central Heating Water Increase Temperature Button** The temperature of the heating water can be increased up to 80 °C
4. **Button: Domestic Hot Water Decrease Temperature Button** The temperature of the domestic water can be decreased down to 30 °C
5. **Button: Central Heating Water Decrease Temperature Button** The temperature of the heating water can be decreased down to 30 °C
6. **Button: Position Selection Button (On/Off and Summer/Winter Switch Button)** Main functions; The position can be changed by pressing the position selection button once to change between the winter mode and the summer mode. If the button is pressed for 5 seconds, the device will switches into "standby" position. It will suffice to press the button once to get the device in operation position.
7. **Button: Child Lock Button** It is active when the Child Lock Button is kept pressed for 5 seconds and no touch button on the screen performs its function. Just press and hold for 5 seconds to remove it from the child lock.
8. **Button: Central Heating Slider Temperature Button** The temperature of the heating water can be adjust between 30°C – 80 °C
9. **Button: Domestic Hot Water Slider Temperature Button** The temperature of the domestic water can be adjust between 30°C – 65 °C



1. Main Exchanger
2. Venturi
3. Fan
4. Motorized Valve
5. Condensing Water Hose
6. Outlet Manifold
7. 3 Bar Safety Valve
8. Pressure Sensor
9. Siphon
10. Plated Heat Exchanger
11. Gas Valve
12. Return Manifold
13. Pump
14. Flexible Connection Hose
15. Expansion Tank (8 liters)
16. Rainwater Hose
17. Rainwater Hood
18. Ignition Electrode
19. Supply Temp. Sensor
20. Return Temp. Sensor
21. DHW Flow Sensor
22. Silencer

Technical Specifications

| PRODUCT TYPE                                                | UNIT    | Confeo Premix 14<br>HM-HCH-HST                              | Confeo Premix 20<br>HM-HCH-HST | Confeo Premix 24<br>HM-HCH-HST | Confeo Premix 28<br>HM-HCH-HST | Confeo Premix 30<br>HM-HCH-HST | Confeo Premix 35<br>HM-HCH-HST |
|-------------------------------------------------------------|---------|-------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Gas Category                                                | -       | I2H, I3P, I2Esi, I2E(S), II2L3P, II2H3P, II2ELL3P, II2Esi3P |                                |                                |                                |                                |                                |
| Flue Types                                                  | -       | C13(x), C33(x), C43(x), C53(x), C63(x), C83(x), B23, B33    |                                |                                |                                |                                |                                |
| Gas Input Pressure (Natural Gas G20)                        | mbar    | 20                                                          |                                |                                |                                |                                |                                |
| Gas Input Pressure (Natural Gas G25)                        | mbar    | 20/25                                                       |                                |                                |                                |                                |                                |
| Gas Input Pressure (LPG G31)                                | mbar    | 37/50                                                       |                                |                                |                                |                                |                                |
| Capacity-Efficiency                                         |         |                                                             |                                |                                |                                |                                |                                |
| Minimum Heating Power (Min. 60°C )                          | kW      | 5,6                                                         | 5,6                            | 5,6/2,5*                       | 6,4/2,7*                       | 6,9/2,9*                       | 8,0/3,4*                       |
| Maximum Heating Power (80/60°C)                             | kW      | 14,1                                                        | 20,2                           | 24,5/24,3*                     | 28/28,3*                       | 30/29,9*                       | 35/34,6*                       |
| Minimum Heating Power (Min. 30°C)                           | kW      | 6,7                                                         | 6,7                            | 6,7/2,8*                       | 7,7/2,9*                       | 8,3/3,1*                       | 9,6/3,7*                       |
| Maximum Heating Power (50/30°C)                             | kW      | 15                                                          | 22,2                           | 26/26,1*                       | 29,6/28,8*                     | 31,7/31,3*                     | 37/35,5*                       |
| Minimum Heat Input (Qn)                                     | kW      | 6,2                                                         | 6,2                            | 6,2/2,52*                      | 7,2/2,85*                      | 7,7/3,05*                      | 9/3,59*                        |
| Maximum Heat Input (Qn)                                     | kW      | 14,5                                                        | 20,7                           | 25,2/25,2*                     | 28,7/28,5*                     | 30,8/30,5*                     | 35,9/35,9*                     |
| ERP Informations                                            |         |                                                             |                                |                                |                                |                                |                                |
| Seasonal Space Heating Energy Efficiency Class              | -       | A                                                           | A                              | A                              | A                              | A                              | A                              |
| Water Heating Energy Efficiency Class / Load Profile        | -       | A/XL                                                        | A/XL                           | A/XL                           | A/XL                           | A/XL                           | A/XL                           |
| Rated Heat Output (Prated)                                  | kW      | 14,1                                                        | 20,2                           | 24,5                           | 28                             | 30                             | 35                             |
| Seasonal Space Heating Energy Efficiency                    | %       | 92                                                          | 92,11                          | 92,21/92,2*                    | 92,71/92,39*                   | 92,03/92,64*                   | 92,85/92,62*                   |
| Water Heating Energy Efficiency                             | %       | 91                                                          | 91                             | 84                             | 84                             | 83                             | 83                             |
| Sound Power Level                                           | db(A)   | 44                                                          | 46                             | 47                             | 49                             | 50                             | 52                             |
| At Rated Heat Output And High Temperature Regime(Π4)        | %       | 87,9                                                        | 87,9                           | 87,9                           | 87,9                           | 87,9                           | 87,9                           |
| At 30% Of Rated Heat Output And Low Temperature Regime (Π1) | %       | 97,2                                                        | 97,2                           | 97,2/97,2*                     | 97,7/97,4*                     | 97,5/97,7*                     | 97,6/97,6*                     |
| At Full Load elmax                                          | kW      | 0,025                                                       | 0,035                          | 0,04                           | 0,04                           | 0,056                          | 0,066                          |
| At Part Load elmin                                          | kW      | 0,012                                                       | 0,012                          | 0,012                          | 0,012                          | 0,013                          | 0,013                          |
| In standby Mode                                             | kW      | 0,004                                                       | 0,004                          | 0,005                          | 0,004                          | 0,004                          | 0,004                          |
| Standby Heat Loss                                           | kW      | 0,065                                                       | 0,065                          | 0,065                          | 0,065                          | 0,065                          | 0,065                          |
| Emissions of NOX Level                                      | mg/kWh  | 33,35                                                       | 38,06                          | 32,27/29,14*                   | 21,29/22,88*                   | 37,4/27,17*                    | 25,05/34,33*                   |
| Daily Electricity Consumption (Qelect)                      | kWh     | 0,2                                                         | 0,2                            | 0,21                           | 0,22                           | 0,24                           | 0,212                          |
| Daily Fuel Consumption (Qfuel)                              | kWh     | 23,1                                                        | 23,1                           | 23,1/25,1*                     | 22,8/25,0*                     | 23,2/25,0*                     | 21,5/25,3*                     |
| Gas Consumption                                             |         |                                                             |                                |                                |                                |                                |                                |
| Natural Gas (Min-Max Capacity)                              | m³/h    | 0,65-1,53                                                   | 0,65-2,2                       | 0,65-2,65/0,27-2,69*           | 0,75-3,02/0,30-3,03*           | 0,81-3,25/0,32-3,26*           | 0,94-3,79/0,37-3,77*           |
| LPG (Min-Max Capacity) (Propane)                            | kg/h    | 0,51-1,2                                                    | 0,51-1,7                       | 0,51-1,98/0,16-1,64*           | 0,59-2,26/0,18-1,82*           | 0,63-2,46/0,19-1,96*           | 0,74-2,87/0,23-2,24*           |
| NOX Class                                                   | -       | 6                                                           | 6                              | 6                              | 6                              | 6                              | 6                              |
| Central Heating                                             |         |                                                             |                                |                                |                                |                                |                                |
| Minimum Water Pressure                                      | bar     | 0,4                                                         | 0,4                            | 0,4                            | 0,4                            | 0,4                            | 0,4                            |
| Maximum Water Pressure                                      | bar     | 3                                                           | 3                              | 3                              | 3                              | 3                              | 3                              |
| Operation Range (@Radiator heating)                         | °C      | 30-80                                                       | 30-80                          | 30-80                          | 30-80                          | 30-80                          | 30-80                          |
| Operation Range (@Underfloor heating)                       | °C      | 30-45                                                       | 30-45                          | 30-45                          | 30-45                          | 30-45                          | 30-45                          |
| Maximum Limit Temperature                                   | °C      | 90                                                          | 90                             | 90                             | 90                             | 90                             | 90                             |
| Domestic Hot Water (only valid for HM)                      |         |                                                             |                                |                                |                                |                                |                                |
| Minimum Flow for Operating                                  | l/min   | 2,5 (±%10)                                                  | 2,5 (±%10)                     | 2,5 (±%10)                     | 2,5 (±%10)                     | 2,5 (±%10)                     | 2,5 (±%10)                     |
| Minimum Flow for Closing                                    | l/min   | 2,0 (±%10)                                                  | 2,0 (±%10)                     | 2,0 (±%10)                     | 2,0 (±%10)                     | 2,0 (±%10)                     | 2,0 (±%10)                     |
| Maximum Flow Rate                                           | l/min   | 10 ±%15<br>(ΔT = 36,1°C)                                    | 10 ±%15<br>(ΔT = 36,1°C)       | 12 ±%15<br>(ΔT = 32,4°C)       | 12 ±%15<br>(ΔT = 37,6°C)       | 12 ±%15<br>(ΔT = 40,0°C)       | 14 ±%15<br>(ΔT = 36,8°C)       |
| Minimum Water Pressure                                      | bar     | 0,4                                                         | 0,4                            | 0,4                            | 0,4                            | 0,4                            | 0,4                            |
| Maximum Water Pressure                                      | bar     | 10                                                          | 10                             | 10                             | 10                             | 10                             | 10                             |
| Operation Range                                             | °C      | 30-65                                                       | 30-65                          | 30-65                          | 30-65                          | 30-65                          | 30-65                          |
| Maximum Limit Temperature                                   | °C      | 71                                                          | 71                             | 71                             | 71                             | 71                             | 71                             |
| General                                                     |         |                                                             |                                |                                |                                |                                |                                |
| Electrical Supply                                           | V AC-Hz | 230 V AC-50 Hz                                              |                                |                                |                                |                                |                                |
| Electrical Consumption (Max-HE Pump)                        | Watt    | 65                                                          | 80                             | 85                             | 110                            | 130                            | 165                            |
| Protection Class                                            | -       | IPX4D                                                       |                                |                                |                                |                                |                                |
| Expansion Vessel Capacity                                   | l       | 8                                                           |                                |                                |                                |                                |                                |
| Weight (Net)                                                | kg      | 31                                                          |                                |                                | 32                             | 32                             | 34                             |
| Dimensions (HxWxD)                                          | mm      | 678*410*288                                                 |                                |                                |                                |                                |                                |
| Flue Lengths                                                |         |                                                             |                                |                                |                                |                                |                                |
| C13 – 60/100 Max.                                           | m       | 10                                                          | 10                             | 10                             | 10                             | 10                             | 10                             |
| C13 – 80/125 Max.                                           | m       | 20                                                          | 20                             | 20                             | 20                             | 20                             | 20                             |
| C33 – 60/100 Max.                                           | m       | 10                                                          | 10                             | 10                             | 10                             | 10                             | 10                             |
| C33 – 80/125 Max.                                           | m       | 20                                                          | 20                             | 20                             | 20                             | 20                             | 20                             |
| C43 – 60/100 Max.                                           | m       | 10                                                          | 10                             | 10                             | 10                             | 10                             | 10                             |
| C53 – 60/100 Max.                                           | m       | 10                                                          | 10                             | 10                             | 10                             | 10                             | 10                             |
| C83 – 80/80 Max.                                            | m       | 28                                                          | 28                             | 28                             | 28                             | 28                             | 28                             |
| C83 – 80/80 Min.                                            | m       | 3                                                           | 3                              | 3                              | 3                              | 3                              | 3                              |
| B23 – 80 Max.                                               | m       | 28                                                          | 28                             | 28                             | 28                             | 28                             | 28                             |
| B33 – 60/100 Max.                                           | m       | 10                                                          | 10                             | 10                             | 10                             | 10                             | 10                             |
| Emission Values                                             |         |                                                             |                                |                                |                                |                                |                                |
| CO <sub>2</sub> Ratio (@Max-G20)                            | %       | 9,2 ± 0,2                                                   | 9,2 ± 0,2                      | 9,3 ± 0,2                      | 9,5 ± 0,2                      | 9,5 ± 0,2                      | 9,5 ± 0,2                      |
| CO <sub>2</sub> Ratio (@Min-G20)                            | %       | 8,7 ± 0,2                                                   | 8,7 ± 0,2                      | 8,7 ± 0,2                      | 8,9 ± 0,2                      | 8,9 ± 0,2                      | 8,9 ± 0,2                      |
| CO <sub>2</sub> Ratio (@Max-G31)                            | %       | 10,4 ± 0,2                                                  | 10,4 ± 0,2                     | 10,4 ± 0,2                     | 10,6 ± 0,2                     | 10,6 ± 0,2                     | 10,6 ± 0,2                     |
| CO <sub>2</sub> Ratio (@Min-G31)                            | %       | 9,6 ± 0,2                                                   | 9,6 ± 0,2                      | 9,6 ± 0,2                      | 9,9 ± 0,2                      | 9,9 ± 0,2                      | 9,9 ± 0,2                      |
| Boiler Circuit (only valid for HST)                         |         |                                                             |                                |                                |                                |                                |                                |
| Operation Range                                             | °C      | 30-65                                                       | 30-65                          | 30-65                          | 30-65                          | 30-65                          | 30-65                          |

\* 1/10 modulation value (Gas Adaptive - H2 Blend Ready Option)

# Chimney Applications

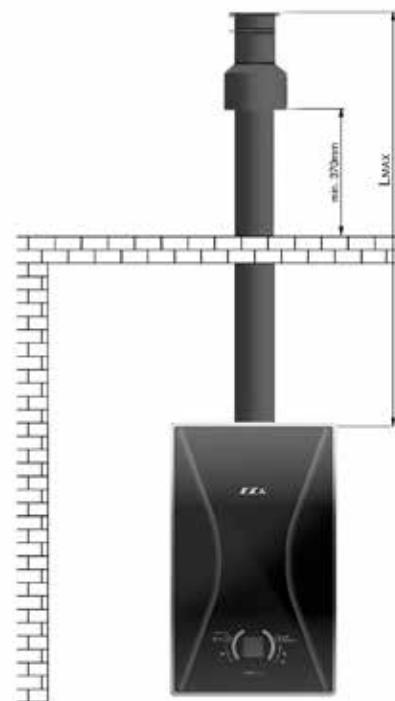
## Horizontal & Vertical Applications



Horizontal Hermetic Flue Application

L max. distance with single elbow: 10 m, Ø60/100

L max. distance with single elbow: 20 m, Ø80/125



Vertical Hermetic Flue Application

L max. distance without elbow: 10 m, Ø60/100

L max. distance without elbow: 20 m, Ø80/125

## Valve Connection Kit



Our Valve Connection Kit comprises of the following items:

3/4" Ball Valve Blue Butterfly Handle (Cold Water In)

1/2" Union (Hot Water Out)

3/4" Ball Valve with Yellow Handwheel (Gas)

1/2" Ball Valve with Blue Handwheel (Heating Return)

3/4" Ball Valve with Red Butterfly Handle (Heating Flow)

# Optional Control Accessories

## E.C.A. Poly Comfort 200W Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Comfort 200B Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Touch 400W Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Touch 400B Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Pure 100W Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Poly Pure 100W Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,2°C
- Room Control Temperature: 5°C-35°C



## E.C.A. Programmable Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,2°C
- Daily, 4 different time frames







E.C.A.  
PROTEUS PREMIX



# Superior Safety Systems

## Technical Design Properties

- 24-28-30-35 kW capacities (1/7 & H2 Blend Ready Options)
- 14-20-24-28-30-35-42-45 kW capacities (1/4 & H2 Blend Ready Options)
- Usage ability with Natural Gas and LPG
- 93% efficiency
- ErP A energy efficiency class
- Eco and Comfort modes for the Central Heating
- 1/4 & 1/7 modulation rate
- Low NOx and CO emissions
- With the help of a energy efficient automatic purger equipped circulation pump, less energy consumption and compatibility with every space.
- High combustion efficiency with stainless steel burner and low waste gas emission
- Protection of the fitting and combi boiler by the help of the automatic by-pass system
- Protection against freezing

|                |                                                           |
|----------------|-----------------------------------------------------------|
| CAPACITY (1/4) | 14-20-24-28-30-35-42-45 kW                                |
| CAPACITY(1/7)  | 24-28-30-35 kW                                            |
| MODELS         | Combi Boiler (HM)<br>CH Only (HCH)<br>System Boiler (HST) |
| FLUE TYPE      | C and B Types                                             |
| GAS TYPE       | Natural Gas / LPG / H2 Blend Ready                        |

- "Pump over-run" feature that prevents thermal piling up within the fitting
- Plated exchanger in order to get hot water at a high comfort level.
- Feed forward feature of potable water and ability to get water at constant temperature via the turbine system
- Minimal dimensions to fit in (678 mm x 410 mm x 288 mm)
- Large display, white LCD illumination integrated with ergonomically designed electronic card.
- Ergonomic control panel design
- Design that facilitates servicing and maintenance
- The rear cover of the control panel is flexible; thus, intervention without completely removing the cover is possible.
- Silent operation (<49 dB)
- 2 functions in 1 electrode (ignition - ionization)
- Compact Full Hermetic Structure
- Single body for 60/100 mm and 80/125 chimneys.
- TSE, CE, WRAS and EAC approved
- Ability to connect room thermostat, external weather temperature sensor and timer
- Ability to connect on/off and open therm room thermostat, external weather temperature sensor and timer
- Pressured System Solar Energy Support (Optional)

1. High Water Pressure (3 bar) safety unit protects both the central heating system and the combi boiler against overpressure
2. Low Water Pressure (0,4 bar) safety unit switches the combi boiler off when the water pressure is low
3. Expansion Tank (8 l) compensates expansion of the hot water circulating within the central heating system
4. Flame Loss Protection
5. Pump Blockage unit protects the pump against blockage risk after it remains idle for a long time
6. 3-Way Blockage Protection unit for monothermic models
7. Automatic Air Purger for the pump
8. Over Heating Protection Unit for DHW (71 °C)
9. Over Heating Protection Unit for Flue Gas (95 °C)
10. Over Heating Safety Unit for CH (95 °C)
11. Low Voltage Safety Unit (170 VAC)
12. Internal By-Pass System
13. Anti-Freeze Protection
14. Hall Effect Flow Sensor Detection
15. Ingress of Water Protection from Air Inlet Side of Chimney
16. Annual Maintenance Reminding System

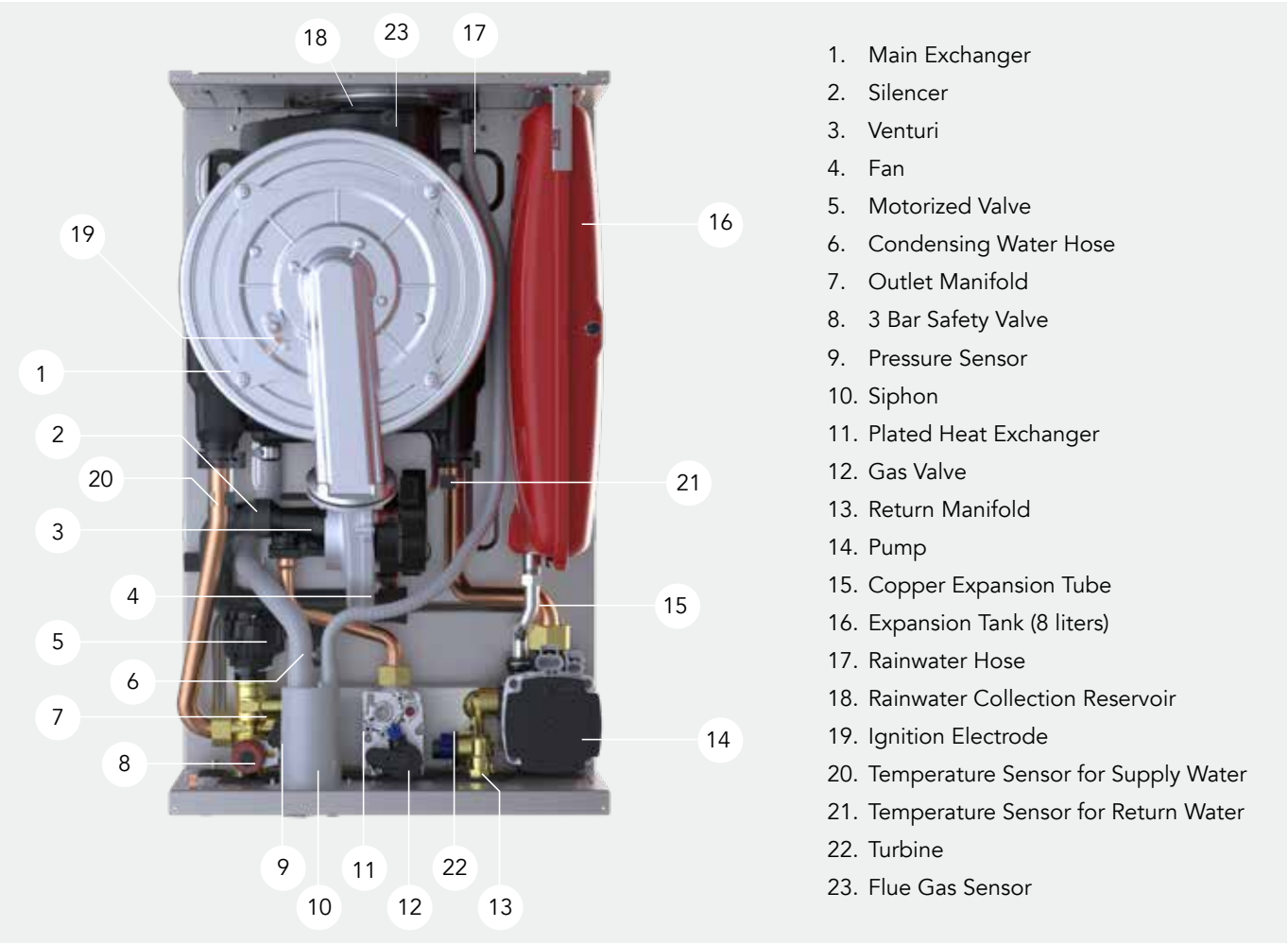




How to Adjust...



1. **Position Selection Button** The position can be changed by pressing the position selection button once to change between the winter mode and the summer mode. If the button is pressed for 3 seconds, the device will switches into "standby" position. It will suffice to press the button once to get the device in operation position.
2. **Reset Button** When a lockout error condition occurs (EXX), the error must first be corrected so that the error code can be removed from the LCD screen. After pressing the "Reset" key once, the device can switch back to normal operation state. The first time the device starts, it will start working in Comfort mode. Once the Reset button is pressed when operating in Comfort mode, the device will switch to Eco mode. Then when Reset button is pressed again, the unit will switch to Comfort mode.
3. **Domestic Hot Water Increase Temperature Button** The temperature of the domestic water can be increased up to 65 °C
4. **Central Heating Water Increase Temperature Button** The temperature of the heating water can be increased up to 80 °C
5. **Domestic Hot Water Decrease Temperature Button** The temperature of the domestic water can be decreased down to 30 °C
6. **Central Heating Water Decrease Temperature Button** The temperature of the heating water can be decreased down to 30 °C



Technical Specifications

| PRODUCT TYPE                                                 | UNIT    | Proteus Premix 14<br>HM-HCH-HST                             | Proteus Premix 20<br>HM-HCH-HST | Proteus Premix 24<br>HM-HCH-HST | Proteus Premix 28<br>HM-HCH-HST | Proteus Premix 30<br>HM-HCH-HST | Proteus Premix 35<br>HM-HCH-HST | Proteus Premix 42<br>HM-HCH-HST | Proteus Premix 45<br>HM-HCH-HST |
|--------------------------------------------------------------|---------|-------------------------------------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Gas Category                                                 | -       | I2H, I3P, I2Esi, I2E(S), I12L3P, I12H3P, I12ELL3P, I12Esi3P |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Flue Types                                                   | -       | C13(x), C33(x), C43(x), C53(x), C63(x), C83(x), B23, B33    |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Gas Input Pressure (Natural Gas G20)                         | mbar    | 20                                                          |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Gas Input Pressure (Natural Gas G25)                         | mbar    | 20/25                                                       |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Gas Input Pressure (G30)                                     | mbar    | 30/50                                                       |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Gas Input Pressure (LPG G31)                                 | mbar    | 37/50                                                       |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Capacity-Efficiency                                          |         |                                                             |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Minimum Heating Power (Min. 60°C)                            | kW      | 5,6                                                         | 5,6                             | 5,6/3,3*                        | 6,4/3,6*                        | 6,9/3,5*                        | 8,0/5,0*                        | 8                               | 9                               |
| Maximum Heating Power (80/60°C)                              | kW      | 14,1                                                        | 20,2                            | 24,5/24,3*                      | 28,0/26,9*                      | 30/28,8*                        | 35,0/34,7*                      | 39                              | 42,8                            |
| Minimum Heating Power (Min. 30°C)                            | kW      | 6,7                                                         | 6,7                             | 6,7/3,6*                        | 7,7/3,8*                        | 8,3/3,8*                        | 9,6/4,4*                        | 9,6                             | 10,2                            |
| Maximum Heating Power (50/30°C)                              | kW      | 15                                                          | 22,2                            | 26,0/24,2*                      | 29,6/27,6*                      | 31,7/29,6*                      | 37,0/36,1*                      | 42                              | 47                              |
| Minimum Heat Input (Qn)                                      | kW      | 6,2                                                         | 6,2                             | 6,2/3,5*                        | 7,2/3,7*                        | 7,7/3,7*                        | 9,0/5,0*                        | 8,6                             | 9,5                             |
| ERP Informations                                             |         |                                                             |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Seasonal Space Heating Energy Efficiency Class               | -       | A                                                           | A                               | A                               | A                               | A                               | A                               | A                               | A                               |
| Water Heating Energy Efficiency Class/ Declared Load Profile | -       | A/XL                                                        | A/XL                            | A/XL                            | A/XL                            | A/XL                            | A/XL                            | A / XL                          | A / XL                          |
| Rated Heat Output (Prated)                                   | kW      | 14                                                          | 20                              | 24                              | 28                              | 30                              | 35                              | 42                              | 45                              |
| Seasonal Space Heating Energy Efficiency                     | %       | 92                                                          | 92                              | 93                              | 93                              | 93                              | 93                              | 92                              | 92                              |
| Water Heating Energy Efficiency                              | %       | 86                                                          | 86                              | 86                              | 84                              | 83                              | 83                              | 84                              | 87,8                            |
| Sound Power Level                                            | db(A)   | 49                                                          | 49                              | 49                              | 49                              | 50                              | 52                              | 53                              | 53                              |
| At rated heat output and high temperature regime (Π4)        | %       | 87,9                                                        | 87,9                            | 87,9                            | 87,9                            | 87,9                            | 87,9                            | 87,9                            | 87,9                            |
| At 30% of rated heat output and low temperature regime (Π1)  | %       | 97                                                          | 97                              | 98                              | 97,9                            | 97,9                            | 97,9                            | 97                              | 97                              |
| At Full Load elmax                                           | kW      | 0,02                                                        | 0,029                           | 0,074/0,04*                     | 0,079/0,051*                    | 0,083/0,056*                    | 0,089/0,066*                    | 0,05                            | 0,08                            |
| At Part Load elmin                                           | kW      | 0,012                                                       | 0,012                           | 0,024/0,012*                    | 0,025/0,012*                    | 0,027/0,013*                    | 0,029/0,013*                    | 0,013                           | 0,013                           |
| In standby Mode                                              | kW      | 0,004                                                       | 0,004                           | 0,004/0,005*                    | 0,004/0,004*                    | 0,004/0,005*                    | 0,004/0,006*                    | 0,0021                          | 0,0021                          |
| Standby Heat Loss                                            | kW      | 0,065                                                       | 0,065                           | 0,065                           | 0,065                           | 0,065                           | 0,065                           | 0,07                            | 0,07                            |
| Emissions of NOX Level                                       | mg/kWh  | 31,18                                                       | 30,89                           | 40,47/29,14*                    | 44,6/22,88*                     | 44,2/27,17*                     | 44,18/34,33*                    | 33                              | 34                              |
| Daily Fuel Consumption (Qfuel)                               | kWh     | 23,07                                                       | 23,07                           | 25,11/23,5*                     | 25,01/22,80                     | 25,01/23,02*                    | 25,32/23,02*                    | 23,27                           | 23,96                           |
| Gas Consumption                                              |         |                                                             |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Natural Gas (Min-Max Capacity)                               | m³/h    | 0,65-1,53                                                   | 0,65-2,2                        | 0,66-2,66/0,37-2,63*            | 0,76-3,02/0,39-2,97*            | 0,81-3,25/0,44-3,17*            | 0,94-3,79/0,52-3,62*            | 0,86 - 4,26                     | 0,95 - 4,65                     |
| LPG (Min-Max Capacity) (Propane)                             | kg/h    | 0,51-1,2                                                    | 0,51-1,7                        | 0,51-1,94/0,23-1,6*             | 0,59-2,26/0,24-1,82*            | 0,63-2,46/0,24-1,90*            | 0,74-2,87/0,33-2,25*            | 0,67 - 3,23                     | 0,74 - 3,53                     |
| NOX Class                                                    | -       | 6                                                           | 6                               | 6                               | 6                               | 6                               | 6                               | 6                               | 6                               |
| Central Heating                                              |         |                                                             |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Minimum Water Pressure                                       | bar     | 0,4                                                         | 0,4                             | 0,4                             | 0,4                             | 0,4                             | 0,4                             | 0,4                             | 0,4                             |
| Maximum Water Pressure                                       | bar     | 3                                                           | 3                               | 3                               | 3                               | 3                               | 3                               | 3                               | 3                               |
| Operation Range (@Radiator heating)                          | °C      | 30-80                                                       | 30-80                           | 30-80                           | 30-80                           | 30-80                           | 30-80                           | 30-80                           | 30-80                           |
| Operation Range (@Underfloor heating)                        | °C      | 30-45                                                       | 30-45                           | 30-45                           | 30-45                           | 30-45                           | 30-45                           | 30-45                           | 30-45                           |
| Maximum Limit Temperature                                    | °C      | 90                                                          | 90                              | 90                              | 90                              | 90                              | 90                              | 90                              | 90                              |
| Domestic Hot Water (only valid for HM)                       |         |                                                             |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Minimum Flow for Operating                                   | l/min   | 2,5 (±%10)                                                  | 2,5 (±%10)                      | 2,5 (±%10)                      | 2,5 (±%10)                      | 2,5 (±%10)                      | 2,5 (±%10)                      | 3 (±%10)                        | 3 (±%10)                        |
| Minimum Flow for Closing                                     | l/min   | 2,0 (±%10)                                                  | 2,0 (±%10)                      | 2,0 (±%10)                      | 2,0 (±%10)                      | 2,0 (±%10)                      | 2,0 (±%10)                      | 2 (±%10)                        | 2 (±%10)                        |
| Maximum Flow Rate                                            | l/min   | 10 ±%15 (ΔT = 36,1°C)                                       | 10 ±%15 (ΔT = 36,1°C)           | 12 ±%15 (ΔT = 32,4°C)           | 12 ±%15 (ΔT = 37,6°C)           | 12 ±%15 (ΔT = 40,0°C)           | 14 ±%15 (ΔT = 36,8°C)           | 20 ±%15 (ΔT = 40,0°C)           | 21,7 ±%15 (ΔT = 40,0°C)         |
| Minimum Water Pressure                                       | bar     | 0,4                                                         | 0,4                             | 0,4                             | 0,4                             | 0,4                             | 0,4                             | 0,4                             | 0,4                             |
| Maximum Water Pressure                                       | bar     | 10                                                          | 10                              | 10                              | 10                              | 10                              | 10                              | 10                              | 10                              |
| Operation Range                                              | °C      | 30-65                                                       | 30-65                           | 30-65                           | 30-65                           | 30-65                           | 30-65                           | 30-65                           | 30-65                           |
| Maximum Limit Temperature                                    | °C      | 71                                                          | 71                              | 71                              | 71                              | 71                              | 71                              | 71                              | 71                              |
| General                                                      |         |                                                             |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Electrical Supply                                            | V AC-Hz | 230 V AC-50 Hz                                              |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Electrical Consumption (Max-HE Pump)                         | Watt    | 65                                                          | 80                              | 85                              | 110                             | 130                             | 165                             | 170                             | 180                             |
| Protection Class                                             | -       | IPX4D                                                       |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Expansion Vessel Capacity                                    | l       | 8                                                           |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Weight (Net)                                                 | kg      | 31                                                          |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Dimensions (HxWxD)                                           | mm      | 678*410*288                                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Flue Lengths                                                 |         |                                                             |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| C13 – 60/100 Max.                                            | m       | 10                                                          | 10                              | 10                              | 10                              | 10                              | 10                              | 10                              | 12                              |
| C13 – 80/125 Max.                                            | m       | 20                                                          | 20                              | 20                              | 20                              | 20                              | 20                              | 20                              | 22                              |
| C33 – 60/100 Max.                                            | m       | 10                                                          | 10                              | 10                              | 10                              | 10                              | 10                              | 10                              | 12                              |
| C33 – 80/125 Max.                                            | m       | 20                                                          | 20                              | 20                              | 20                              | 20                              | 20                              | 20                              | 22                              |
| C43 – 60/100 Max.                                            | m       | 10                                                          | 10                              | 10                              | 10                              | 10                              | 10                              | 10                              | 12                              |
| C53 – 60/100 Max.                                            | m       | 10                                                          | 10                              | 10                              | 10                              | 10                              | 10                              | 10                              | 12                              |
| C83 – 80/80 Max.                                             | m       | 28                                                          | 28                              | 28                              | 28                              | 28                              | 28                              | 30                              | 30                              |
| C83 – 80/80 Min.                                             | m       | 3                                                           | 3                               | 3                               | 3                               | 3                               | 3                               | 4                               | 4                               |
| B23 – 80 Max.                                                | m       | 28                                                          | 28                              | 28                              | 28                              | 28                              | 28                              | 30                              | 30                              |
| B33 – 60/100 Max.                                            | m       | 10                                                          | 10                              | 10                              | 10                              | 10                              | 10                              | 12                              | 12                              |
| Emission Values                                              |         |                                                             |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| CO <sub>2</sub> Ratio (@Max-G20)                             | %       | 9,2 ± 0,2                                                   | 9,2 ± 0,2                       | 9,3 ± 0,2                       | 9,5 ± 0,2                       | 9,5 ± 0,2                       | 9,5 ± 0,2                       | 9,0 ± 0,2                       | 9,0 ± 0,2                       |
| CO <sub>2</sub> Ratio (@Min-G20)                             | %       | 8,7 ± 0,2                                                   | 8,7 ± 0,2                       | 8,7 ± 0,2                       | 8,9 ± 0,2                       | 8,9 ± 0,2                       | 8,9 ± 0,2                       | 8,4 ± 0,2                       | 8,4 ± 0,2                       |
| CO <sub>2</sub> Ratio (@Max-G31)                             | %       | 10,4 ± 0,2                                                  | 10,4 ± 0,2                      | 10,4 ± 0,2                      | 10,6 ± 0,2                      | 10,6 ± 0,2                      | 10,6 ± 0,2                      | 10,1 ± 0,2                      | 10,1 ± 0,2                      |
| CO <sub>2</sub> Ratio (@Min-G31)                             | %       | 9,6 ± 0,2                                                   | 9,6 ± 0,2                       | 9,6 ± 0,2                       | 9,9 ± 0,2                       | 9,9 ± 0,2                       | 9,9 ± 0,2                       | 9,5 ± 0,2                       | 9,5 ± 0,2                       |
| Boiler Circuit (only valid for HST)                          |         |                                                             |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
| Operation Range                                              | °C      | 30-65                                                       | 30-65                           | 30-65                           | 30-65                           | 30-65                           | 30-65                           | 30-65                           | 30-65                           |

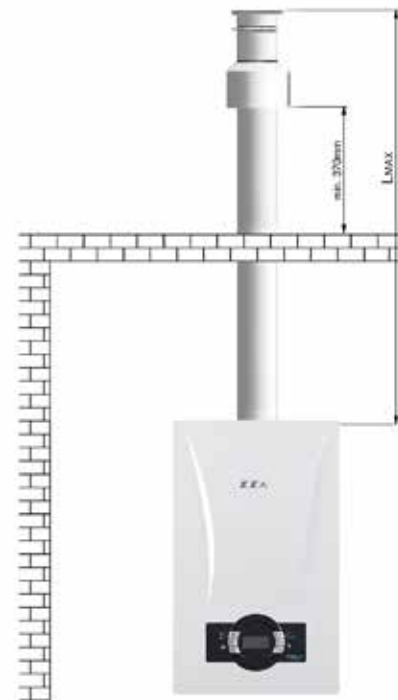
\* 1/7 modulation value (H2 Blend Ready Option)

# Chimney Applications

## Horizontal & Vertical Applications



**Horizontal Hermetic Flue Application**  
L max. distance with single elbow: 10 m, Ø60/100  
L max. distance with single elbow: 20 m, Ø80/125



**Vertical Hermetic Flue Application**  
L max. distance without elbow: 10 m, Ø60/100  
L max. distance without elbow: 20 m, Ø80/125

## Valve Connection Kit



Our Valve Connection Kit comprises of the following items:

- 3/4" Ball Valve Blue Butterfly Handle (Cold Water In)
- 1/2" Union (Hot Water Out)
- 3/4" Ball Valve with Yellow Handwheel (Gas)
- 1/2" Ball Valve with Blue Handwheel (Heating Return)
- 3/4" Ball Valve with Red Butterfly Handle (Heating Flow)

# Optional Control Accessories

## E.C.A. Poly Comfort 200W Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Comfort 200B Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Touch 400W Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Touch 400B Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Pure 100W Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Poly Pure 100W Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,2°C
- Room Control Temperature: 5°C-35°C



## E.C.A. Programmable Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,2°C
- Daily, 4 different time frames







E.C.A.  
PROTEUS PLUS BLUE



# Superior Safety Systems

## Technical Design Properties

- 11-13-16-20-24-28-33-37 kW capacities hermetic combi boiler (monothermic)
- Usage ability with Natural Gas and LPG
- 90,6% efficiency
- 1/3 modulation rate
- Low CO emission
- 3 way standard pump
- Control panel with touch screen
- Minimal dimensions to fit in (720x400x330 mm)
- Silent Operation (<49 dB for 11-13-16-20-24 kW; <52 dB for 28 kW; <54 dB for 33-37 kW)
- Design which provides easy service and maintenance
- Chimney kit types: C12(X), C32(X), C42(X), C52(X)(Hermetic)
- On/Off and modulating room thermostat control possibility

|           |                            |
|-----------|----------------------------|
| CAPACITY  | 11-13-16-20-24-28-33-37 kW |
| MODELS    | Combi Boiler (HM)          |
| FLUE TYPE | C Types                    |
| GAS TYPE  | Natural Gas/ LPG           |

1. High Water Pressure (3 bar) safety unit protects both the central heating system and the combi boiler against overpressure
2. Low Water Pressure (0,8 bar) safety unit switches the combi boiler off when the water pressure is low
3. Hot Water Accumulation safety unit prevents thermal accumulation thanks to the by-pass and pump over-run systems
4. Expansion Tank (8 l) compensates expansion of the hot water circulating within the central heating system
5. EMC Filter removes electromagnetic interferences and ensures safety for the ignition process
6. Flame Loss Protection
7. Pump Blockage unit protects the pump against blockage risk after it remains idle for a long time
8. 3-Way Blockage Protection unit for monothermic models
9. 2-Stage Frost Safety Unit automatically operates depending on the water temperature values measured by the temperature sensors for central heating water and domestic water (only when the combi boiler is on stand-by mode)
10. Automatic Air Purger for the pump, Manual Air Purger for the expansion tank
11. Differential air pressure switch for flue gas exhaust safety
12. Over Heating Protection Unit for DHW (71 °C)
13. Over Heating Safety Unit for CH (95 °C)
14. Limit Thermostat to limit the temperature of the water outgoing from the exchanger at 105°C and to switch the combi boiler off
15. Low Voltage Safety Unit (160 VAC)
16. High Voltage Safety Unit (260 VAC)
17. Drain tap which enables discharging radiator circuit water in the combi boiler.

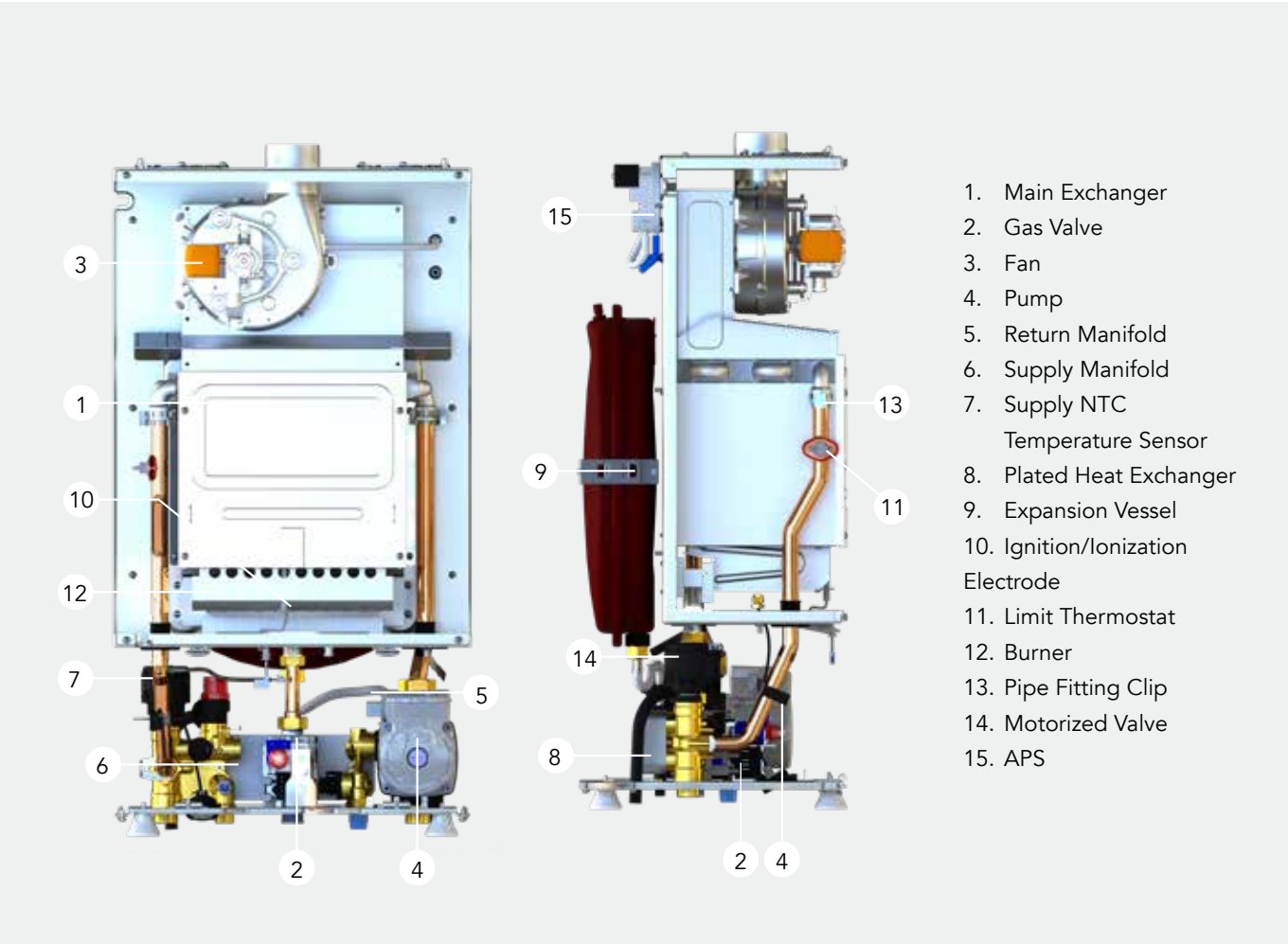




How to Adjust...



1. Position Selection Button: It enables opening/closing of your device, selection of summer/winter position, and resetting of the device.
2. Central Heating Water Temperature Adjusting Button: While the position selection button is in winter position, you can select a comfort temperature as you like in between 40° C - 80° C by turning the central heating water temperature adjusting button in between min. and max.
3. Domestic Hot Water Temperature Adjusting Button: While the position selection button is in summer or winter position, you can select a running water temperature in between 35°C - 64°C by turning the domestic hot water temperature adjusting button in between min. and max.



Technical Specifications

|                                      |                                                  |      |      |      |      |                |                |                |         |
|--------------------------------------|--------------------------------------------------|------|------|------|------|----------------|----------------|----------------|---------|
|                                      | PRP BLUE 11/13/16/20/24 HM                       |      |      |      |      | 28 HM          | 33 HM          | 37HM           | Unit    |
| Category                             | II2H3B/P                                         |      |      |      |      |                |                |                |         |
| Type                                 | C12(x) ,C32(x), *C42(x), *C52(x)                 |      |      |      |      |                |                |                |         |
| Gas Type and Gas Supply Pressure     | G20 (20 mbar) (Natural Gas), G31 (37 mbar) (LPG) |      |      |      |      |                |                |                | mbar    |
| Efficiency                           | 91                                               |      |      |      |      | 90,7           | 90,3           | 91,0           | %       |
| Power                                |                                                  |      |      |      |      |                |                |                |         |
| P Min. Heating power (thermal power) | 8,2                                              |      |      |      |      | 9,5            | 11,3           | 12,3           | kW      |
| P Max. Heating power (thermal power) | 11                                               | 13   | 16   | 20   | 23,3 | 28             | 32,5           | 36,04          | kW      |
| Q Thermal Load (min.)                | 9,2                                              |      |      |      |      | 10,5           | 12,5           | 13,5           | kW      |
| Q Thermal Load (max.)                | 12,1                                             | 14,3 | 17,9 | 22   | 25,6 | 30,5           | 35,3           | 39,6           | kW      |
| Gas Consumption                      |                                                  |      |      |      |      |                |                |                |         |
| LPG (at full power)                  | 1,28                                             | 1,51 | 1,86 | 2,33 | 2,67 | 3,22           | 2,87           | 3,18           | kg/h    |
| LPG (at min. power)                  | 0,96                                             |      |      |      |      | 1,12           | 1,01           | 1,1            | kg/h    |
| Natural gas (at full power)          | 0,94                                             | 1,12 | 1,37 | 1,72 | 2    | 2,15           | 3,67           | 4,08           | m³/h    |
| Natural gas (at min. power)          | 0,72                                             |      |      |      |      | 0,88           | 1,3            | 1,4            | m³/h    |
| Central Heating                      |                                                  |      |      |      |      |                |                |                |         |
| Minimum Water Pressure               | 0,8                                              |      |      |      |      |                |                |                | bar     |
| Maximum Water Pressure               | 3                                                |      |      |      |      |                |                |                | bar     |
| Maximum Water Temperature            | 90                                               |      |      |      |      |                |                |                | °C      |
| Temperature Setting range            | 30-80                                            |      |      |      |      |                |                |                | °C      |
| Domestic Hot Water                   |                                                  |      |      |      |      |                |                |                |         |
| Min. Flow Rate                       | 3                                                |      |      |      |      |                |                |                | l/min.  |
| Max. Flow Rate Min.                  | 10 (Δt=33,4°C)                                   |      |      |      |      | 12 (Δt=33,4°C) | 14 (Δt=33,4°C) | 14 (Δt=37,7°C) | l/min.  |
| Water Pressure                       | 0,3                                              |      |      |      |      |                |                |                | bar     |
| Max. Water Pressure                  | 10                                               |      |      |      |      |                |                |                | bar     |
| Hot Water Range                      | 35-64                                            |      |      |      |      |                |                |                | °C      |
| General                              |                                                  |      |      |      |      |                |                |                |         |
| Electric Supply                      | 230 V AC-50Hz                                    |      |      |      |      |                |                |                | VAC- Hz |
| Electric Consumption                 | 140                                              |      |      |      |      | 140            | 152            |                | watt    |
| Protection Class                     | IPx4D                                            |      |      |      |      |                |                |                |         |
| Expansion Tank                       | 8                                                |      |      |      |      |                |                |                | Liter   |
| Dimension (HxWxD)                    | 720x400x330                                      |      |      |      |      |                |                |                | mm      |
| Weight (without packaging)           | 33                                               |      |      |      |      | 34             |                | 35             | kg      |
| Nox Class                            | 2                                                |      |      |      |      |                | 3              |                |         |
| Pipe Connectipons                    |                                                  |      |      |      |      |                |                |                |         |
| CH                                   | 3/4                                              |      |      |      |      |                |                |                | Inch    |
| DHW                                  | 1/2                                              |      |      |      |      |                |                |                | Inch    |
| Gas                                  | 3/4                                              |      |      |      |      |                |                |                | Inch    |

# Chimney Applications

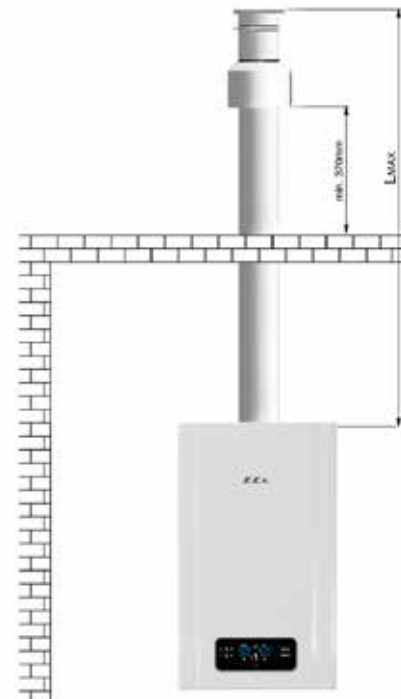
## Horizontal & Vertical Applications



Horizontal Hermetic Flue Application

L max. distance with single elbow: 4 m, Ø60/100

L max. distance with single elbow: 6 m, Ø80/125



Vertical Hermetic Flue Application

L max. distance without elbow: 5 m, Ø60/100

L max. distance without elbow: 8 m, Ø80/125

## Valve Connection Kit



Our Valve Connection Kit comprises of the following items:

3/4" Ball Valve Blue Butterfly Handle (Cold Water In)

1/2" Union (Hot Water Out)

3/4" Ball Valve with Yellow Handwheel (Gas)

1/2" Ball Valve with Blue Handwheel (Heating Return)

3/4" Ball Valve with Red Butterfly Handle (Heating Flow)

# Optional Control Accessories

## E.C.A. Poly Comfort 200W Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Comfort 200B Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Touch 400W Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Touch 400B Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Pure 100W Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Poly Pure 100W Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,2°C
- Room Control Temperature: 5°C-35°C

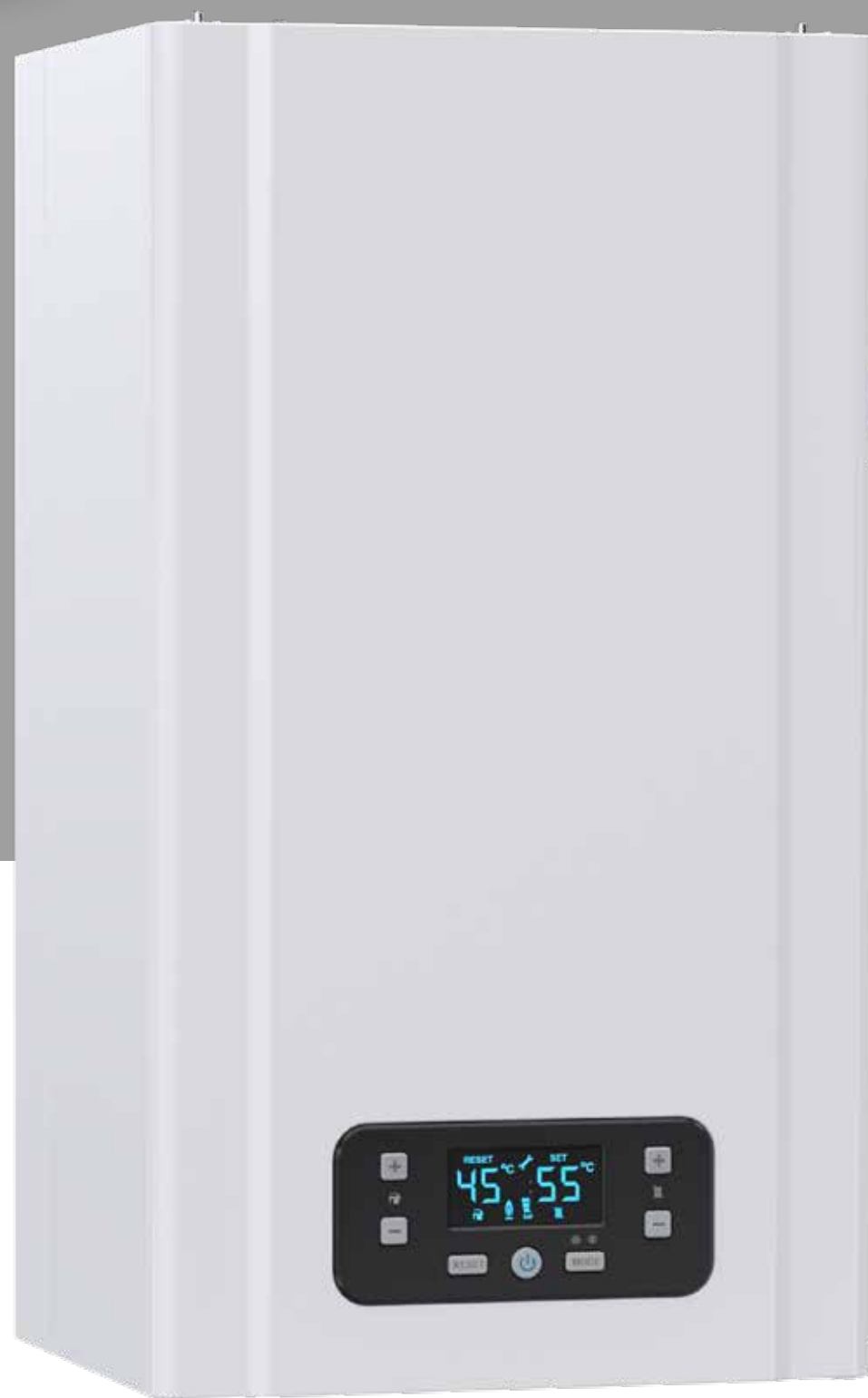


## E.C.A. Programmable Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,2°C
- Daily, 4 different time frames







E.C.A.  
GERDA





# Superior Safety Systems

## Technical Design Properties

- 11-13-16-20-24-28-33-37 kW capacities hermetic combi boiler (monothermic, storage and only CH)
- Usage ability with Natural Gas and LPG
- 90,6% efficiency
- 1/3 modulation rate
- Low CO emission
- 3 way standard pump
- LCD screen which shows the adjustment buttons and functions on remote control panel which has an ergonomic design.
- Minimal dimensions to fit in (720x400x330 mm)
- Silent Operation (<49 dB for 11-13-16-20-24 kW; <52 dB for 28 kW; <54 dB for 33-37 kW)
- Design which provides easy service and maintenance
- Chimney kit types: C12(X), C32(X), C42(X), C52(X) (Hermetic)
- On/Off and modulating room thermostat control possibility

|           |                            |
|-----------|----------------------------|
| CAPACITY  | 11-13-16-20-24-28-33-37 kW |
| MODELS    | Combi Boiler (HM-HST-HCH)  |
| FLUE TYPE | C Types                    |
| GAS TYPE  | Natural Gas/ LPG           |

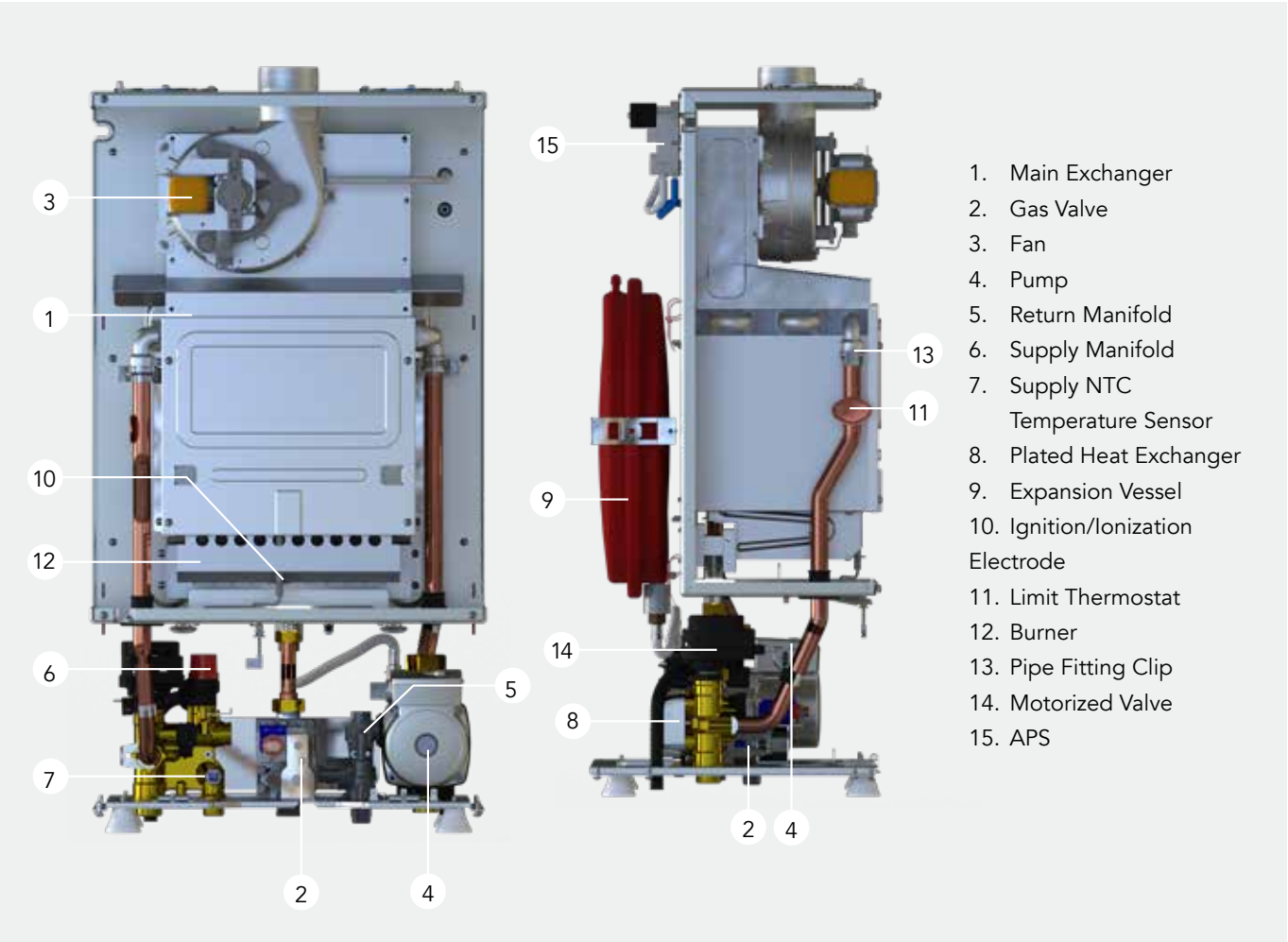
1. High Water Pressure (3 bar) safety unit protects both the central heating system and the combi boiler against overpressure
2. Low Water Pressure (0,8 bar) safety unit switches the combi boiler off when the water pressure is low
3. Hot Water Accumulation safety unit prevents thermal accumulation thanks to the by-pass and pump over-run systems
4. Expansion Tank (6 l) compensates expansion of the hot water circulating within the central heating system (8 l for 28-33 Kw)
5. EMC Filter removes electromagnetic interferences and ensures safety for the ignition process
6. Flame Loss Protection
7. Pump Blockage unit protects the pump against blockage risk after it remains idle for a long time
8. 3-Way Blockage Protection unit for monothermic models
9. 2-Stage Frost Safety Unit automatically operates depending on the water temperature values measured by the temperature sensors for central heating water and domestic water (only when the combi boiler is on stand-by mode)
10. Automatic Air Purger for the pump, Manual Air Purger for the expansion tank
11. Differential air pressure switch for flue gas exhaust safety
12. Over Heating Protection Unit for DHW (71 °C)
13. Over Heating Safety Unit for CH (95 °C)
14. Limit Thermostat to limit the temperature of the water outgoing from the exchanger at 105°C and to switch the combi boiler off
15. Low Voltage Safety Unit (160 VAC)
16. High Voltage Safety Unit (260 VAC)
17. Drain tap which enables discharging radiator circuit water in the combi boiler.



How to Adjust...



- 1.Position Selection Button: It enables opening/closing of your device, selection of summer/winter position.
- 2.Central Heating Water Temperature Adjusting Button: While the position selection button is in winter position, you can select a comfort temperature as you like in between 30° C - 80° C by turning the central heating water temperature adjusting button in between min. and max.
- 3.Domestic Hot Water Temperature Adjusting Button: While the position selection button is in summer or winter position, you can select a running water temperature in between 35°C - 64°C by turning the domestic hot water temperature adjusting button in between min. and max.



Technical Specifications

|                                      | GERDA 11/13/16/20/24 HM-HST-HCH                  |      |      |      |      | 28<br>(HM-HST-HCH) | 33<br>(HM-HST-HCH) | 37<br>(HM-HST-HCH) | Unit   |         |
|--------------------------------------|--------------------------------------------------|------|------|------|------|--------------------|--------------------|--------------------|--------|---------|
| Category                             | II2H3B/P                                         |      |      |      |      |                    |                    |                    |        |         |
| Type                                 | C12(x) ,C32(x), *C42(x), *C52(x)                 |      |      |      |      |                    |                    |                    |        |         |
| Gas Type and Gas Supply Pressure     | G20 (20 mbar) (Natural Gas), G31 (37 mbar) (LPG) |      |      |      |      |                    |                    |                    |        | mbar    |
| Efficiency                           | 90,6                                             |      |      |      |      | 90,7               | 90,3               | 91,0               | %      |         |
| Power                                |                                                  |      |      |      |      |                    |                    |                    |        |         |
| P Min. Heating power (thermal power) | 8,2                                              |      |      |      |      | 9,5                | 11,3               | 12,3               | kW     |         |
| P Max. Heating power (thermal power) | 11                                               | 13   | 16   | 20   | 23,3 | 28                 | 32,5               | 36,04              | kW     |         |
| Q Thermal Load (min.)                | 9,2                                              |      |      |      |      | 10,5               | 12,5               | 13,5               | kW     |         |
| Q Thermal Load (max.)                | 12,1                                             | 14,3 | 17,6 | 22   | 25,6 | 30,5               | 35,3               | 39,6               | kW     |         |
| Gas Consumption                      |                                                  |      |      |      |      |                    |                    |                    |        |         |
| LPG (at full power)                  | 0,94                                             | 1,12 | 1,37 | 1,72 | 2    | 2,51               | 2,87               | 3,18               | kg/h   |         |
| LPG (at min. power)                  | 0,72                                             |      |      |      |      | 0,88               | 1,01               | 1,1                | kg/h   |         |
| Natural gas (at full power)          | 1,28                                             | 1,51 | 1,86 | 2,33 | 2,67 | 3,22               | 3,67               | 4,08               | m³/h   |         |
| Natural gas (at min. power)          | 0,96                                             |      |      |      |      | 1,12               | 1,3                | 1,4                | m³/h   |         |
| Heating Circuit                      |                                                  |      |      |      |      |                    |                    |                    |        |         |
| Minimum Water Pressure               | 0,8                                              |      |      |      |      |                    |                    |                    |        | bar     |
| Maximum Water Pressure               | 3                                                |      |      |      |      |                    |                    |                    |        | bar     |
| Maximum vWater Temperature           | 90                                               |      |      |      |      |                    |                    |                    |        | °C      |
| Temperature Setting range            | 40-80                                            |      |      |      |      |                    |                    |                    |        | °C      |
| Hot Running Water                    |                                                  |      |      |      |      |                    |                    |                    |        |         |
| Min. Flow Rate                       | 3                                                |      |      |      |      |                    |                    |                    |        | l/min.  |
| Max. Flow Rate Min.                  | 10 (Δt=33,4°C)                                   |      |      |      |      | 12<br>(Δt=33,4°C)  | 14<br>(Δt=33,4°C)  | 14<br>(Δt=37,7°C)  | l/min. |         |
| Water Pressure                       | 0,3                                              |      |      |      |      |                    |                    |                    |        | bar     |
| Max. Water Pressure                  | 10                                               |      |      |      |      |                    |                    |                    |        | bar     |
| Hot Water Range                      | 35-64                                            |      |      |      |      |                    |                    |                    |        | °C      |
| General                              |                                                  |      |      |      |      |                    |                    |                    |        |         |
| Electric Supply                      | 230 V AC-50Hz                                    |      |      |      |      |                    |                    |                    |        | VAC- Hz |
| Electric Consumption                 | 140                                              |      |      |      |      | 140                | 152                |                    | watt   |         |
| Protection Class                     | IPx4D                                            |      |      |      |      |                    |                    |                    |        |         |
| Expansion Tank                       | 6                                                |      |      |      |      | 8                  |                    |                    | Liter  |         |
| Dimension (HxWxD)                    | 720x400x330                                      |      |      |      |      |                    |                    |                    |        | mm      |
| Weight (without packaging)           | 32                                               |      |      |      |      | 33                 | 34                 | 35                 | kg     |         |
| Nox Class                            | 2                                                |      |      |      |      |                    | 3                  |                    |        |         |
| Pipe Connections                     |                                                  |      |      |      |      |                    |                    |                    |        |         |
| CH                                   | 3/4                                              |      |      |      |      |                    |                    |                    |        | Inch    |
| DHW                                  | 1/2                                              |      |      |      |      |                    |                    |                    |        | Inch    |
| Gas                                  | 3/4                                              |      |      |      |      |                    |                    |                    |        | Inch    |



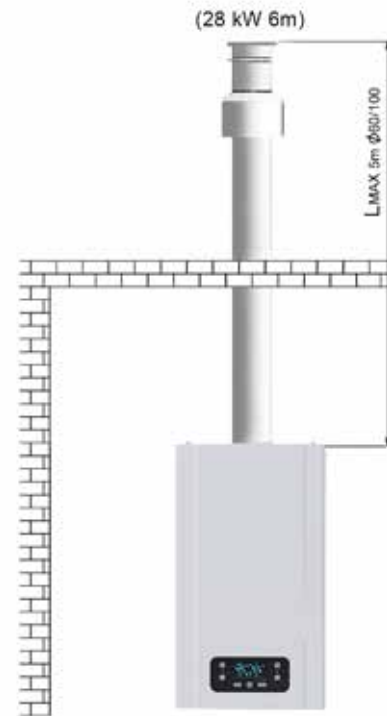
# Chimney Applications

## Horizontal & Vertical Applications



Horizontal Hermetic Flue Application

L max. distance with single elbow: 4 m, Ø60/100  
L max. distance with single elbow: 6 m, Ø80/125



Vertical Hermetic Flue Application

L max. distance without elbow: 5 m, Ø60/100  
L max. distance without elbow: 8 m, Ø80/125

## Valve Connection Kit



Our Valve Connection Kit comprises of the following items:

- 3/4" Ball Valve Blue Butterfly Handle (Cold Water In)
- 1/2" Union (Hot Water Out)
- 3/4" Ball Valve with Yellow Handwheel (Gas)
- 1/2" Ball Valve with Blue Handwheel (Heating Return)
- 3/4" Ball Valve with Red Butterfly Handle (Heating Flow)

# Optional Control Accessories

## E.C.A. Poly Comfort 200W Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Comfort 200B Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
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- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Touch 400W Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Touch 400B Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Pure 100W Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Poly Pure 100W Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,2°C
- Room Control Temperature: 5°C-35°C



## E.C.A. Programmable Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,2°C
- Daily, 4 different time frames





E.C.A.  
GELIOS PLUS





GeliosPlus



# Technical Design Properties

- 11-13-16-20-24-28-33-37 kW capacities hermetic combi boiler (monothermic)
- Usage ability with Natural Gas and LPG
- 90,6% efficiency
- 1/3 modulation rate
- Low CO emission
- 3 way standard pump
- LCD screen which shows the adjustment buttons and functions on remote control panel which has an ergonomic design.
- Minimal dimensions to fit in (720x400x330 mm)
- Silent Operation (<49 dB for 11-13-16-20-24 kW; <52 dB for 28 kW; <54 dB for 33-37 kW)
- Design which provides easy service and maintenance
- Chimney kit types: C12(X), C32(X), C42(X), C52(X) (Hermetic)
- On/Off thermostat and smart thermostat control possibility

|           |                            |
|-----------|----------------------------|
| CAPACITY  | 11-13-16-20-24-28-33-37 kW |
| MODELS    | Combi Boiler (HM)          |
| FLUE TYPE | C Types                    |
| GAS TYPE  | Natural Gas/ LPG           |

# Superior Safety Systems

1. High Water Pressure (3 bar) safety unit protects both the central heating system and the combi boiler against overpressure
2. Low Water Pressure (0,8 bar) safety unit switches the combi boiler off when the water pressure is low
3. Hot Water Accumulation safety unit prevents thermal accumulation thanks to the by-pass and pump over-run systems
4. Expansion Tank (6 l) compensates expansion of the hot water circulating within the central heating system (8 l for 28-33 Kw)
5. EMC Filter removes electromagnetic interferences and ensures safety for the ignition process
6. Flame Loss Protection
7. Pump Blockage unit protects the pump against blockage risk after it remains idle for a long time
8. 3-Way Blockage Protection unit for monothermic models
9. 2-Stage Frost Safety Unit automatically operates depending on the water temperature values measured by the temperature sensors for central heating water and domestic water (only when the combi boiler is on stand-by mode)
10. Automatic Air Purger for the pump, Manual Air Purger for the expansion tank
11. Differential air pressure switch for flue gas exhaust safety
12. Over Heating Protection Unit for DHW (71 °C)
13. Over Heating Safety Unit for CH (95 °C)
14. Limit Thermostat to limit the temperature of the water outgoing from the exchanger at 105°C and to switch the combi boiler off
15. Low Voltage Safety Unit (160 VAC)
16. High Voltage Safety Unit (260 VAC)
17. Drain tap which enables discharging radiator circuit water in the combi boiler.

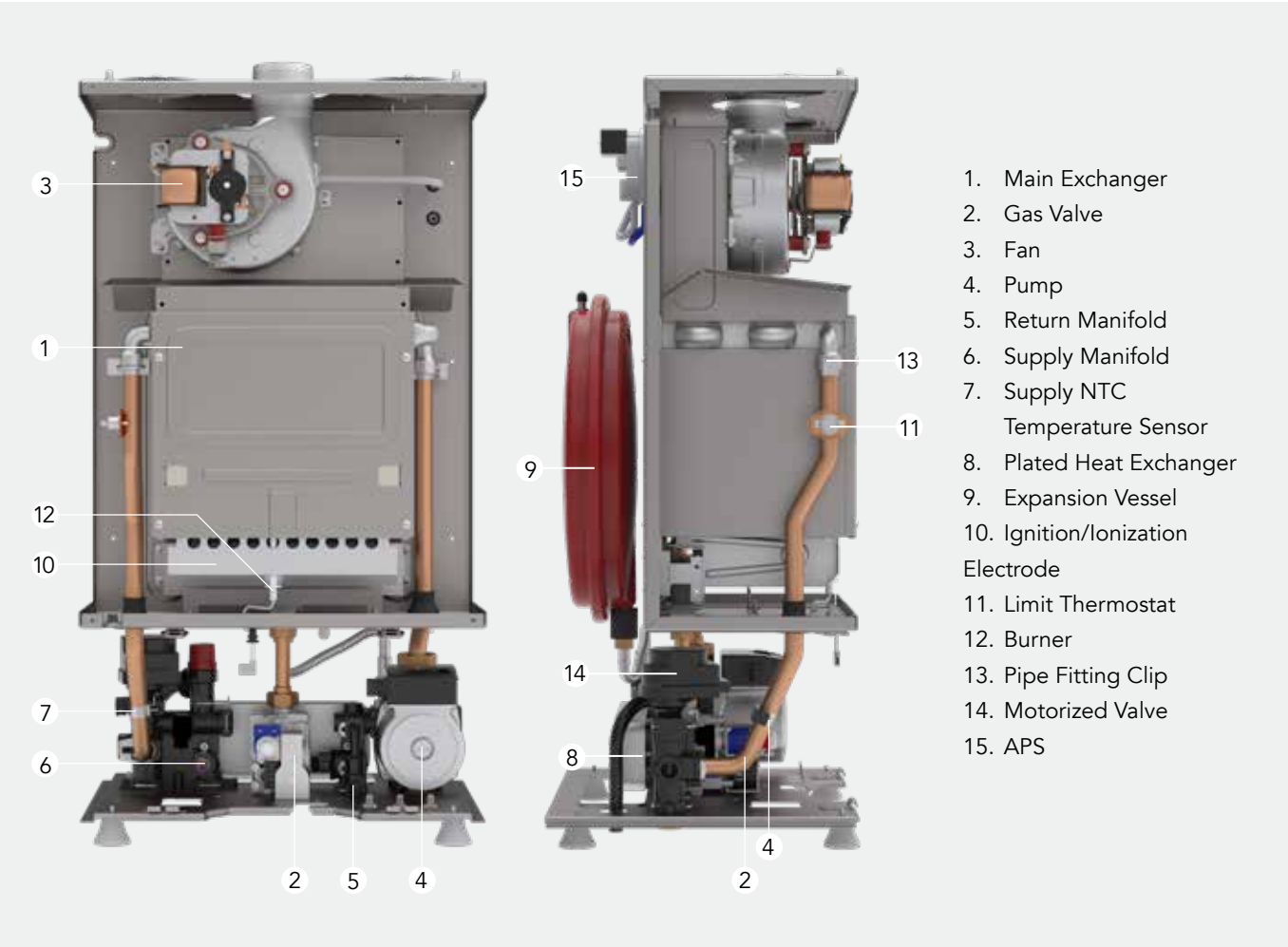




How to Adjust...



- 1.Position Selection Button:** It enables opening/closing of your device, selection of summer/winter position, and resetting of the device.
- 2.Central Heating Water Temperature Adjusting Button:** While the position selection button is in winter position, you can select a comfort temperature as you like in between 30° C - 80° C by turning the central heating water temperature adjusting button in between min. and max.
- 3.Domestic Hot Water Temperature Adjusting Button:** While the position selection button is in summer or winter position, you can select a running water temperature in between 35°C - 64°C by turning the domestic hot water temperature adjusting button in between min. and max.



Technical Specifications

|                                      | GELIOS PLUS 11/13/16/20/24 HM                    |      |      |      |      | 28 HM          | 33 HM          | 37 HM          | Unit    |
|--------------------------------------|--------------------------------------------------|------|------|------|------|----------------|----------------|----------------|---------|
| Category                             | I12H3B/P                                         |      |      |      |      |                |                |                |         |
| Type                                 | C12(x) ,C32(x), *C42(x), *C52(x)                 |      |      |      |      |                |                |                |         |
| Gas Type and Gas Supply Pressure     | G20 (20 mbar) (Natural Gas), G31 (37 mbar) (LPG) |      |      |      |      |                |                |                | mbar    |
| Efficiency                           | 90,6                                             |      |      |      |      | 90,7           | 90,3           | 91,0           | %       |
| Power                                |                                                  |      |      |      |      |                |                |                |         |
| P Min. Heating power (thermal power) | 8,2                                              |      |      |      |      | 9,5            | 11,3           | 12,3           | kW      |
| P Max. Heating power (thermal power) | 11,3                                             | 13   | 16   | 20   | 23,3 | 28             | 32,5           | 36,04          | kW      |
| Q Thermal Load (min.)                | 9,2                                              |      |      |      |      | 10,5           | 12,5           | 13,5           | kW      |
| Q Thermal Load (max.)                | 12,8                                             | 14,8 | 17,9 | 22,3 | 25,6 | 30,5           | 35,3           | 39,6           | kW      |
| Gas Consumption                      |                                                  |      |      |      |      |                |                |                |         |
| LPG (at full power)                  | 1,07                                             | 1,23 | 1,5  | 1,88 | 2,15 | 2,51           | 2,87           | 3,18           | kg/h    |
| LPG (at min. power)                  | 0,75                                             |      |      |      |      | 0,88           | 1,01           | 1,1            | kg/h    |
| Natural gas (at full power)          | 1,38                                             | 1,58 | 1,93 | 2,41 | 2,76 | 3,22           | 3,67           | 4,08           | m³/h    |
| Natural gas (at min. power)          | 0,96                                             |      |      |      |      | 1,12           | 1,3            | 1,4            | m³/h    |
| Heating Circuit                      |                                                  |      |      |      |      |                |                |                |         |
| Minimum Water Pressure               | 0,8                                              |      |      |      |      |                |                |                | bar     |
| Maximum Water Pressure               | 3                                                |      |      |      |      |                |                |                | bar     |
| Maximum Water Temperature            | 90                                               |      |      |      |      |                |                |                | °C      |
| Temperature Setting range            | 30-80                                            |      |      |      |      |                |                |                | °C      |
| Hot Running Water                    |                                                  |      |      |      |      |                |                |                |         |
| Min. Flow Rate                       | 3                                                |      |      |      |      |                |                |                | l/min.  |
| Max. Flow Rate Min.                  | 10 (Δt=33,4°C)                                   |      |      |      |      | 12 (Δt=33,4°C) | 14 (Δt=33,4°C) | 14 (Δt=37,7°C) | l/min.  |
| Water Pressure                       | 0,3                                              |      |      |      |      |                |                |                | bar     |
| Max.Water Pressure                   | 10                                               |      |      |      |      |                |                |                | bar     |
| Hot Water Range                      | 35-64                                            |      |      |      |      |                |                |                | °C      |
| General                              |                                                  |      |      |      |      |                |                |                |         |
| Electric Supply                      | 230 V AC-50Hz                                    |      |      |      |      |                |                |                | VAC- Hz |
| Electric Consumption                 | 119                                              |      |      |      |      | 156            | 165            |                | watt    |
| Protection Class                     | IPx4D                                            |      |      |      |      |                |                |                |         |
| Expansion Tank                       | 6                                                |      |      |      |      | 8              |                |                | Liter   |
| Dimension (HxWxD)                    | 720x400x330                                      |      |      |      |      |                |                |                | mm      |
| Weight (without packaging)           | 32                                               |      |      |      |      | 33             | 34             | 35             | kg      |
| Nox Class                            | 2                                                |      |      |      |      |                | 3              |                |         |
| Pipe Connections                     |                                                  |      |      |      |      |                |                |                |         |
| CH                                   | 3/4                                              |      |      |      |      |                |                |                | Inch    |
| DHW                                  | 1/2                                              |      |      |      |      |                |                |                | Inch    |
| Gas                                  | 3/4                                              |      |      |      |      |                |                |                | Inch    |

# Chimney Applications

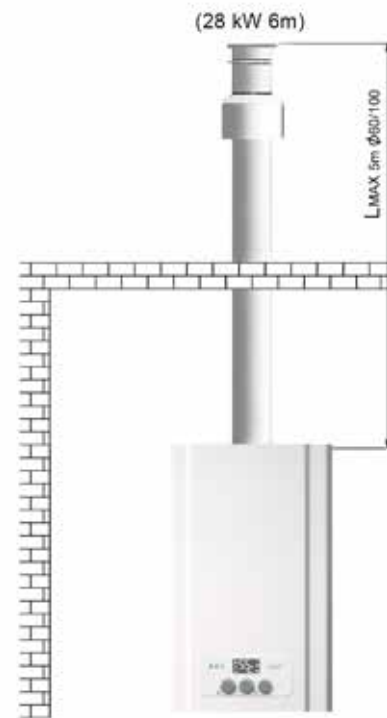
## Horizontal & Vertical Applications



Horizontal Hermetic Flue Application

L max. distance with single elbow: 4 m, Ø60/100

L max. distance with single elbow: 6 m, Ø80/125



Vertical Hermetic Flue Application

L max. distance without elbow: 5 m, Ø60/100

L max. distance without elbow: 8 m, Ø80/125

## Valve Connection Kit



Our Valve Connection Kit comprises of the following items:

3/4" Ball Valve Blue Butterfly Handle (Cold Water In)

1/2" Union (Hot Water Out)

3/4" Ball Valve with Yellow Handwheel (Gas)

1/2" Ball Valve with Blue Handwheel (Heating Return)

3/4" Ball Valve with Red Butterfly Handle (Heating Flow)

# Optional Control Accessories

## E.C.A. Poly Comfort 200W Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



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- LCD Touchscreen Display
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- Eco and Comfort Mode
- For Heating and Cooling



## E.C.A. Poly Pure 100W Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Poly Pure 100W Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



## E.C.A. Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,2°C
- Room Control Temperature: 5°C-35°C



## E.C.A. Programmable Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,2°C
- Daily, 4 different time frames







# ELECTRIC COMBI BOILER







E.C.A.  
ARCEUS



# Technical Design Properties

- Monothermic heating with 12-15-18-24-27 kW capacities
- All capacities (6kW, 9kW, 12kW, 15kW, 18kW, 24kW, 27kW) will be available as CH Only and Storage Heating
- Usage ability with single phase for 6kW, 9kW, 12kW, 15kW
- GREEN GOOD DESIGN award with modern exterior design
- No need for gas supply thus, installation is possible for rural areas.
- 100% heating efficiency due to no combustion loss
- Eco and Comfort modes for the Domestic Water Heating
- ErP regulation compatible
- Minimal dimensions to fit in (678 mm x 410 mm x 288 mm)
- Modulation range up to 1/12
- Extra leak current test to specify leakage current of resistors while the tank is electric insulated and charged with water
- No NOx and CO emissions. Clean cities by using clean energy source
- High life durability thanks to high temperature alloy material of resistor

|          |                                                         |
|----------|---------------------------------------------------------|
| CAPACITY | 6-9-12-15-18-24-27 kW                                   |
| MODELS   | Combi Boiler (MT)<br>CH Only (CH)<br>System Boiler (ST) |

- High strength with stainless steel material heating tank
- Protection of the fitting and combi boiler by the help of the automatic by-pass system
- Protection against freezing
- "Pump over-run" feature that prevents thermal piling up within the fitting
- Plated exchanger in order to get hot water at a high comfort level
- Feed forward feature of potable water and ability to get water at constant temperature via the turbine system
- On/Off, Reset and mode selection all together on one button for ease of use
- Design that facilitates servicing and maintenance
- Error message alert system
- Silent operation
- Sensitive temperature control with Double NTC system
- Relay control boards allocated separately for each resistor groups to decrease service cost
- Increased field life thanks to the randomized relay board controlling function
- Easy fault diagnosis thanks to the diagnosis menu
- Ease of meeting customer demands on site thanks to the wide parameter menu
- Extra automatic air purger placed on top of heating tank to prevent dry heating of resistors

# Superior Safety Systems

1. 3-Phase Circuit breaker placed inside of appliance cut off high current.
2. 3-Phase contactor is placed to stop heating for error states.
3. High Water Pressure (3 bar) safety unit protects both the central heating system and the combi boiler against overpressure
4. Low Water Pressure (0,4 bar) safety unit switches the combi boiler off when the water pressure is low
5. Expansion Tank (8 l) compensates expansion of the hot water circulating within the central heating system.
6. Pump Blockage unit protects the pump against blockage risk after it remains idle for a long time
7. 3-Way Blockage Protection unit for monothermic models
8. Automatic Air Purger for the pump
9. Over Heating Protection Unit for DHW (71 °C)
10. Over Heating NTC protection (98 °C)
11. Over Heating Safety Unit for CH (95 °C)
12. Low Voltage Safety Unit (170 VAC)
13. Internal By-Pass System
14. Anti-Freeze Protection
15. Hall Effect Flow Sensor Detection
16. Annual Maintenance Reminding System



How to Adjust...

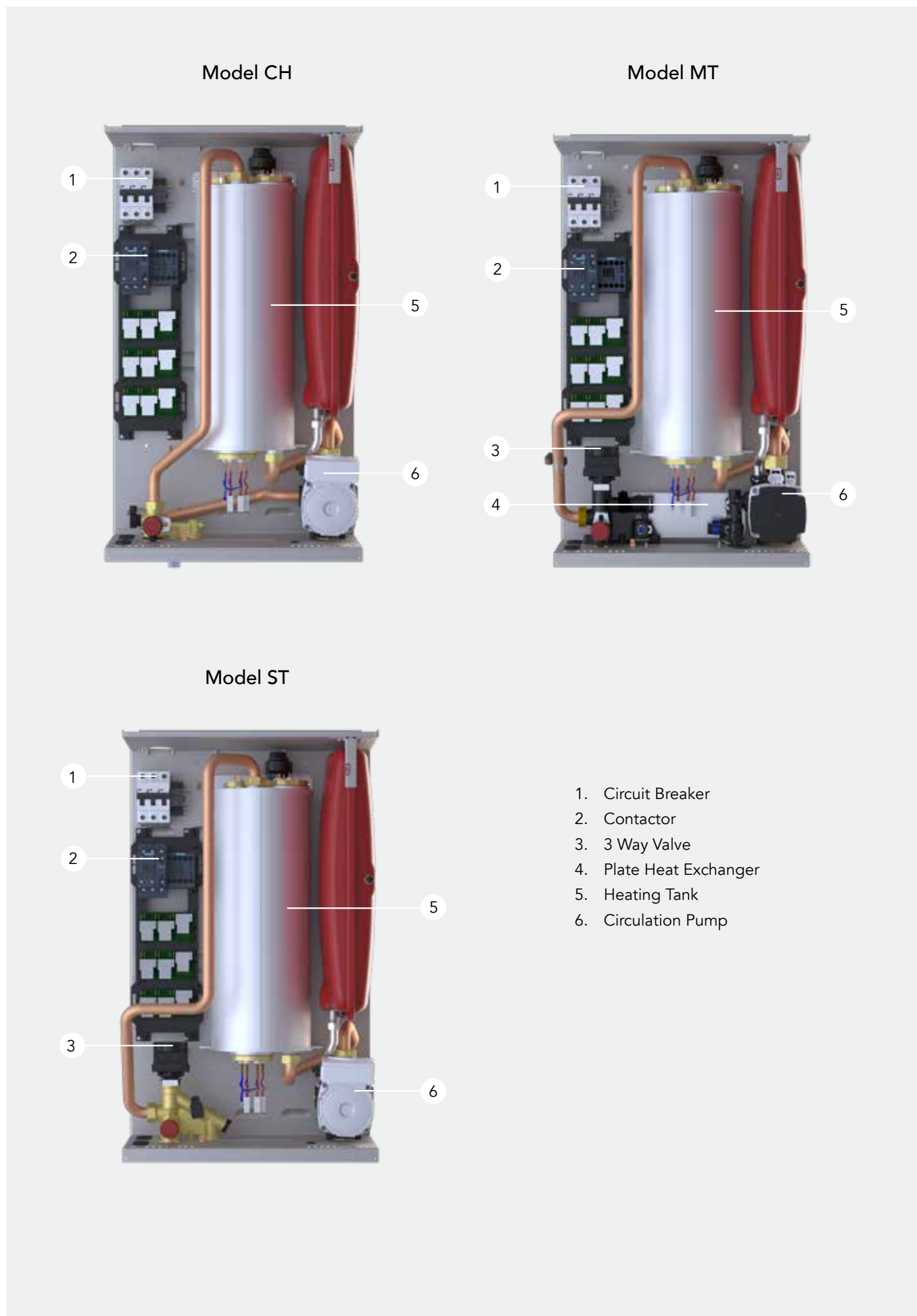


- 1.Domestic Water Temperature Decrease Button** With the domestic water temperature decrease button, the temperature of the domestic water can be decreased to 30°C
- 2.Domestic Water Temperature Increase Button** With the domestic water temperature increase button, the temperature of the domestic water can be increased to 65°C
- 3.Reset/Mode Selection Button** Using mode can be changed by pressing the mode selection button to change between the winter mode and the summer mode. If the button is pressed for 3 seconds, the device will switch to the "stand by" position. It will be enough to press the button once to set the device in operation position.
- 4.Heating Circuit Temperature Decrease Button** With the central heating circuit temperature decrease button, the temperature of the heating water in the central heating circuit can be decreased to 30°C.
- 5.Central Heating Circuit Temperature Increase Button** With the central heating circuit temperature increase button, the temperature of the heating water in the central heating circuit can be increased to 80°C.

Technical Specifications

| DEVICE TYPE                                |                                                    | ARCEUS<br>EK 6 | ARCEUS<br>EK 9 | ARCEUS<br>EK 12 | ARCEUS<br>EK 15 | ARCEUS<br>EK 18 | ARCEUS<br>EK 24 | ARCEUS<br>EK 27 |
|--------------------------------------------|----------------------------------------------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Nominal Power (kW)                         |                                                    | 6              | 9              | 12              | 15              | 18              | 24              | 27              |
| Minimum Heating Power (kW)                 |                                                    | 2              | 3              | 2               | 2               | 2               | 2               | 3               |
| Supply Power Voltage                       |                                                    | 1~ 230 VAC     | 1~ 230 VAC     | 1~ 230 VAC      | 1~ 230 VAC      | 3~ 400 VAC      | 3~ 400 VAC      | 3~ 400 VAC      |
|                                            |                                                    | 3~ 400 VAC     | 3~ 400 VAC     | 3~ 400 VAC      | 3~ 400 VAC      |                 |                 |                 |
| Nominal Current (A)                        |                                                    | 1~ 26,1        | 1~ 39,1        | 1~ 52,2         | 1~ 65,3         | 26,1            | 34,8            | 39,1            |
|                                            |                                                    | 3~ 8,7         | 3~ 13,1        | 3~ 17,4         | 3~21,7          |                 |                 |                 |
| Power Cord Cross Section (mm²)             |                                                    | 1~ 3x6         | 1~ 3x10        | 1~ 3x10         | 1~ 3x16         | 3~ 5x6          | 3~ 5x6          | 3~ 5x10         |
|                                            |                                                    | 3~ 5x2,5       | 3~ 5x2,5       | 3~ 5x4          | 3~ 5x6          |                 |                 |                 |
| Protection Class                           |                                                    | IPX4D          | IPX4D          | IPX4D           | IPX4D           | IPX4D           | IPX4D           | IPX4D           |
| Sound Level (dB)                           |                                                    | 42             | 42             | 38              | 38              | 38              | 38              | 38              |
| Net Weight (kg)                            |                                                    | 26             | 26             | 27              | 27              | 29              | 29              | 29              |
| Gross Weight (kg)                          |                                                    | 29             | 29             | 30              | 30              | 32              | 32              | 32              |
| Dimensions (HxWxD)                         |                                                    | 678x410x288    | 678x410x288    | 678x410x288     | 678x410x288     | 678x410x288     | 678x410x288     | 678x410x288     |
| Central Heating Seasonal Energy Efficiency |                                                    | 39,4           | 39,5           | 39,6            | 39,8            | 39,8            | 39,9            | 39,9            |
| Energy Efficiency Class                    | Domestic Hot Water Load Profile - Efficiency Class | -              | -              | M-C             | L-C             | L-C             | XL-C            | XL-C            |
|                                            | Central Heating                                    | D              | D              | D               | D               | D               | D               | D               |
| Maximum DHW Flow Rate (L/min)              |                                                    | -              | -              | 7               | 8               | 9               | 10              | 10              |
| ΔT for Maximum DHW Flow (°C)               |                                                    | -              | -              | 24,6            | 26,9            | 28,7            | 34,4            | 38,7            |





## Optional Control Accessories

### E.C.A. Poly Comfort 200W Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



### E.C.A. Poly Comfort 200B Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



### E.C.A. Poly Touch 400W Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



### E.C.A. Poly Touch 400B Thermostat

- LCD Touchscreen Display
- Daily and Weekly Programmable
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- Eco and Comfort Mode
- For Heating and Cooling



### E.C.A. Poly Pure 100W Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



### E.C.A. Poly Pure 100W Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,1°C
- Room Control Temperature: 5°C-30°C
- For Heating and Cooling



### E.C.A. Wireless Thermostat

- LCD Display
- Wireless Connection
- On/Off Model
- Sensitivity: 0,2°C
- Room Control Temperature: 5°C-35°C



### E.C.A. Programmable Thermostat

- LCD Display
- Cable Connection
- On/Off Model
- Sensitivity: 0,2°C
- Daily, 4 different time frames





# CENTRAL HEATING SYSTEMS





E.C.A.  
FELIS





# Superior Safety Systems

## Technical Design Properties

- 50-65-100-125-150 kW capacities
- Usage ability with Natural Gas and LPG
- 92% efficiency
- ErP A energy efficiency class
- %19-100 modulation rate
- Integrated back flow preventer
- Stainless steel heat exchanger
- Storage tank support for DHW heating
- 6 Bar Operation Pressure
- Silent Operation (<51 dB)
- TSE and CE certificates
- Compatible with select room controllers (room thermostat, outdoor temperature sensor)
- Cascade option up to 16 boilers

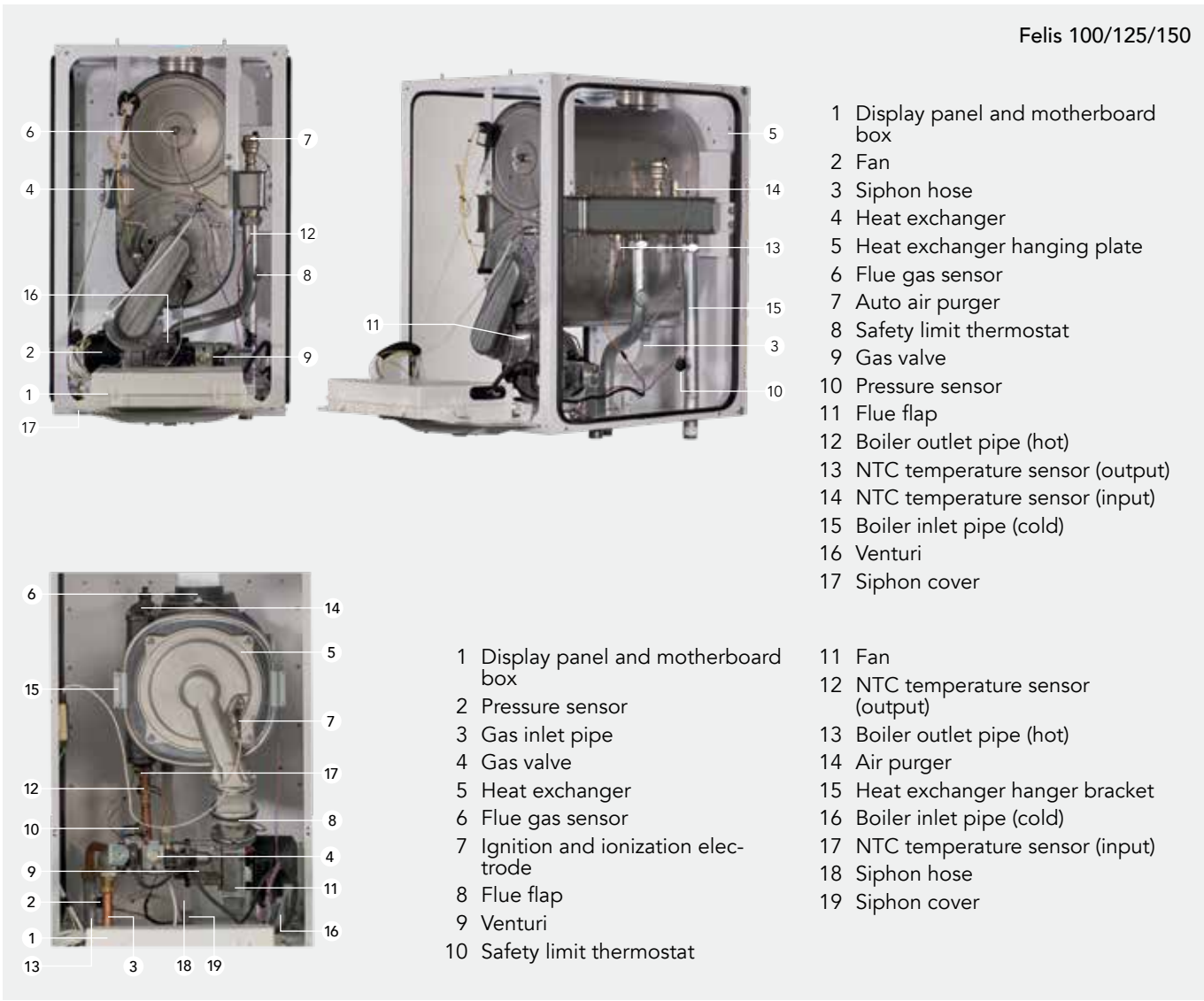
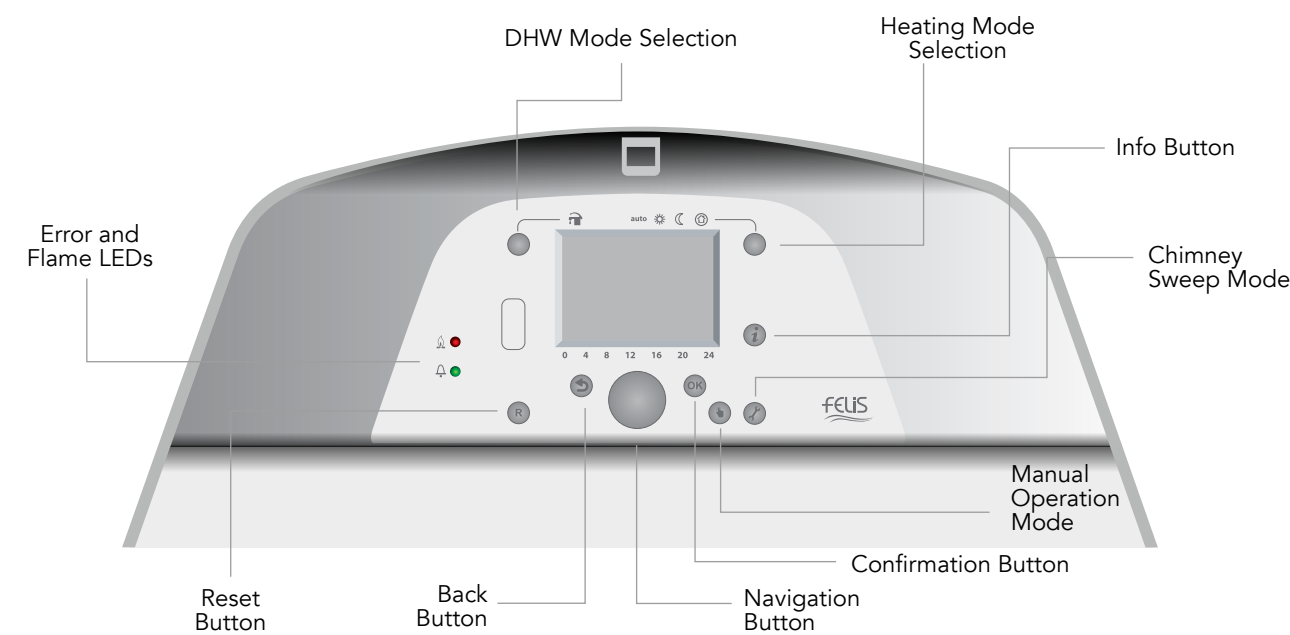
|           |                      |
|-----------|----------------------|
| CAPACITY  | 50-65-100-125-150 kW |
| MODELS    | High Capacity Boiler |
| FLUE TYPE | C and B Types        |
| GAS TYPE  | Natural Gas / LPG    |

1. High Water Pressure Protection (3 bar for 50 Kw, 4,5 bar for 65 Kw and 6 bar for 100-125-150 Kw )
2. Low Water Pressure Protection (0,8 bar)
3. Flame Loss Protection
4. Over Heating Protection for Flue Gas (95 °C)
5. Over Heating Protection for CH Water Circuit (85 °C)
6. Safety Limit Thermostat for Burner Door (260 °C)
7. Safety Limit Thermostat for Water Side (105 °C)
8. Low Voltage Safety Unit (170 VAC)
9. Anti-Freeze Protection
10. Automatic Air Vent
11. Annual Maintenance Reminding System



# How to Adjust...

E.C.A. Felis condensing boiler gives extensive information to the user about the status of the appliance and system with its wide LCD screen and multi-language support while allowing full control on the appliance.

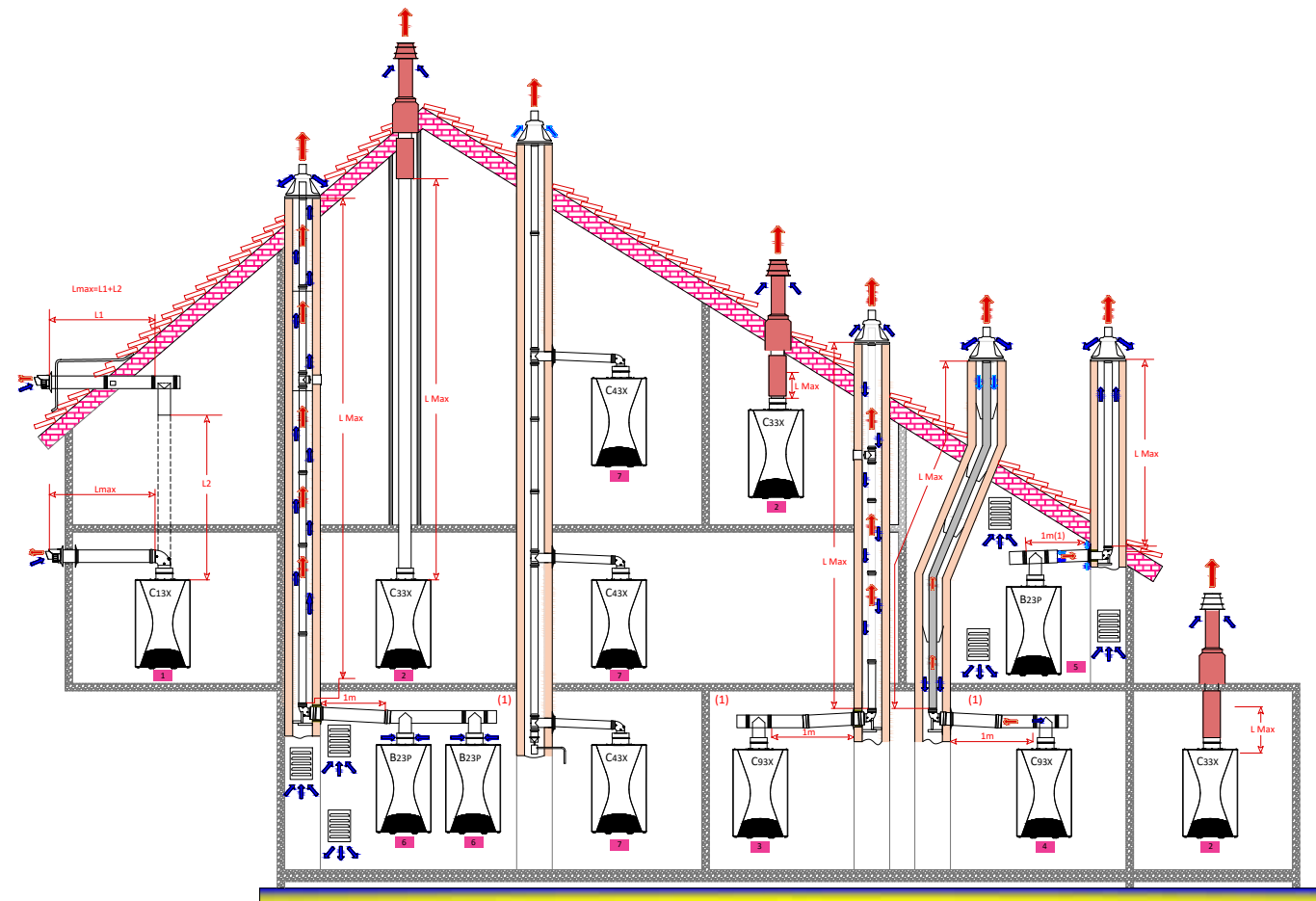


# Technical Specifications

| PRODUCT TYPE                                                | UNIT    | FELIS FL 50 HM                              | FELIS FL 65 HM | FELIS FL 100 HM | FELIS FL 125 HM | FELIS FL 150 HM |
|-------------------------------------------------------------|---------|---------------------------------------------|----------------|-----------------|-----------------|-----------------|
| General                                                     |         |                                             |                |                 |                 |                 |
| Gas Category                                                |         | II <sub>2H3B/P</sub>                        |                |                 |                 |                 |
| Flue Types                                                  |         | C13(x), C33(x), C43(x), C63(x), C93(x),B23P |                |                 |                 |                 |
| Hermetic Type                                               |         | Fully Hermetic                              |                |                 |                 |                 |
| Gas Inlet Pressure (G20)                                    | mbar    | 20                                          |                |                 |                 |                 |
| Gas Inlet Pressure (G30)                                    | mbar    | 30                                          | 30             | 30              | 30              | 30              |
| Gas Inlet Pressure (G31)                                    | mbar    | 37                                          | 37             | 37              | 37              | 37              |
| Electrical Supply                                           | V AC-Hz | 230 VAC-50 Hz                               |                |                 |                 |                 |
| Electric Consumption                                        | Watt    | 75                                          | 117            | 143             | 228             | 306             |
| Protection Class                                            |         | IPX4D                                       |                |                 |                 |                 |
| Weight (Net)                                                | kg      | 42                                          | 53             | 66              | 74              | 89              |
| Water Volume                                                | L       | 3                                           | 4,5            | 6,5             | 8               | 9,5             |
| Dimensions (net) (HxWxD)                                    | mm      | 835x501x525                                 | 835x501x590    | 835x501x590     | 835x501x660     | 835x501x730     |
| Dimensions (gross) (HxWxD)                                  | mm      | 1055x665x595                                | 1055x665x650   | 1055x665x650    | 1055x665x720    | 1055x665x790    |
| Capacity-Efficiency                                         |         |                                             |                |                 |                 |                 |
| Max. Heat Input (max)                                       | kW      | 47,05                                       | 68,05          | 96,70           | 120,71          | 140,77          |
| Min. Heat Input (min) (G20)                                 | kW      | 8,18                                        | 13,50          | 20,09           | 24,20           | 26,57           |
| Min. Heat Input (min) (G30/G31)                             | kW      | 8,48                                        | 14,70          | 20,43           | 31,20           | 27,71           |
| Min. Heating Power - (60°C min)                             | kW      | 7,84                                        | 13,03          | 19,4            | 22,54           | 25,75           |
| Max. Heating Power - 80/60°C                                | kW      | 45,55                                       | 66,04          | 94,05           | 116,75          | 135,67          |
| Min. Heating Power - (30°C min)                             | kW      | 9,09                                        | 14,89          | 22,34           | 26,29           | 29,82           |
| Max. Heating Power - 50/30°C                                | kW      | 49,91                                       | 69,9           | 102,00          | 130,01          | 150,43          |
| ErP Information                                             |         |                                             |                |                 |                 |                 |
| Seasonal Space Heating Energy Efficiency Class              |         | A                                           |                |                 |                 |                 |
| Seasonal Space Heating Energy Efficiency (ns)               |         | 91,8                                        | 91,4           | 91,8            | 92              | 91,8            |
| Rated Heat Output (Prated)                                  | kW      | 45,6                                        | 68,05          | 96,7            | 120,7           | 140,8           |
| Sound Power Level                                           | dB(A)   | 53                                          | 53             | 53              | 51              | 51              |
| At Rated Heat Output and High Temperature Regime (η4)       | %       | 86,4                                        | 84,3           | 87,8            | 87,1            | 87,5            |
| At 30% of Rated Heat Output and Low Temperature Regime (η1) | %       | 97,2                                        | 97,5           | 97,4            | 97,1            | 97,2            |
| At full load (elmax)                                        | Watt    | 75                                          | 115            | 139             | 226             | 297             |
| At part load (elmin)                                        | Watt    | 16                                          | 22             | 33              | 35              | 27              |
| In Standby mode (Psb)                                       | Watt    | 4                                           | 4              | 4               | 3               | 4               |
| Heat loss: Standby mode                                     | kW      | 0,411                                       | 0,939          | 1,564           | 0,644           | 1,6             |
| NOx emissions                                               | mg/kWh  | 37,82                                       | 28,13          | 26,4            | 42,91           | 34,06           |
| Annual Energy Consumption                                   | kWh     | 39713                                       | 57390          | 83085           | 102765          | 118623          |
| Space Heating Annual Energy Consumption                     | GJ      | 143                                         | 207            | 299             | 370             | 427             |
| Gas Consumption                                             |         |                                             |                |                 |                 |                 |
| Natural Gas (@Min-Max Capacity)                             | m3/h    | 0,882 - 5,120                               | 1,464 - 7,384  | 2,179 - 10,506  | 2,513 - 13,100  | 2,878 - 15,148  |
| LPG - G30 (@Min-Max Capacity)**                             | kg/h    | 0,656 - 3,753                               | 1,154 - 5,615  | 1,632 - 7,845   | 2,492 - 9,503   | 2,194 - 11,280  |
| LPG - G31 (@Min-Max Capacity)**                             | kg/h    | 0,645 - 3,722                               | 1,160 - 5,423  | 1,583 - 7,590   | 2,350 - 9,337   | 2,054 - 10,904  |
| NOx Class                                                   |         | 6                                           |                |                 |                 |                 |
| Central Heating                                             |         |                                             |                |                 |                 |                 |
| Min. Water Pressure                                         | bar     | 0,8                                         |                |                 |                 |                 |
| Max. Water Pressure                                         | bar     | 3                                           | 4,5            | 6               |                 |                 |
| Operation Range (@Radiator Heating)                         | °C      | 30-85                                       |                |                 |                 |                 |
| Max. Limit Temperature                                      | °C      | 85                                          |                |                 |                 |                 |
| Emission Values                                             |         |                                             |                |                 |                 |                 |
| CO <sub>2</sub> @ max capacity (G20)                        | %       | 9,2 ± 0,2                                   | 9,2 ± 0,2      | 9,3 ± 0,2       | 9,5 ± 0,2       | 9,5 ± 0,2       |
| CO <sub>2</sub> @ min capacity (G20)                        | %       | 8,7 ± 0,2                                   | 8,7 ± 0,2      | 8,7 ± 0,2       | 8,9 ± 0,2       | 8,9 ± 0,2       |
| CO <sub>2</sub> @ max capacity (G30)                        | %       | 11,0 ± 0,2                                  | 11,6 ± 0,2     | 11,0 ± 0,2      | 11,0 ± 0,2      | 11,0 ± 0,2      |
| CO <sub>2</sub> @ min capacity (G30)                        | %       | 10,5 ± 0,2                                  | 10,5 ± 0,2     | 10,5 ± 0,2      | 10,2 ± 0,2      | 10,2 ± 0,2      |
| CO <sub>2</sub> @ max capacity (G31)                        | %       | 10,4± 0,2                                   | 10,4± 0,2      | 10,4± 0,2       | 10,6± 0,2       | 10,6± 0,2       |
| CO <sub>2</sub> @ min capacity (G31)                        | %       | 9,6 ± 0,2                                   | 9,6 ± 0,2      | 9,6 ± 0,2       | 9,9 ± 0,2       | 9,9 ± 0,2       |
| Flue Gas Temperature                                        | °C      | <82                                         | <75,4          | <75,6           | <76,8           | <74,4           |
| Flue Gas Flow Rate (min-max)                                | g/s     | 3,52 - 17,59                                | 5,28 - 22,17   | 9,35 - 45,08    | 9,90 - 48,93    | 12,1 - 54       |
| Flues                                                       |         |                                             |                |                 |                 |                 |
| Flue Diameter                                               | mm      | 80 / 125                                    |                | 100 / 150       |                 |                 |
| C13 (x) - Max. Flue Length (Horz.)                          | m       | 10                                          | 10             | 11              | 11              | 11              |
| C33 (x) - Max. Flue Length (Vert.)                          | m       | 12                                          | 12             | 13              | 13              | 13              |
| B23P - Max. Flue Length                                     | m       | 11                                          | 11             | 12              | 12              | 12              |

\* Maximum flue lengths are given for straight connections. Each 90° elbow equals to 1,5m, each 45° elbow equals to 1m flue length.  
\*\* Butane (G30) density: 2,543 kg/m<sup>3</sup> and Propane (G31) density: 1,899 kg/m<sup>3</sup>

# Chimney Applications



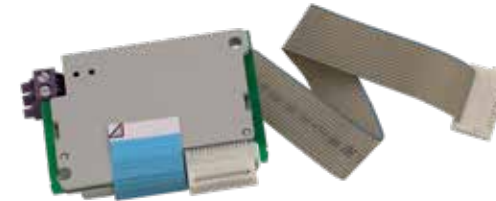
(1) Per 1 meter chimney addition on the horizontal, the maximum length of the vertical chimney is reduced by 1,2 meters.

- 1 C\_13x: Applications with fresh air/exhaust gas connection and coaxial horizontal flue (may also called as forced flow/discharge).
- 2 C\_33x: Applications with fresh air/exhaust gas connection and coaxial vertical flue (flue through the roof).
- 3 C\_43x: Applications using fresh air/exhaust gas connection as horizontal flue through the building's main chimney with coaxial flue connection.
- 4 C\_93x (formerly C\_33x): Applications with a single discharge duct using fresh air/exhaust gas connection and coaxial flue in boiler room (combusting air enters to in opposite direction of exhaust gas outlet in flue duct).
- 5 C\_93x: Applications with a single flex discharge duct using fresh air/exhaust gas connection and coaxial flue in boiler room (combusting air enters to in opposite direction of exhaust gas outlet in flue duct).
- 6 B\_23P: Connection to flue duct (combusting air is obtained from boiler room)
- 7 B\_23P: Valid for cascade applications.

# Optional Control Accessories

## AF12 Cascade Module Set

- In cascade systems, it provides the communication between the master and slave appliances.
- It is mounted on the motherboard.



## AF14 Cascade Temperature Sensor

- It is an NTC type sensor.
- It can operate in the range of -30 to 125 °C.
- It has a tolerance of +1/-1 K.
- Connections should be made with copper cable in 1 mm cross section and cable length should not exceed 80 meters.



## AF16 Zone Control Kit

- It provides control of pump and sensors of 3-way motor control in applications of heating systems with mixing valves. One AF16 is required for each 3-way motorized valve. With this control board, the operating condition of the heating circuit is adjusted depending on the demanded temperature and the operating principle of the 3-way motor valve.
- Since it is not included in the standard packaging of the appliance, it must be requested separately.



## AF18 Room Unit

- It is used for programming of the appliance and remote setting of heating requests.
- Temperature adjustments are made by means of the rotary switch on the room unit.
- The operating mode is selected by means of the button located in the upper right corner.
- The button located at the bottom right of the appliance is for switching the appliance off when the place is not used. (It is necessary to press the same button again to resume.)
- Wiring of up to 200 meters can be made between the main unit and the room unit.



## AF13 Outside Air Sensor

- It measures the outside air temperature and adjusts the operation of the appliances at the demanded temperature.
- It is connected to the motherboard via dual cable from sensor input. Its connections should be made with 1,5 mm<sup>2</sup> copper cable. The maximum allowable cable length is 120 meters.
- It is an NTC type sensor.
- It can operate between -50 / +70 °C.
- It has a tolerance of +1 / -1 K.



## AF15 DHW Tank Temperature Sensor

- The sensor is used to measure the temperature of the DHW tank, solar energy systems and/ or the temperature of the hydraulic separator/heat exchanger.
- The temperature is measured by the immersion type NTC through the DHW tank and the connection is made via the sensor input to the motherboard.
- It can operate in the range 0 – 95 °C.
- It has a tolerance of +0,5 / -0,5 K.
- It has a length of 2 m.



## AF17 Room Unit (Digital)

- It is used for programming of the appliance and remote setting of heating requests.
- The operation mode setting, time program and heating setting on the digital display can be set via the room unit.

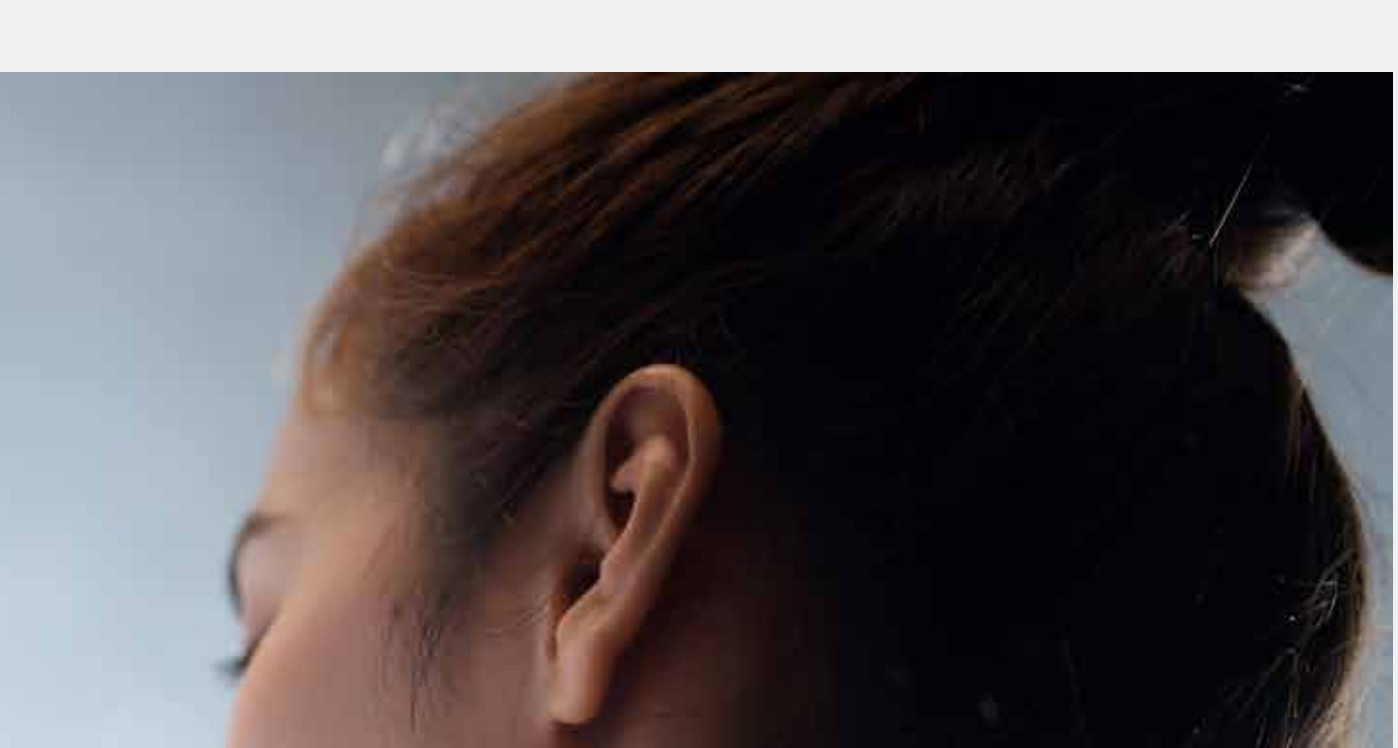


## AF19 Web Server Communication Module

- It enables remote access, reporting and monitoring of appliances from the system, where there is internet connection.
- Online communication between the computer and the module is provided via ethernet cable connection. By logging in to the system with the created username and password, the simulation of the system, instantaneous values, operation/fault status, is monitored through computer.
- At the desired time, a graph can be created about the requested values and the report can be taken.







# WATER HEATER







# Technical Design Properties

- Low NOx hermetic water heater
- 19 kW heating capacity
- Complies with current ErP regulations with low emissions
- Modulating fan
- Domestic water capacity of 11 liters / minute
- Electronic ignition system
- Electronic flow sensor
- Use with natural gas and LPG
- 5 different superior safety system
- LCD control panel with instant water temperature monitoring
- TSE and CE Certificated
- Dimensions of the device: 640 x 360 x 240 mm

# Superior Safety Systems

1. Flue Gas Safety (Bad combustion prevention)
2. Flame Loss Safety (Flame availability check with ionisation electrode)
3. Overheating Water Temperature Safety (85 °C)
4. NTC Overheating Safety (71 °C)
5. Low Voltage Safety (170 VAC)
6. Fan Rpm Control via Hall Effect Sensor Signals.
7. Prevention of Dry Combustion Thanks to the Flow Sensor. (Combustion is not allowed below 2,5lt/min water flowrate)
8. Frost Protection (5°C Electrical supply to the boiler must be maintained in order to frost protection to work)
9. Overload Working Safety (system off, factory setting is 6 hours continious operation)





# How to Adjust...

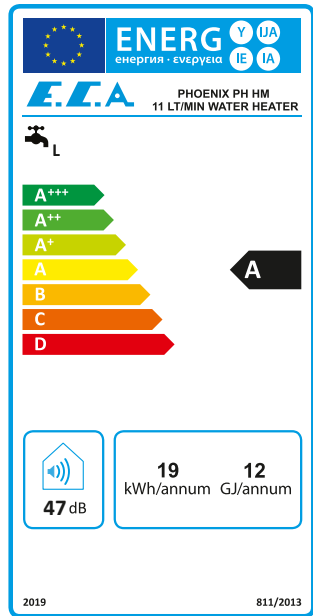


### ON/OFF & Temperature Setting Knob Functions

- The appliance is turned ON/OFF using the knob by pushing it.
- Set the water temperature between 35 °C and 60 °C by rotating.
- Reset the appliance if the error cause a lock out condition by pushing 3 seconds under fault condition.
- Auto or Manuel calibration adjustment. (for authorized technical person)
- Entering parameters menu and parameter adjustment. (for authorized technical person)

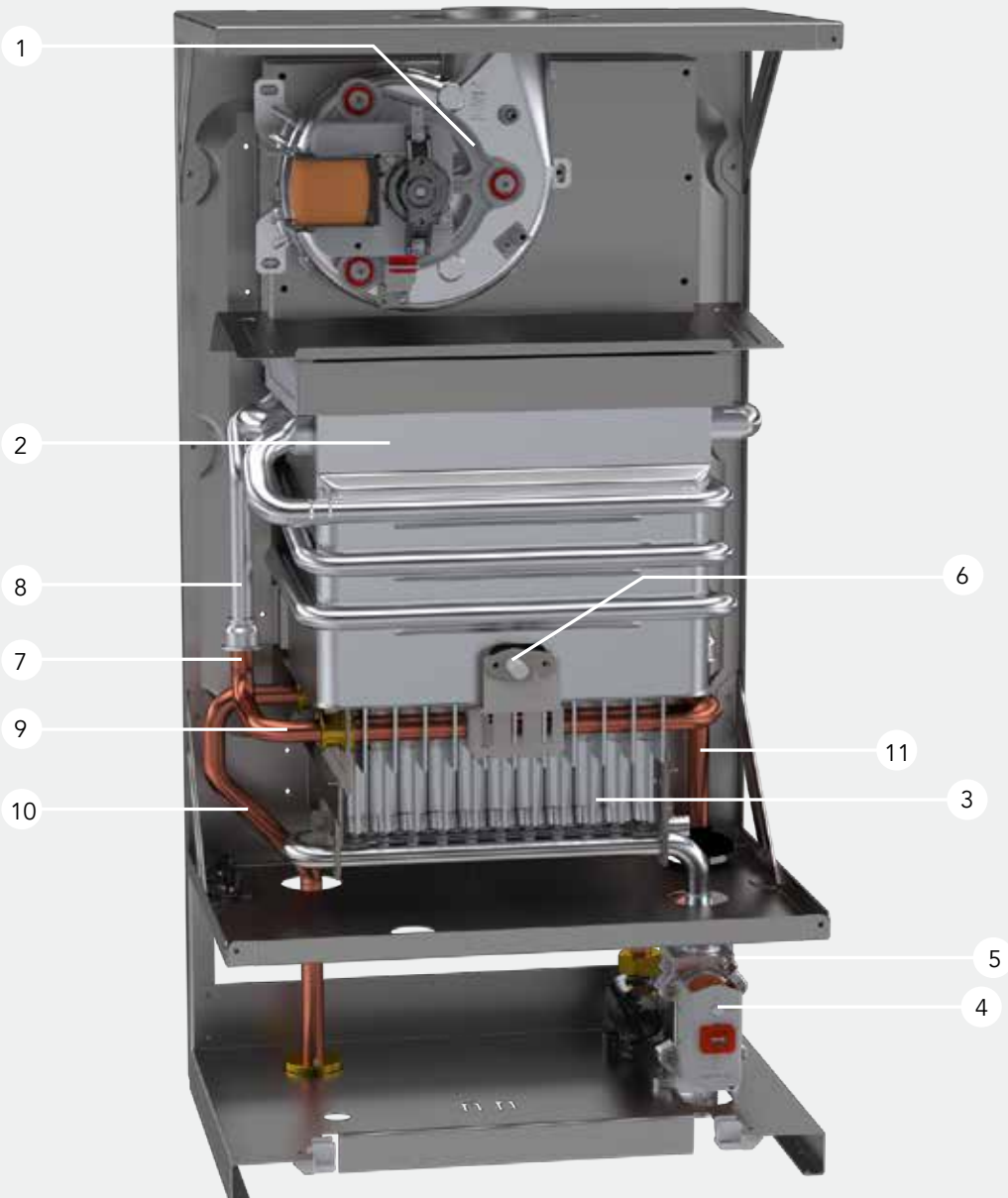
### LCD Display

Water heater functions, water temperature (set and actual values), fault/error conditions can be seen on LCD



A close-up of the LCD display showing the temperature digits '28' and a degree Celsius symbol. A label 'Temperature Digits' points to the digits.

- Fan symbol: Shown in case choosing the flue lenght value.
- Failure symbol: Shown in case error conditions.
- Flame symbol: Indicates flame availability. If thermal load is below %50 then only one segment is shown.
- Solar panel symbol: Indicates solar connections.
- Tap symbol: Indicates water flow.
- C symbol: Indicates actual temperature measurement.



1. Fan With Hall Effect Sensor
2. Heat Exchanger
3. Water Cooled Low NOx Burner
4. Electric Gas Valve
5. Flow Sensor
6. Ignition and Ionisation Electrode
7. Overheating Safety Switch
8. NTC Sensor
9. Burner Inlet Pipe
10. Water Outlet Pipe
11. Water Inlet Pipe

# Technical Specifications

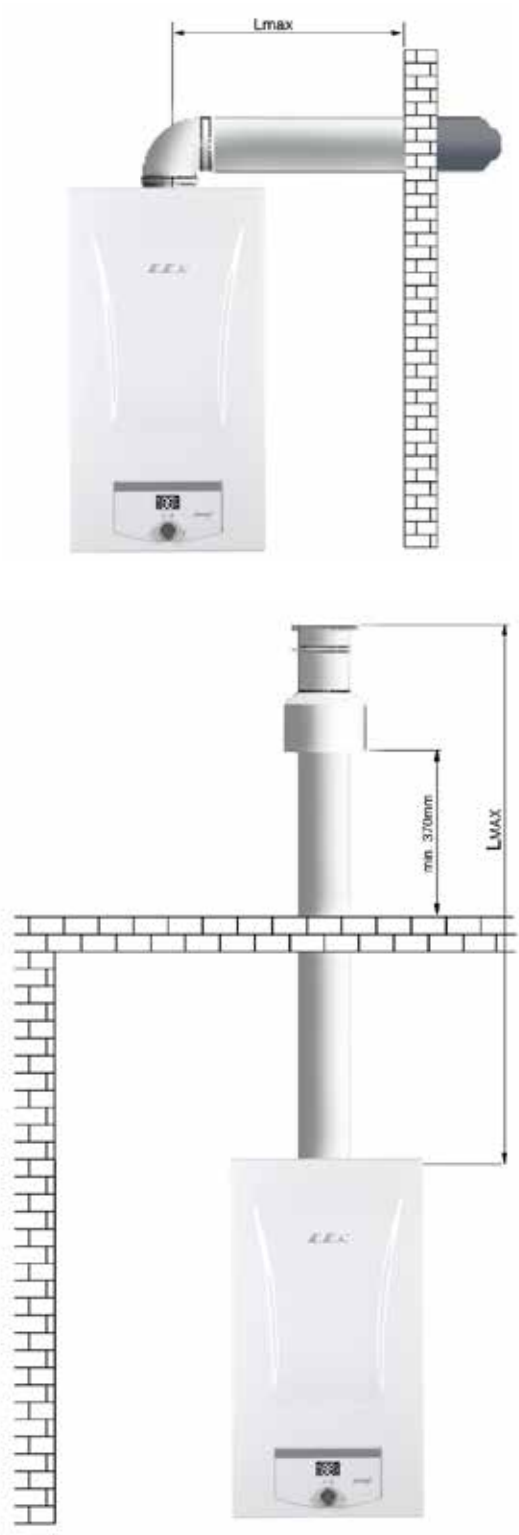
| PRODUCT TYPE | UNIT | HERMETIC WATER HEATER                     |
|--------------|------|-------------------------------------------|
| Gas Category |      | II <sub>2H3B/P</sub> , II <sub>2H3P</sub> |
| Type of Gas  |      | Gas (G20) - LPG (G30-G31)                 |

| Performances                 |        |              |
|------------------------------|--------|--------------|
| Minimum Heating Power (Pmin) | kW     | 7,37         |
| Maximum Heating Power (Pmax) | kW     | 18,94        |
| Minimum Heat Input (Qn)      | kW     | 8,5          |
| Maximum Heat Input (Qn)      | kW     | 22           |
| Gas Consumption*             |        |              |
| Natural Gas (Max. Load)      | m³/h   | 2,28         |
| Natural Gas (Min. Load)      | m³/h   | 0,9          |
| LPG (Max. Load)              | Kg/h   | 1,78         |
| LPG (Min. Load)              | Kg/h   | 0,7          |
| Gas Supply Pressure          |        |              |
| Natural Gas                  | mbar   | 20           |
| LPG (G31)                    | mbar   | 37           |
| LPG (G30)                    | mbar   | 30           |
| Domestic Hot Water           |        |              |
| Minimum Water Flowrate       | l/min  | 2,5          |
| Maximum Water Flowrate       | l/min  | 11 (Δt=25)   |
| Minimum Operation Pressure   | bar    | 0,2          |
| Maximum Operation Pressure   | bar    | 10           |
| Temperature Setting Rage     | °C     | 35-60        |
| General                      |        |              |
| Power Supply                 | VAC-Hz | 230V AC-50Hz |
| Electrical Consumption       | Watt   | 30           |
| NOx Class                    |        | 6            |
| Dimensions (HxWxD)           | mm     | 640X360X240  |
| Weight (Net)                 | kg     | 16           |

\*Gas consumption based on, Natural gas: Hu=9,59 kWh/m³

# Chimney Applications

## Horizontal & Vertical Applications



Horizontal Hermetic Flue Application L max. distance with single elbow: 4 m, 60/100  
Vertical Hermetic Flue Application L max. distance without elbow: 5 m, 60/100



# RADIATORS





## High Heat Output Maximum Efficiency

It can be adjusted to the needs of the Every radiator features two convector fins welded directly to each waterway to ensure the highest possible heat output. All radiators are pressure tested at 13 bar.

## Comfort, Economy & Elegance

## Residences, Schools Hospitals, Hotels... In short, everywhere



## High Quality Paint Finish

All radiators are finished in white epoxy polyester powder paint(RAL9010). Additionally, special colours are available for big demands. Every radiator undergoes a multi stage pre-treatment nanoceramic zirconium coating followed by an epoxy polyester powder coating.



## Wide Range

There is a wide range of panel radiators- heights range from 300 mm to 900 mm and lengths range from 400 mm to 3000 mm.

## Factory Fitted Top Grill & Side Panels

All our panel radiators come complete with factory fitted top grills and side panels except Type P.

## High Durability

All E.C.A. radiators are manufactured under the ISO 9001 quality system, ISO 14001 Environmental Management System, ISO 45001 Health and Safety Management System and ISO 50001 Energy Management System. Each durable radiator is fully guaranteed against all defects caused by faulty materials or manufacture.



## Packaging & Easy Installation

All radiators are supplied in strong protective packaging with reinforced cardboard edges. Each radiator is bubble wrapped and then shrink wrapped with strong polystyrene. The pack is clearly marked with type and size and the installation kit is sealed inside with protective packaging. The installation kit includes all wall mounting brackets, plugs, vents and wall plugs and a vent key. Everything for easy installation is included in the pack.

# E.C.A. Integrity Panel Radiators

E.C.A. Integrity is a brand new central heating panel radiator thanks to its shape providing visual integrity and its easy to open covers.

E.C.A. Integrity panel radiators facilitates your life in 'new' ways thanks to its 'brand new properties'. The trendsetting properties of the E.C.A. Integrity panel radiators provide you with a more aesthetical living space, more freedom, more economy, and perfect hygiene.

E.C.A. Integrity panel radiators can be easily cleaned thanks to their detachable covers, so that they are an ideal solution for such places as kindergartens, schools, hospitals, consulting rooms, polyclinics and restaurants where hygiene is important.







## Compact (6 Hole) Panel Radiators

Provide bottom entry connection to the radiators for underground pipe installations. It is proper to use with thermostatic radiator valves. Thermostatic radiator valve is used to regularise the heat level in the radiators for convenient temperature with regard to the room heating, with help of the thermostatic head they give more economic and efficient result of heating. Ventil Compact (6 Hole) radiators are produced suitable for vents to be placed on right or left side of the radiators.



## Multi Compact (8 Hole) Radiators

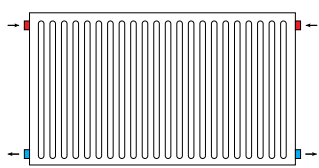
Connect this radiator through the lower fitting located on the right side, left side or center axis of its panel. If you use the central fitting, the panel will center the connection point. The central axis fitting will also allow you to install a thermostat core for 8 hole (middle compact) panel radiators which increase the heating capacity by 2 to 3%, so that the radiators will be able to keep the ambient temperature at a comfortable level.



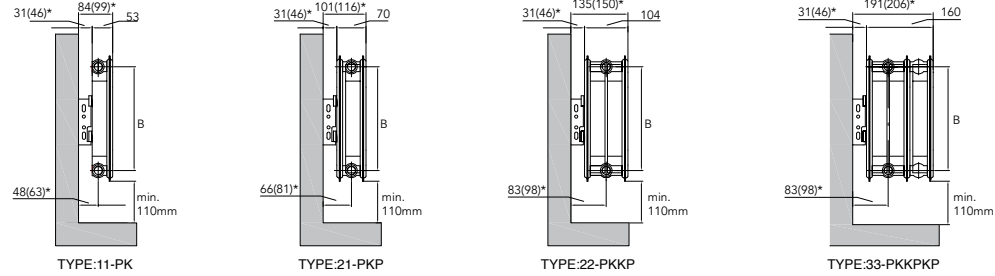
Standard Panel Radiator



| TYPE       | 300         |                  | 400         |                  | 500         |                  | 550         |                  | 600         |                  | 700         |                  | 800         |                  | 900         |                  |
|------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|
|            | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m |
| 11(PK)     | 8.65        | 1.80             | 11.40       | 2.23             | 14.14       | 2.65             | 15.45       | 3.08             | 16.90       | 3.50             | 19.64       | 3.87             | 22.39       | 4.23             | 25.14       | 4.60             |
| 21(PKP)    | 14.11       | 3.40             | 18.83       | 4.15             | 23.39       | 4.90             | 25.28       | 5.65             | 27.95       | 6.40             | 32.51       | 7.07             | 37.07       | 7.73             | 41.63       | 8.40             |
| 22(PKKP)   | 16.03       | 3.40             | 21.38       | 4.33             | 26.72       | 5.25             | 28.64       | 6.18             | 31.98       | 7.10             | 37.24       | 7.67             | 42.49       | 8.23             | 47.75       | 8.80             |
| 33(PKKPKP) | 23.97       | 5.30             | 32.06       | 6.35             | 39.93       | 7.40             | 42.80       | 8.45             | 47.80       | 9.50             | 55.67       | 10.80            | 63.54       | 12.10            | 71.41       | 13.40            |



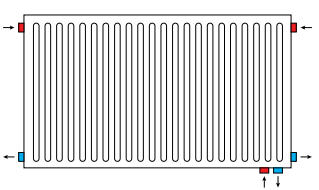
\* This is valid for installation on the 45 mm side of the console



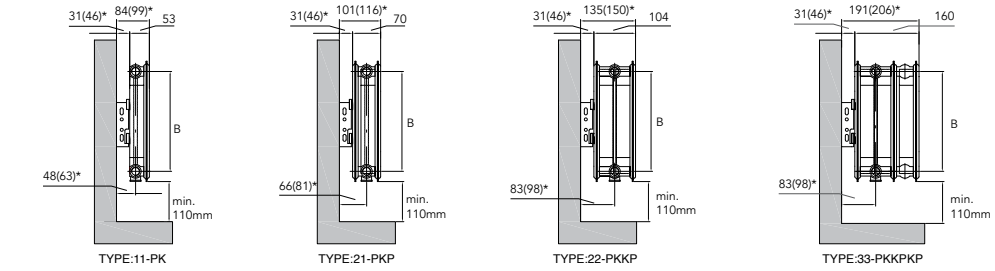
| Height mm          | 300      | 400      | 500      | 550      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 500      | 549      | 649      | 749      | 849      |
| L <sub>11</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>21</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>22</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>33</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-2400 | 400-2000 | 400-1800 |

Compact Panel Radiator

| TYPE       | 300         |                  | 400         |                  | 500         |                  | 550         |                  | 600         |                  | 700         |                  | 800         |                  | 900         |                  |
|------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|
|            | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m |
| 11(PK)     | 8.91        | 1.83             | 11.66       | 2.28             | 14.26       | 2.72             | 15.71       | 3.17             | 17.16       | 3.60             | 19.91       | 3.99             | 22.65       | 4.38             | 25.40       | 4.77             |
| 21(PKP)    | 14.37       | 3.42             | 19.08       | 4.20             | 23.52       | 4.97             | 25.54       | 5.74             | 28.20       | 6.50             | 32.76       | 7.14             | 37.32       | 7.88             | 41.88       | 8.40             |
| 22(PKKP)   | 16.28       | 3.42             | 21.63       | 4.38             | 26.72       | 5.32             | 28.89       | 6.27             | 32.23       | 7.20             | 37.49       | 7.74             | 42.74       | 8.38             | 48.00       | 8.80             |
| 33(PKKPKP) | 24.22       | 5.32             | 32.31       | 6.40             | 39.94       | 7.47             | 43.05       | 8.54             | 48.05       | 9.60             | 55.92       | 11.46            | 63.79       | 12.25            | 71.66       | 13.40            |



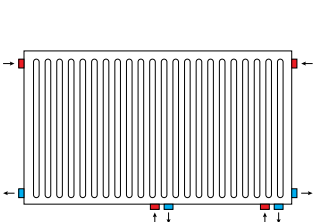
\* This is valid for installation on the 45 mm side of the console



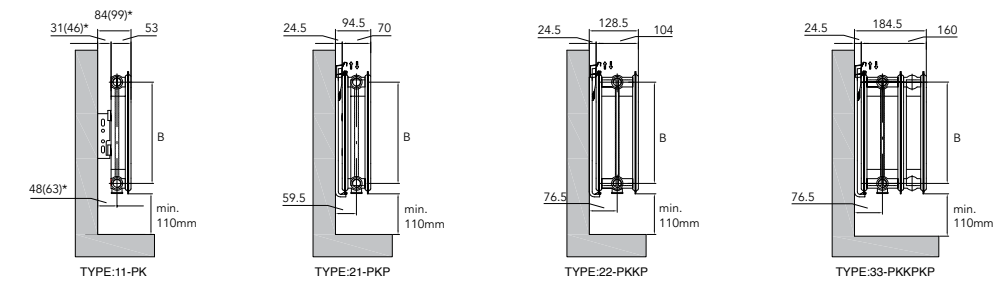
| Height mm          | 300      | 400      | 500      | 550      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 500      | 549      | 649      | 749      | 849      |
| L <sub>11</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>21</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>22</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>33</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-2400 | 400-2000 | 400-1800 |

Multi Compact Panel Radiator

| TYPE       | 300         |                  | 400         |                  | 500         |                  | 550         |                  | 600         |                  | 700         |                  | 800         |                  | 900         |                  |
|------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|
|            | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m |
| 11(PK)     | 9.62        | 2.01             | 12.45       | 2.46             | 15.14       | 2.90             | 16.64       | 3.35             | 18.13       | 3.78             | 20.97       | 4.12             | 23.81       | 4.56             | 26.65       | 4.95             |
| 21(PKP)    | 15.07       | 3.60             | 19.87       | 4.38             | 24.40       | 5.15             | 26.46       | 5.92             | 29.17       | 6.68             | 33.82       | 7.32             | 38.47       | 8.06             | 43.12       | 8.58             |
| 22(PKKP)   | 16.89       | 3.60             | 22.33       | 4.56             | 27.51       | 5.50             | 29.73       | 6.45             | 33.11       | 7.38             | 38.46       | 7.92             | 43.80       | 8.56             | 49.15       | 8.98             |
| 33(PKKPKP) | 24.83       | 5.50             | 33.01       | 6.58             | 40.73       | 7.65             | 43.88       | 8.72             | 48.93       | 9.78             | 56.89       | 11.64            | 64.85       | 12.43            | 72.81       | 13.58            |



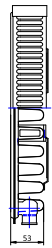
\* This is valid for installation on the 45 mm side of the console



| Height mm          | 300      | 400      | 500      | 550      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 500      | 549      | 649      | 749      | 849      |
| L <sub>11</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>21</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>22</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>33</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-2400 | 400-2000 | 400-1800 |

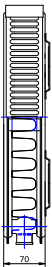
| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |

TYPE11



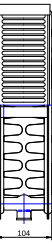
| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n       | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|---------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |         |                |
| 300    | 279      | 240     | 520      | 447     | 649      | 558     | 1,21758 | 4,44099        |
| 400    | 358      | 308     | 671      | 577     | 840      | 722     | 1,22896 | 5,48255        |
| 500    | 432      | 371     | 814      | 700     | 1020     | 877     | 1,24034 | 6,35657        |
| 550    | 467      | 401     | 882      | 758     | 1107     | 952     | 1,24603 | 6,73715        |
| 600    | 500      | 430     | 948      | 815     | 1191     | 1024    | 1,25172 | 7,08304        |
| 700    | 566      | 486     | 1075     | 924     | 1351     | 1162    | 1,26882 | 7,86839        |
| 800    | 627      | 539     | 1194     | 1027    | 1503     | 1292    | 1,26203 | 8,56755        |
| 900    | 684      | 588     | 1306     | 1123    | 1646     | 1415    | 1,26719 | 9,18675        |

TYPE21



| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n       | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|---------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |         |                |
| 300    | 402      | 345     | 762      | 655     | 957      | 823     | 1,25232 | 5,67640        |
| 400    | 504      | 433     | 961      | 826     | 1209     | 1040    | 1,26236 | 6,88463        |
| 500    | 600      | 516     | 1150     | 989     | 1450     | 1247    | 1,27239 | 7,92471        |
| 550    | 647      | 556     | 1242     | 1068    | 1568     | 1348    | 1,27741 | 8,39077        |
| 600    | 692      | 595     | 1332     | 1145    | 1683     | 1447    | 1,28243 | 8,82465        |
| 700    | 781      | 672     | 1508     | 1296    | 1907     | 1639    | 1,28682 | 9,81970        |
| 800    | 868      | 746     | 1679     | 1443    | 2124     | 1826    | 1,29122 | 10,74537       |
| 900    | 952      | 818     | 1845     | 1586    | 2337     | 2009    | 1,29561 | 11,60967       |

TYPE22



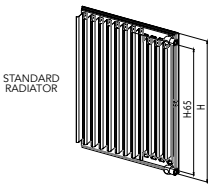
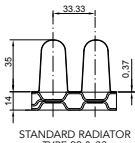
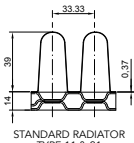
| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n       | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|---------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |         |                |
| 300    | 510      | 438     | 966      | 831     | 1214     | 1043    | 1,25122 | 7,23082        |
| 400    | 653      | 561     | 1242     | 1068    | 1563     | 1344    | 1,25976 | 8,99494        |
| 500    | 788      | 678     | 1507     | 1295    | 1899     | 1633    | 1,26830 | 10,54957       |
| 550    | 853      | 734     | 1635     | 1406    | 2062     | 1773    | 1,27257 | 11,25665       |
| 600    | 917      | 788     | 1760     | 1514    | 2222     | 1910    | 1,27684 | 11,92048       |
| 700    | 1041     | 895     | 2005     | 1723    | 2532     | 2177    | 1,28178 | 13,31395       |
| 800    | 1161     | 998     | 2240     | 1926    | 2832     | 2435    | 1,28671 | 14,59373       |
| 900    | 1276     | 1097    | 2467     | 2121    | 3123     | 2685    | 1,29165 | 15,76764       |

TYPE33



| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n       | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|---------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |         |                |
| 300    | 678      | 583     | 1339     | 1151    | 1707     | 1468    | 1,33116 | 7,33176        |
| 400    | 875      | 752     | 1719     | 1478    | 2188     | 1881    | 1,32231 | 9,74497        |
| 500    | 1059     | 910     | 2071     | 1781    | 2631     | 2262    | 1,31346 | 12,15151       |
| 550    | 1146     | 985     | 2237     | 1923    | 2839     | 2441    | 1,30903 | 13,35274       |
| 600    | 1230     | 1058    | 2396     | 2060    | 3039     | 2613    | 1,30460 | 14,55277       |
| 700    | 1390     | 1195    | 2695     | 2317    | 3414     | 2935    | 1,29575 | 16,94963       |
| 800    | 1540     | 1324    | 2971     | 2555    | 3757     | 3230    | 1,28690 | 19,34273       |
| 900    | 1679     | 1443    | 3225     | 2772    | 4071     | 3500    | 1,27805 | 21,73256       |

\*550mm height obtained through calculation and do not have NF quality mark.  
\*Compact panel radiators do not have quality certificate.  
\*Multi compact panel radiators do not have quality certificate.  
The ϕ values given in the table are for 1000 mm products.



| HEIGHT mm | Type 11 |         |       | Type 21  |         |       | Type 22  |         |       | Type 33  |         |       |
|-----------|---------|---------|-------|----------|---------|-------|----------|---------|-------|----------|---------|-------|
|           | Km      | n       | ϕ W/m | Km       | n       | ϕ W/m | Km       | n       | ϕ W/m | Km       | n       | ϕ W/m |
| 300       | 4,44099 | 1,21758 | 520   | 5,67640  | 1,25232 | 762   | 7,23082  | 1,25122 | 966   | 7,33176  | 1,33116 | 1339  |
| 400       | 5,48255 | 1,22896 | 671   | 6,88463  | 1,26236 | 961   | 8,99494  | 1,25976 | 1242  | 9,74497  | 1,32231 | 1719  |
| 500       | 6,35657 | 1,24034 | 814   | 7,92471  | 1,27239 | 1150  | 10,54957 | 1,26830 | 1507  | 12,15151 | 1,31346 | 2071  |
| 550       | 6,73715 | 1,24603 | 882   | 8,39077  | 1,27741 | 1242  | 11,25665 | 1,27257 | 1635  | 13,35274 | 1,30903 | 2237  |
| 600       | 7,08304 | 1,25172 | 948   | 8,82465  | 1,28243 | 1332  | 11,92048 | 1,27684 | 1760  | 14,55277 | 1,30460 | 2396  |
| 700       | 7,86839 | 1,25688 | 1075  | 9,81970  | 1,28682 | 1508  | 13,31395 | 1,28178 | 2005  | 16,94963 | 1,29575 | 2695  |
| 800       | 8,56755 | 1,26203 | 1194  | 10,74537 | 1,29122 | 1679  | 14,59373 | 1,28671 | 2240  | 19,34273 | 1,28690 | 2971  |
| 900       | 9,18675 | 1,26719 | 1306  | 11,60967 | 1,29561 | 1845  | 15,76764 | 1,29165 | 2467  | 21,73256 | 1,27805 | 3225  |

| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |

To calculate heat capacities at various extreme temperatures in accordance with EN 442 standard:  
Standard heat capacity of a model is calculated using the following formula:

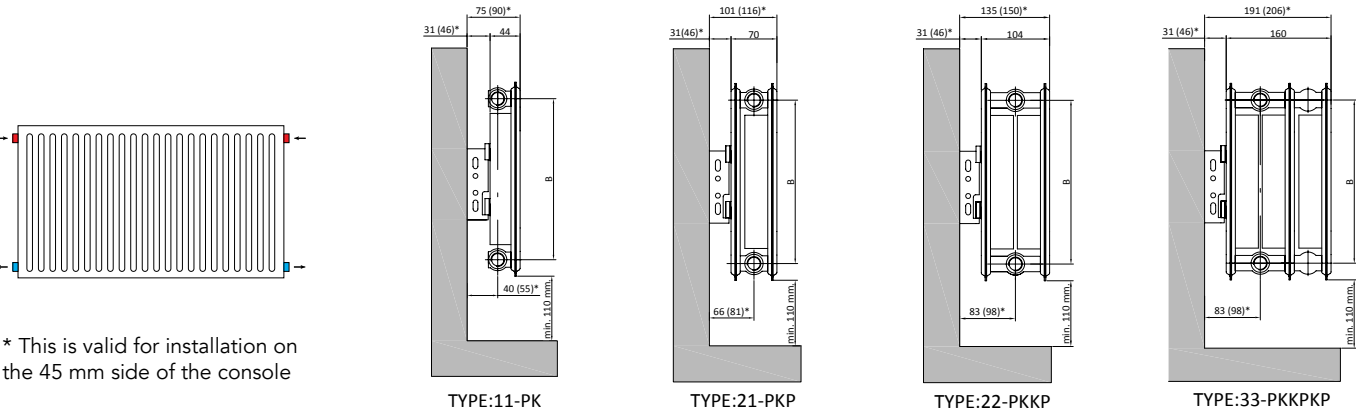
$\Phi = K_M \cdot \Delta T^n$

The K<sub>M</sub> and n values shown in the table are used for calculating the capacity at various input/output water and ambient temperature.

Example:  
Calculation of capacity of Type 22 600x1000 product at water temperature 80/50°C and ambient temperature

Smart Panel Radiator

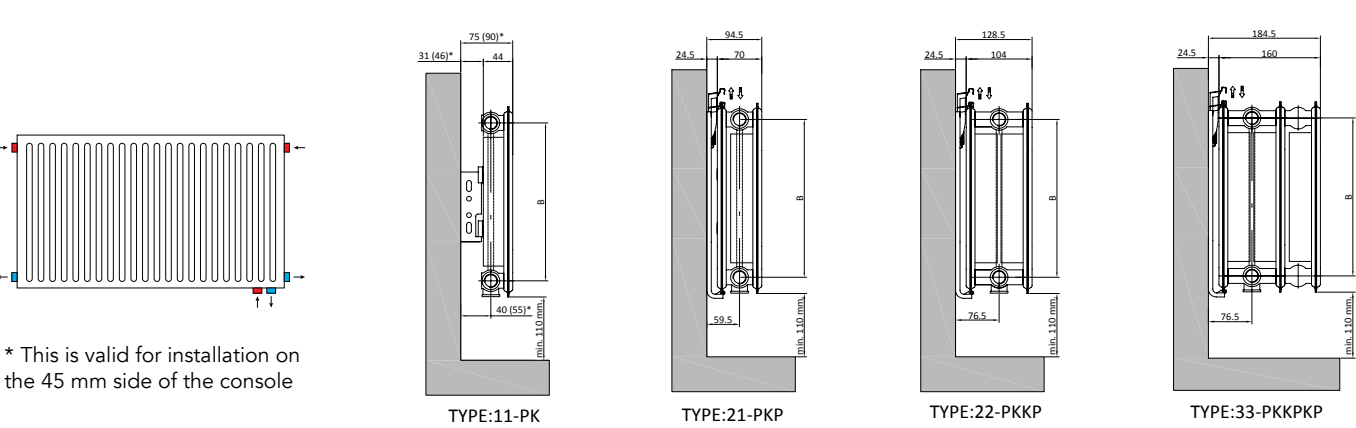
| TYPE       | 300         |                  | 400         |                  | 500         |                  | 600         |                  | 700         |                  | 800         |                  | 900         |                  |
|------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|
|            | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m |
| 11(PK)     | 7,79        | 1,80             | 10,29       | 2,23             | 12,79       | 2,65             | 15,30       | 3,50             | 17,80       | 3,87             | 20,30       | 4,23             | 22,81       | 4,60             |
| 21(PKP)    | 13,16       | 3,40             | 17,35       | 4,15             | 21,54       | 4,90             | 25,72       | 6,40             | 29,91       | 7,07             | 34,10       | 7,73             | 38,29       | 8,40             |
| 22(PKKP)   | 14,60       | 3,40             | 19,28       | 4,33             | 23,96       | 5,25             | 28,63       | 7,10             | 33,31       | 7,67             | 37,99       | 8,23             | 42,67       | 8,80             |
| 33(PKKPKP) | 21,68       | 5,30             | 28,68       | 6,35             | 35,52       | 7,40             | 42,49       | 9,50             | 49,47       | 10,80            | 56,44       | 12,10            | 63,41       | 13,40            |



| Height mm          | 300      | 400      | 500      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 549      | 649      | 749      | 849      |
| L <sub>11</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>21</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>22</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>33</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-2400 | 400-2000 | 400-1800 |

Smart Compact Panel Radiator

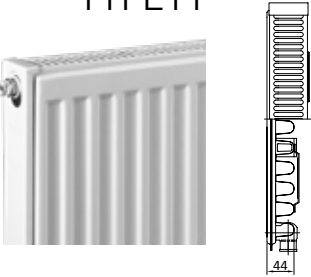
| TYPE       | 300         |                  | 400         |                  | 500         |                  | 600         |                  | 700         |                  | 800         |                  | 900         |                  |
|------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|
|            | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m | Weight kg/m | Water Volume l/m |
| 11(PK)     | 8,10        | 1,83             | 10,62       | 2,28             | 13,14       | 2,72             | 15,66       | 3,60             | 18,18       | 3,99             | 20,70       | 4,38             | 23,23       | 4,77             |
| 21(PKP)    | 13,49       | 3,42             | 17,69       | 4,20             | 21,90       | 4,97             | 26,10       | 6,50             | 30,31       | 7,14             | 34,52       | 7,88             | 38,72       | 8,40             |
| 22(PKKP)   | 14,93       | 3,42             | 19,63       | 4,38             | 24,32       | 5,32             | 29,02       | 7,20             | 33,71       | 7,74             | 38,41       | 8,38             | 43,10       | 8,80             |
| 33(PKKPKP) | 22,01       | 5,32             | 29,03       | 6,40             | 35,89       | 7,47             | 42,88       | 9,60             | 49,87       | 11,46            | 56,86       | 12,25            | 63,85       | 13,40            |



| Height mm          | 300      | 400      | 500      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 549      | 649      | 749      | 849      |
| L <sub>11</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>21</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>22</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>33</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-2400 | 400-2000 | 400-1800 |

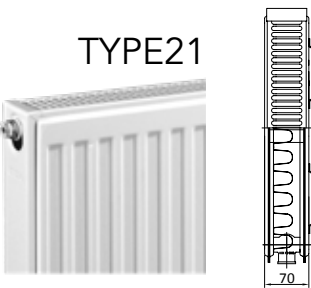
| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |

TYPE11



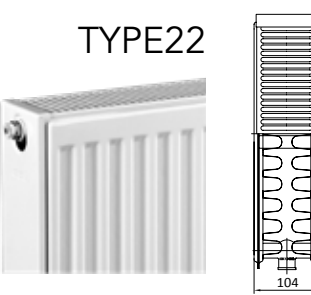
| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n      | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|--------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |        |                |
| 300    | 245      | 211     | 476      | 410     | 604      | 519     | 1,3009 | 2,93617        |
| 400    | 321      | 276     | 625      | 537     | 793      | 682     | 1,3066 | 3,76649        |
| 500    | 392      | 337     | 767      | 659     | 974      | 837     | 1,3122 | 4,51985        |
| 600    | 460      | 395     | 901      | 775     | 1146     | 986     | 1,3179 | 5,19753        |
| 700    | 525      | 451     | 1029     | 885     | 1309     | 1126    | 1,3195 | 5,89863        |
| 800    | 586      | 504     | 1151     | 990     | 1464     | 1259    | 1,3211 | 6,55262        |
| 900    | 644      | 554     | 1265     | 1088    | 1610     | 1385    | 1,3227 | 7,16087        |

TYPE21



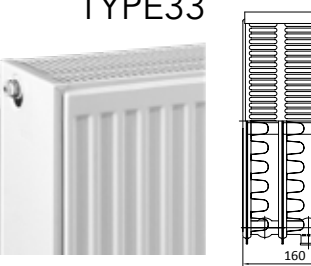
| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n      | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|--------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |        |                |
| 300    | 377      | 324     | 732      | 630     | 928      | 798     | 1,2993 | 4,54169        |
| 400    | 480      | 413     | 932      | 801     | 1181     | 1015    | 1,2985 | 5,79647        |
| 500    | 578      | 497     | 1121     | 964     | 1420     | 1221    | 1,2978 | 6,99268        |
| 600    | 671      | 577     | 1302     | 1119    | 1649     | 1418    | 1,2970 | 8,14542        |
| 700    | 757      | 651     | 1475     | 1269    | 1872     | 1610    | 1,3060 | 8,91243        |
| 800    | 839      | 721     | 1642     | 1412    | 2087     | 1795    | 1,3149 | 9,58187        |
| 900    | 917      | 789     | 1803     | 1551    | 2296     | 1974    | 1,3239 | 10,15841       |

TYPE22



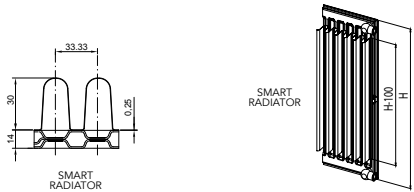
| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n      | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|--------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |        |                |
| 300    | 468      | 402     | 923      | 794     | 1177     | 1012    | 1,3301 | 5,07625        |
| 400    | 602      | 517     | 1181     | 1016    | 1502     | 1292    | 1,3203 | 6,74569        |
| 500    | 730      | 627     | 1425     | 1226    | 1810     | 1556    | 1,3106 | 8,45620        |
| 600    | 853      | 734     | 1658     | 1426    | 2102     | 1807    | 1,3008 | 10,22205       |
| 700    | 966      | 831     | 1881     | 1617    | 2385     | 2051    | 1,3033 | 11,48291       |
| 800    | 1075     | 924     | 2094     | 1801    | 2657     | 2285    | 1,3057 | 12,66758       |
| 900    | 1179     | 1014    | 2299     | 1977    | 2919     | 2510    | 1,3082 | 13,77219       |

TYPE33



| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n      | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|--------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |        |                |
| 300    | 663      | 570     | 1269     | 1092    | 1601     | 1376    | 1,2725 | 8,74023        |
| 400    | 839      | 721     | 1615     | 1388    | 2040     | 1754    | 1,2824 | 10,69625       |
| 500    | 1004     | 863     | 1943     | 1671    | 2459     | 2115    | 1,2923 | 12,38286       |
| 600    | 1161     | 998     | 2257     | 1941    | 2862     | 2461    | 1,3022 | 13,84063       |
| 700    | 1313     | 1129    | 2560     | 2201    | 3248     | 2793    | 1,3069 | 15,41166       |
| 800    | 1459     | 1255    | 2852     | 2452    | 3622     | 3115    | 1,3115 | 16,85921       |
| 900    | 1600     | 1376    | 3134     | 2695    | 3984     | 3426    | 1,3162 | 18,19457       |

The ϕ values given in the table are for 1000 mm products.



| HEIGHT mm | Type 11 |        |       | Type 21  |        |       | Type 22  |        |       | Type 33  |         |       |
|-----------|---------|--------|-------|----------|--------|-------|----------|--------|-------|----------|---------|-------|
|           | Km      | n      | ϕ W/m | Km       | n      | ϕ W/m | Km       | n      | ϕ W/m | Km       | n       | ϕ W/m |
| 300       | 2,93617 | 1,3009 | 476   | 4,54169  | 1,2993 | 732   | 5,07625  | 1,3301 | 923   | 8,74023  | 1,27253 | 1269  |
| 400       | 3,76649 | 1,3066 | 625   | 5,79647  | 1,2985 | 932   | 6,74569  | 1,3203 | 1181  | 10,69625 | 1,28242 | 1615  |
| 500       | 4,51985 | 1,3122 | 767   | 6,99268  | 1,2978 | 1121  | 8,4562   | 1,3106 | 1425  | 12,38286 | 1,29231 | 1943  |
| 600       | 5,19753 | 1,3179 | 901   | 8,14542  | 1,297  | 1302  | 10,22205 | 1,3008 | 1658  | 13,84063 | 1,3022  | 2257  |
| 700       | 5,89863 | 1,3195 | 1029  | 8,91243  | 1,306  | 1475  | 11,48291 | 1,3033 | 1881  | 15,41166 | 1,30686 | 2560  |
| 800       | 6,55262 | 1,3211 | 1151  | 9,58187  | 1,3149 | 1642  | 12,66758 | 1,3057 | 2094  | 16,85921 | 1,31152 | 2852  |
| 900       | 7,16087 | 1,3227 | 1265  | 10,15841 | 1,3239 | 1803  | 13,77219 | 1,3082 | 2299  | 18,19457 | 1,31618 | 3134  |

| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |

To calculate heat capacities at various extreme temperatures in accordance with EN 442 standard:  
Standard heat capacity of a model is calculated using the following formula:  
 $\Phi = K_m \cdot \Delta T^n$   
The KM and n values shown in the table are used for calculating the capacity at various input/output water and ambient temperature.

Example:  
Calculation of capacity of Type 22 600x1000 product at water temperature 80/50°C and ambient temperature 22°C:  
 $t_{in}$  Input water temperature = 80 °C  
 $t_{out}$  Output water temperature = 50 °C  
 $t_a$  Ambient temperature to = 22 °C  
 $t_{avg}$  Average temperature=  $(t_{in} + t_{out}) / 2 = (80 + 50) / 2 = 65$  °C  
 $\Delta T$ , Extreme temperature =  $t_{in} - t_{a} = 65 - 22 = 43$  °C  
Using the formula;  $\Phi = 10,22205 \times 43^{1,3008} = 1363$  W/m



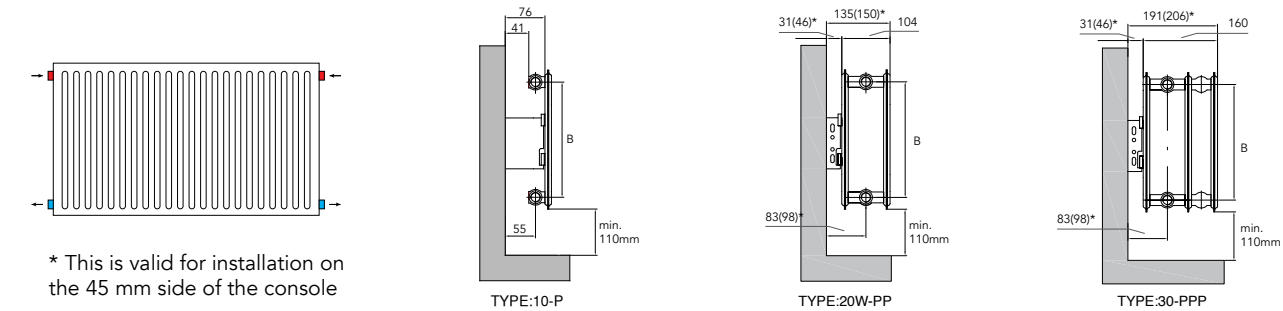
## Hygienic Panel Radiators

Hygienic radiators can be produced by all dimensions of the standard product. It doesn't nestle any convector. Thereby this product can be cleaned very easily since it does not nestle the convection. This feature of the product makes it preferable in hospitals, pharmacies, health institutions, schools, kindergartens and food factories.



Hygienic Panel Radiator

| TYPE    | 300            |                        | 400            |                        | 500            |                        | 550            |                        | 600            |                        | 700            |                        | 800            |                        | 900            |                        |
|---------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|
|         | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m |
| 10 (P)  | 6.32           | 1,80                   | 8.19           | 2,23                   | 10.06          | 2,65                   | 10.98          | 3,08                   | 11.93          | 3,50                   | 13.80          | 3,87                   | 15.67          | 4,23                   | 17.54          | 4,60                   |
| 20W(PP) | 12.24          | 3,40                   | 16.07          | 4,33                   | 19.78          | 5,25                   | 21.63          | 6,18                   | 23.49          | 7,10                   | 27.20          | 7,67                   | 30.90          | 8,23                   | 34.61          | 8,80                   |
| 30(PPP) | 18.26          | 5,30                   | 23.94          | 6,35                   | 29.48          | 7,40                   | 32.26          | 8,45                   | 35.03          | 9,50                   | 40.58          | 10,80                  | 46.13          | 12,10                  | 51.68          | 13,40                  |

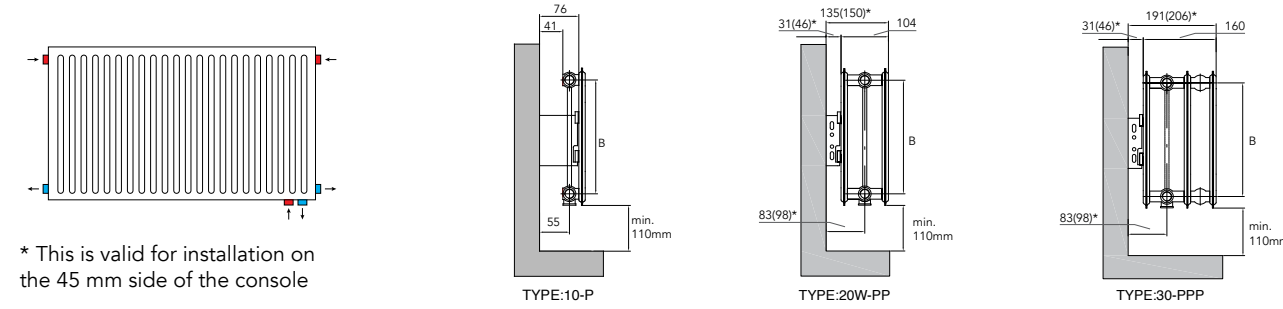


\* This is valid for installation on the 45 mm side of the console

| Height mm          | 300      | 400      | 500      | 550      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 500      | 549      | 649      | 749      | 849      |
| L <sub>10</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>20</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>30</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-2400 | 400-2000 | 400-1800 |

Hygienic Compact Panel Radiator

| TYPE    | 300            |                        | 400            |                        | 500            |                        | 550            |                        | 600            |                        | 700            |                        | 800            |                        | 900            |                        |
|---------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|
|         | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m |
| 10 (P)  | 6.58           | 1,83                   | 8.45           | 2,28                   | 10.29          | 2,72                   | 11.24          | 3,17                   | 12.19          | 3,60                   | 14.06          | 3,99                   | 15.93          | 4,38                   | 17.80          | 4,77                   |
| 20W(PP) | 12.49          | 3,42                   | 16.32          | 4,38                   | 19.99          | 5,32                   | 21.88          | 6,27                   | 23.74          | 7,20                   | 27.45          | 7,74                   | 31.16          | 8,38                   | 34.86          | 8,80                   |
| 30(PPP) | 18.51          | 5,32                   | 24.19          | 6,40                   | 29.69          | 7,47                   | 32.51          | 8,54                   | 35.28          | 9,60                   | 40.83          | 11,46                  | 46.38          | 12,25                  | 51.93          | 13,40                  |

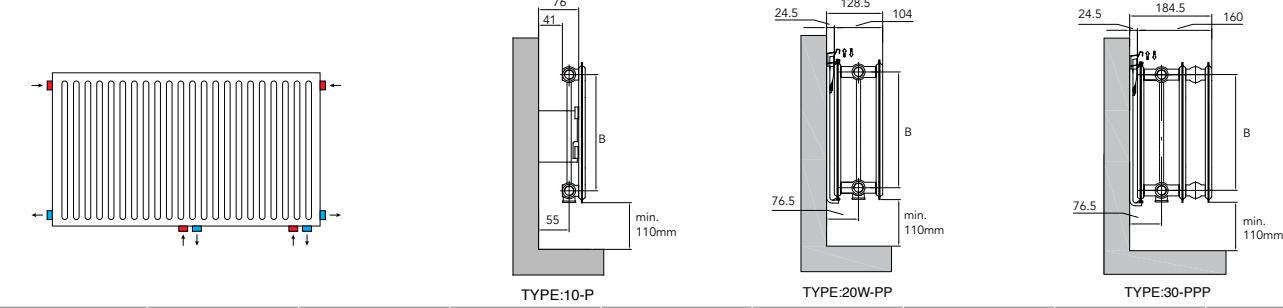


\* This is valid for installation on the 45 mm side of the console

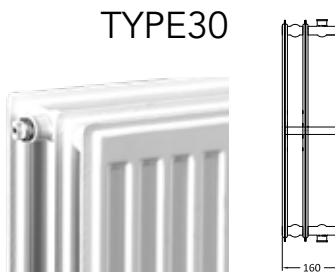
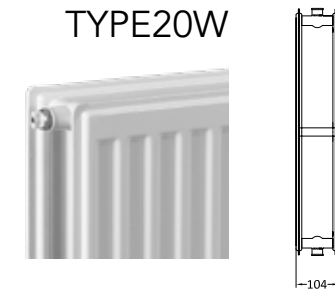
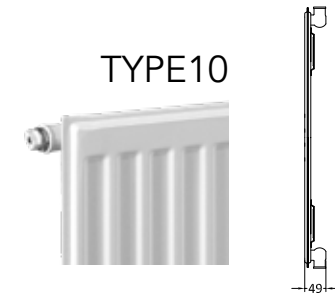
| Height mm          | 300      | 400      | 500      | 550      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 500      | 549      | 649      | 749      | 849      |
| L <sub>10</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>20</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 |
| L <sub>30</sub> mm | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-3000 | 400-2400 | 400-2000 | 400-1800 |

Hygienic Multi Compact Panel Radiator

| TYPE    | 300            |                        | 400            |                        | 500            |                        | 550            |                        | 600            |                        | 700            |                        | 800            |                        | 900            |                        |
|---------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|
|         | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m |
| 10 (P)  | 7.28           | 2,01                   | 9.25           | 2,46                   | 11.17          | 2,90                   | 12.17          | 3,35                   | 13.17          | 3,78                   | 15.13          | 4,12                   | 17.09          | 4,56                   | 19.05          | 4,95                   |
| 20W(PP) | 13.10          | 3,60                   | 17.02          | 4,56                   | 20.78          | 5,50                   | 22.72          | 6,45                   | 24.62          | 7,38                   | 28.42          | 7,92                   | 32.22          | 8,56                   | 36.01          | 8,98                   |
| 30(PPP) | 19.12          | 5,50                   | 24.89          | 6,58                   | 30.48          | 7,65                   | 33.34          | 8,72                   | 36.16          | 9,78                   | 41.80          | 11,64                  | 47.44          | 12,43                  | 53.08          | 13,58                  |



| Height mm             | 300      | 400                        | 500      | 550                   | 600      | 700                  | 800      | 900      |
|-----------------------|----------|----------------------------|----------|-----------------------|----------|----------------------|----------|----------|
| B mm                  | 249      | 349                        | 449      | 500                   | 549      | 649                  | 749      | 849      |
| L <sub>10</sub> mm    | 400-3000 | 400-3000                   | 400-3000 | 400-3000              | 400-3000 | 400-3000             | 400-3000 | 400-3000 |
| L <sub>20</sub> mm    | 400-3000 | 400-3000                   | 400-3000 | 400-3000              | 400-3000 | 400-3000             | 400-3000 | 400-3000 |
| L <sub>30</sub> mm    | 400-3000 | 400-3000                   | 400-3000 | 400-3000              | 400-3000 | 400-2400             | 400-2000 | 400-1800 |
| TEST PRESSURE MAXIMUM |          | OPERATING PRESSURE MAXIMUM |          | OPERATING TEMPERATURE |          | CONNECTION DIMENSION |          |          |
| 13 Bar                |          | 10 Bar                     |          | 120° C                |          | G ½"                 |          |          |



| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n      | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|--------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |        |                |
| 300    | 185      | 159     | 352      | 302     | 442      | 380     | 1,2531 | 2,61303        |
| 400    | 234      | 201     | 444      | 381     | 557      | 479     | 1,2508 | 3,32613        |
| 500    | 282      | 243     | 534      | 459     | 670      | 576     | 1,2484 | 4,03979        |
| 550    | 306      | 263     | 579      | 498     | 726      | 625     | 1,2473 | 4,39983        |
| 600    | 330      | 284     | 624      | 536     | 783      | 673     | 1,2461 | 4,76309        |
| 700    | 376      | 324     | 714      | 614     | 897      | 771     | 1,2529 | 5,30873        |
| 800    | 423      | 364     | 805      | 692     | 1013     | 871     | 1,2597 | 5,82899        |
| 900    | 470      | 404     | 897      | 772     | 1130     | 972     | 1,2665 | 6,32720        |

| HEIGHT | ΔT 30° C |         | ΔT 50° C |         | ΔT 60° C |         | n      | K <sub>M</sub> |
|--------|----------|---------|----------|---------|----------|---------|--------|----------------|
|        | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm | Watt/m   | Kcal/hm |        |                |
| 300    | 320      | 275     | 619      | 532     | 783      | 674     | 1,2913 | 3,96110        |
| 400    | 403      | 347     | 780      | 671     | 987      | 849     | 1,2904 | 5,00900        |
| 500    | 482      | 415     | 932      | 802     | 1179     | 1014    | 1,2895 | 6,00610        |
| 550    | 520      | 447     | 1004     | 863     | 1270     | 1092    | 1,2891 | 6,47910        |
| 600    | 557      | 479     | 1075     | 925     | 1360     | 1169    | 1,2886 | 6,95210        |
| 700    | 626      | 538     | 1212     | 1042    | 1535     | 1320    | 1,2946 | 7,65620        |
| 800    | 692      | 595     | 1344     | 1156    | 1704     | 1465    | 1,3006 | 8,29310        |
| 900    | 754      | 649     | 1470     | 1264    | 1865     | 1604    | 1,3066 | 8,86020        |

\* 550 mm height obtained through calculation.  
\*Hygienic panel radiators do not have quality certificate.  
The ϕ values given in the table are for 1000 mm products.

| HEIGHT<br>mm          | Type 10        |        |                            | Type 20        |        |                       | Type 30        |        |                      |
|-----------------------|----------------|--------|----------------------------|----------------|--------|-----------------------|----------------|--------|----------------------|
|                       | K <sub>m</sub> | n      | ϕ W/m                      | K <sub>m</sub> | n      | ϕ W/m                 | K <sub>m</sub> | n      | ϕ W/m                |
| 300                   | 1.8585         | 1.3255 | 332                        | 3.9611         | 1.2913 | 619                   | 5.1328         | 1.3103 | 864                  |
| 400                   | 2.5720         | 1.3121 | 436                        | 5.0089         | 1.2904 | 780                   | 6.3607         | 1.3118 | 1077                 |
| 500                   | 3.3383         | 1.2987 | 537                        | 6.0061         | 1.2895 | 932                   | 7.5213         | 1.3133 | 1281                 |
| 550                   | 3.7425         | 1.2920 | 586                        | 6.4791         | 1.2891 | 1004                  | 8.0771         | 1.3141 | 1380                 |
| 600                   | 4.1468         | 1.2853 | 633                        | 6.9521         | 1.2886 | 1075                  | 8.6330         | 1.3148 | 1479                 |
| 700                   | 4.6503         | 1.2907 | 725                        | 7.6562         | 1.2946 | 1212                  | 9.7005         | 1.3162 | 1671                 |
| 800                   | 5.1057         | 1.2961 | 813                        | 8.2931         | 1.3006 | 1344                  | 10.7171        | 1.3177 | 1857                 |
| 900                   | 5.5093         | 1.3015 | 896                        | 8.8602         | 1.3066 | 1470                  | 11.7044        | 1.3192 | 2040                 |
| TEST PRESSURE MAXIMUM |                |        | OPERATING PRESSURE MAXIMUM |                |        | OPERATING TEMPERATURE |                |        | CONNECTION DIMENSION |
| 13 Bar                |                |        | 10 Bar                     |                |        | 120° C                |                |        | G ½"                 |

To calculate heat capacities at various extreme temperatures in accordance with EN 442 standard:  
Standard heat capacity of a model is calculated using the following formula:

$\Phi = K_m \cdot \Delta T^n$

The K<sub>M</sub> and n values shown in the table are used for calculating the capacity at various input/output water and ambient temperature.

Example:  
Calculation of capacity of Type 20W 600x1000 product at water temperature 80/50°C and ambient temperature 22°C:  
t<sub>i</sub> Input water temperature = 80 °C  
t<sub>e</sub> Output water temperature = 50 °C  
t<sub>a</sub> Ambient temperature to = 22 °C  
t<sub>m</sub> Average temperature= (t<sub>i</sub> + t<sub>e</sub>) / 2 = (80 +50) / 2 = 65 °C  
ΔT, Extreme temperature = t<sub>m</sub> - t<sub>a</sub> = 65-22 = 43 °C  
Using the formula;  $\Phi = 6,9521 \cdot 43^{1,2886} = 885 \text{ W/m}$



## Flat Surface Panel Radiators

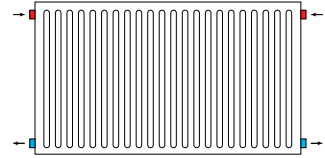
Flat surface panel radiators are produced with heights 300-400-500-600-700-800-900 and lengths varying from 400 mm to 2000 mm. Flat surface panel radiators get comfort and style together. Flat surfaces could be dismantled upon request and the radiator can be used as a standard radiator. One can also mount the flat surface easily to a standard radiator.

## Flat Surface Standard Panel Radiator

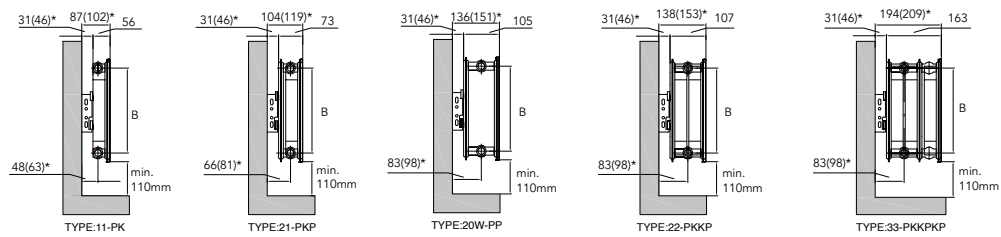
NF quality certification is only for type 21 and type 22 products.



|            | 300            |                        | 400            |                        | 500            |                        | 550            |                        | 600            |                        | 700            |                        | 800            |                        | 900            |                        |
|------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|
| TYPE       | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m |
| 11(PK)     | 11.24          | 1,80                   | 14.82          | 2,23                   | 18.41          | 2,65                   | 20.42          | 3,08                   | 22.00          | 3,50                   | 25.59          | 3,87                   | 29.18          | 4,23                   | 37.77          | 4,60                   |
| 21(PKP)    | 16.70          | 3,40                   | 22.25          | 4,15                   | 27.65          | 4,90                   | 30.26          | 5,65                   | 33.06          | 6,40                   | 38.46          | 7,07                   | 43.86          | 7,73                   | 49.26          | 8,40                   |
| 20W(PP)    | 14.83          | 3,40                   | 19.50          | 4,33                   | 24.05          | 5,25                   | 26.61          | 6,18                   | 28.60          | 7,10                   | 33.15          | 7,67                   | 37.69          | 8,23                   | 42.24          | 8,80                   |
| 22(PKKP)   | 18.62          | 3,40                   | 24.81          | 4,33                   | 30.99          | 5,25                   | 33.62          | 6,18                   | 37.09          | 7,10                   | 43.18          | 7,67                   | 49.28          | 8,23                   | 55.38          | 8,80                   |
| 33(PKKPKP) | 26.55          | 5,30                   | 35.49          | 6,35                   | 44.19          | 7,40                   | 47.72          | 8,45                   | 52.91          | 9,50                   | 61.62          | 10,80                  | 70.33          | 12,10                  | 79.04          | 13,40                  |



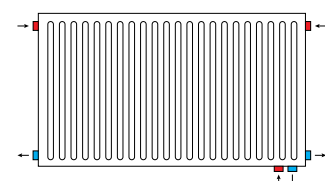
\* This is valid for installation on the 45 mm side of the console



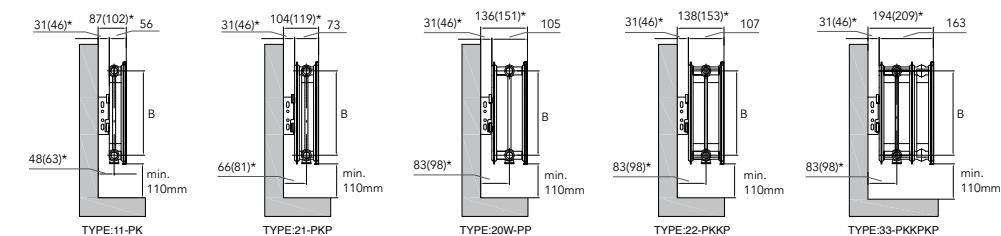
| Height mm          | 300      | 400      | 500      | 550      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 500      | 549      | 649      | 749      | 849      |
| L <sub>11</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>21</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>20</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>22</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>33</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-1800 |

## Flat Surface Compact Panel Radiator

|            | 300            |                        | 400            |                        | 500            |                        | 550            |                        | 600            |                        | 700            |                        | 800            |                        | 900            |                        |
|------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|
| TYPE       | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m |
| 11(PK)     | 11.50          | 1,83                   | 15.09          | 2,28                   | 18.53          | 2,72                   | 20.69          | 3,17                   | 22.27          | 3,60                   | 25.85          | 3,99                   | 29.44          | 4,38                   | 33.03          | 4,77                   |
| 21(PK)     | 16.96          | 3,42                   | 22.51          | 4,20                   | 27.79          | 4,97                   | 30.51          | 5,74                   | 33.31          | 6,50                   | 38.71          | 7,14                   | 44.11          | 7,88                   | 49.51          | 8,40                   |
| 20W(PP)    | 15.08          | 3,42                   | 19.75          | 4,38                   | 24.26          | 5,32                   | 26.86          | 6,27                   | 28.85          | 7,20                   | 33.40          | 7,74                   | 37.95          | 8,38                   | 42.49          | 8,80                   |
| 22(PKKP)   | 18.87          | 3,42                   | 25.06          | 4,38                   | 30.99          | 5,32                   | 33.87          | 6,27                   | 37.34          | 7,20                   | 43.43          | 7,74                   | 49.53          | 8,38                   | 55.63          | 8,80                   |
| 33(PKKPKP) | 26.81          | 5,32                   | 35.74          | 6,40                   | 44.21          | 7,47                   | 48.03          | 8,54                   | 53.16          | 9,60                   | 61.87          | 11,46                  | 70.58          | 12,25                  | 79.29          | 13,40                  |



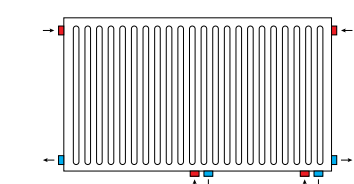
\* This is valid for installation on the 45 mm side of the console



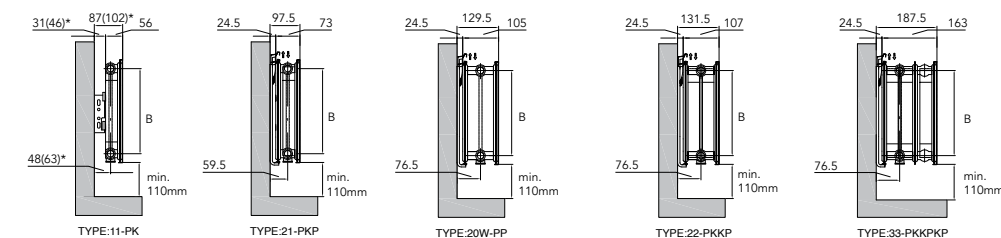
| Height mm          | 300      | 400      | 500      | 550      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 500      | 549      | 649      | 749      | 849      |
| L <sub>11</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>21</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>20</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>22</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>33</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-1800 |

## Flat Surface Compact Panel Radiator

|            | 300            |                        | 400            |                        | 500            |                        | 550            |                        | 600            |                        | 700            |                        | 800            |                        | 900            |                        |
|------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|----------------|------------------------|
| TYPE       | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m | Weight<br>kg/m | Water<br>Volume<br>l/m |
| 11(PK)     | 12.20          | 2,01                   | 15.88          | 2,46                   | 19.41          | 2,90                   | 21.62          | 3,35                   | 23.24          | 3,78                   | 26.92          | 4,12                   | 30.60          | 4,56                   | 34.28          | 4,95                   |
| 21(PKP)    | 17.66          | 3,60                   | 23.30          | 4,38                   | 28.67          | 5,15                   | 31.44          | 5,92                   | 34.28          | 6,68                   | 39.77          | 7,32                   | 45.26          | 8,06                   | 50.75          | 8,58                   |
| 20W(PP)    | 15.69          | 3,60                   | 20.45          | 4,56                   | 25.05          | 5,50                   | 27.70          | 6,45                   | 29.73          | 7,38                   | 34.57          | 7,92                   | 39.01          | 8,56                   | 43.64          | 8,98                   |
| 22(PKKP)   | 19.48          | 3,60                   | 25.76          | 4,56                   | 31.78          | 5,50                   | 34.70          | 6,45                   | 38.22          | 7,38                   | 44.40          | 7,92                   | 50.59          | 8,56                   | 56.78          | 8,98                   |
| 33(PKKPKP) | 27.42          | 5,50                   | 36.44          | 6,58                   | 45.00          | 7,65                   | 48.86          | 8,72                   | 54.04          | 9,78                   | 62.84          | 11,64                  | 71.64          | 12,43                  | 80.44          | 13,58                  |



\* This is valid for installation on the 45 mm side of the console



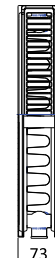
| Height mm          | 300      | 400      | 500      | 550      | 600      | 700      | 800      | 900      |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| B mm               | 249      | 349      | 449      | 500      | 549      | 649      | 749      | 849      |
| L <sub>11</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>21</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>20</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>22</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 |
| L <sub>33</sub> mm | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-2000 | 400-1800 |

| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |

## TYPE11



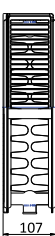
## TYPE21



## TYPE20W



## TYPE22



## TYPE33



| HEIGHT | ΔT 30° C |         |       | ΔT 50° C |         |       | ΔT 60° C |         |       |
|--------|----------|---------|-------|----------|---------|-------|----------|---------|-------|
|        | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m |
| 300    | 252      | 217     | 860   | 480      | 413     | 1640  | 603      | 519     | 2059  |
| 400    | 321      | 276     | 1095  | 618      | 531     | 2109  | 776      | 667     | 2649  |
| 500    | 386      | 332     | 1317  | 752      | 647     | 2569  | 946      | 813     | 3228  |
| 550    | 417      | 359     | 1423  | 817      | 703     | 2790  | 1027     | 883     | 3507  |
| 600    | 448      | 385     | 1528  | 882      | 758     | 3011  | 1109     | 953     | 3785  |
| 700    | 512      | 440     | 1746  | 1006     | 865     | 3434  | 1267     | 1090    | 4326  |
| 800    | 574      | 494     | 1960  | 1127     | 969     | 3849  | 1422     | 1223    | 4856  |
| 900    | 636      | 547     | 2171  | 1246     | 1072    | 4254  | 1575     | 1355    | 5378  |

| HEIGHT | ΔT 30° C |         |       | ΔT 50° C |         |       | ΔT 60° C |         |       |
|--------|----------|---------|-------|----------|---------|-------|----------|---------|-------|
|        | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m |
| 300    | 377      | 324     | 1285  | 711      | 611     | 2426  | 892      | 767     | 3045  |
| 400    | 460      | 395     | 1569  | 880      | 756     | 3001  | 1109     | 954     | 3786  |
| 500    | 536      | 461     | 1829  | 1040     | 894     | 3547  | 1317     | 1132    | 4496  |
| 550    | 572      | 492     | 1952  | 1117     | 961     | 3812  | 1419     | 1220    | 4843  |
| 600    | 607      | 522     | 2072  | 1194     | 1026    | 4072  | 1519     | 1307    | 5187  |
| 700    | 682      | 587     | 2328  | 1343     | 1155    | 4583  | 1711     | 1471    | 5840  |
| 800    | 756      | 650     | 2578  | 1490     | 1281    | 5083  | 1898     | 1632    | 6480  |
| 900    | 828      | 712     | 2824  | 1634     | 1405    | 5574  | 2082     | 1791    | 7110  |

| HEIGHT | ΔT 30° C |         |       | ΔT 50° C |         |       | ΔT 60° C |         |       |
|--------|----------|---------|-------|----------|---------|-------|----------|---------|-------|
|        | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m |
| 300    | 307      | 264     | 1048  | 585      | 503     | 1996  | 740      | 636     | 2526  |
| 400    | 383      | 329     | 1306  | 737      | 634     | 2515  | 933      | 802     | 3184  |
| 500    | 452      | 389     | 1543  | 881      | 758     | 3006  | 1114     | 958     | 3804  |
| 550    | 484      | 417     | 1653  | 949      | 816     | 3238  | 1200     | 1032    | 4098  |
| 600    | 516      | 443     | 1760  | 1016     | 874     | 3467  | 1285     | 1105    | 4388  |
| 700    | 582      | 501     | 1987  | 1145     | 985     | 3907  | 1451     | 1247    | 4953  |
| 800    | 647      | 557     | 2208  | 1270     | 1092    | 4333  | 1610     | 1385    | 5498  |
| 900    | 709      | 610     | 2420  | 1389     | 1195    | 4739  | 1762     | 1516    | 6017  |

| HEIGHT | ΔT 30° C |         |       | ΔT 50° C |         |       | ΔT 60° C |         |       |
|--------|----------|---------|-------|----------|---------|-------|----------|---------|-------|
|        | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m |
| 300    | 489      | 420     | 1668  | 931      | 801     | 3176  | 1171     | 1007    | 4000  |
| 400    | 613      | 527     | 2091  | 1180     | 1015    | 4027  | 1491     | 1282    | 5091  |
| 500    | 727      | 625     | 2481  | 1416     | 1218    | 4833  | 1797     | 1545    | 6136  |
| 550    | 781      | 672     | 2666  | 1531     | 1316    | 5223  | 1946     | 1673    | 6644  |
| 600    | 834      | 717     | 2845  | 1642     | 1413    | 5604  | 2092     | 1799    | 7143  |
| 700    | 946      | 813     | 3227  | 1860     | 1599    | 6345  | 2367     | 2036    | 8082  |
| 800    | 1054     | 907     | 3598  | 2069     | 1779    | 7060  | 2632     | 2264    | 8986  |
| 900    | 1160     | 997     | 3958  | 2272     | 1954    | 7751  | 2888     | 2483    | 9859  |

| HEIGHT | ΔT 30° C |         |       | ΔT 50° C |         |       | ΔT 60° C |         |       |
|--------|----------|---------|-------|----------|---------|-------|----------|---------|-------|
|        | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m | Watt/m   | Kcal/hm | Btu/m |
| 300    | 670      | 576     | 2284  | 1275     | 1097    | 4350  | 1612     | 1387    | 5505  |
| 400    | 841      | 723     | 2870  | 1620     | 1393    | 5528  | 2052     | 1765    | 7007  |
| 500    | 1001     | 860     | 3414  | 1949     | 1676    | 6650  | 2473     | 2127    | 8444  |
| 550    | 1074     | 924     | 3666  | 2105     | 1810    | 7182  | 2674     | 2299    | 9129  |
| 600    | 1147     | 987     | 3914  | 2260     | 1944    | 7711  | 2874     | 2472    | 9812  |
| 700    | 1301     | 1119    | 4441  | 2559     | 2201    | 8732  | 3259     | 2803    | 11126 |
| 800    | 1449     | 1246    | 4943  | 2843     | 2445    | 9701  | 3627     | 3119    | 12383 |
| 900    | 1593     | 1370    | 5434  | 3119     | 2682    | 10642 | 3986     | 3428    | 13610 |





# 4D Panel Radiators

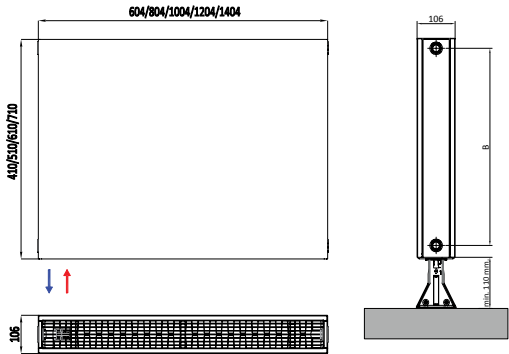
There are 4 different height options from 400 mm to 700 mm and 5 different length options from 600 mm to 1400 mm. 4D panel radiators will bring aesthetics and elegance to your home and office with its plane surface on all 4 sides.



## 4D Panel Radiator

| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |       |          |        |       |          |        |       | Length<br>(mm) | Manifold<br>Gauge/B<br>(mm) | Water<br>Volume<br>(lt/m) | Weight<br>(kg/m) |
|----------------|------|---------------|-------------|--------|-------|----------|--------|-------|----------|--------|-------|----------------|-----------------------------|---------------------------|------------------|
|                |      |               | ΔT 30° C    |        |       | ΔT 50° C |        |       | ΔT 60° C |        |       |                |                             |                           |                  |
|                |      |               | Kcal/hm     | Watt/m | Btu/m | Kcal/hm  | Watt/m | Btu/m | Kcal/hm  | Watt/m | Btu/m |                |                             |                           |                  |
| 400            | T22  | 106           | 437         | 508    | 1735  | 849      | 987    | 3369  | 1075     | 1250   | 4269  | 604-1404       | 50 & 349                    | 4,38                      | 25               |
| 500            |      |               | 525         | 610    | 2083  | 1019     | 1185   | 4044  | 1291     | 1501   | 5125  | 604-1404       | 50 & 449                    | 5,32                      | 38               |
| 600            |      |               | 647         | 752    | 2568  | 1256     | 1461   | 4986  | 1592     | 1851   | 6319  | 604-1404       | 50 & 549                    | 7,20                      | 45               |
| 700            |      |               | 690         | 802    | 2738  | 1339     | 1557   | 5316  | 1697     | 1973   | 6736  | 604-1404       | 50 & 649                    | 7,74                      | 52               |

H 600mm is derived according to thermal capacity test results.  
4D panel radiators do not have quality certificate.



| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |



# Cover Panel Radiators

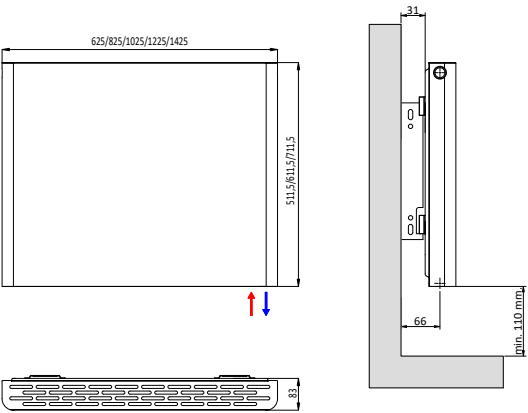
There are 3 different height options from 500 mm to 700 mm and 5 different length options from 600 mm to 1400 mm. It's compatible with thermostatic core.



## Cover Panel Radiator

| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |       |          |        |       |          |        |       | Length<br>(mm) | Manifold<br>Gauge<br>(mm) | Water<br>Volume<br>(lt/m) | Weight<br>(kg/m) |
|----------------|------|---------------|-------------|--------|-------|----------|--------|-------|----------|--------|-------|----------------|---------------------------|---------------------------|------------------|
|                |      |               | ΔT 30° C    |        |       | ΔT 50° C |        |       | ΔT 60° C |        |       |                |                           |                           |                  |
|                |      |               | Kcal/hm     | Watt/m | Btu/m | Kcal/hm  | Watt/m | Btu/m | Kcal/hm  | Watt/m | Btu/m |                |                           |                           |                  |
| 500            | T21  | 83            | 403         | 469    | 1600  | 800      | 931    | 3177  | 1022     | 1189   | 4059  | 625-1425       | 50                        | 4,97                      | 28               |
| 600            |      |               | 490         | 570    | 1945  | 973      | 1131   | 3861  | 1242     | 1445   | 4932  | 625-1425       | 50                        | 6,50                      | 33               |
| 700            |      |               | 521         | 605    | 2067  | 1034     | 1202   | 4104  | 1320     | 1535   | 5241  | 625-1425       | 50                        | 7,14                      | 39               |

H 600mm is derived according to thermal capacity test results.  
Cover panel radiators do not have quality certificate.



| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |





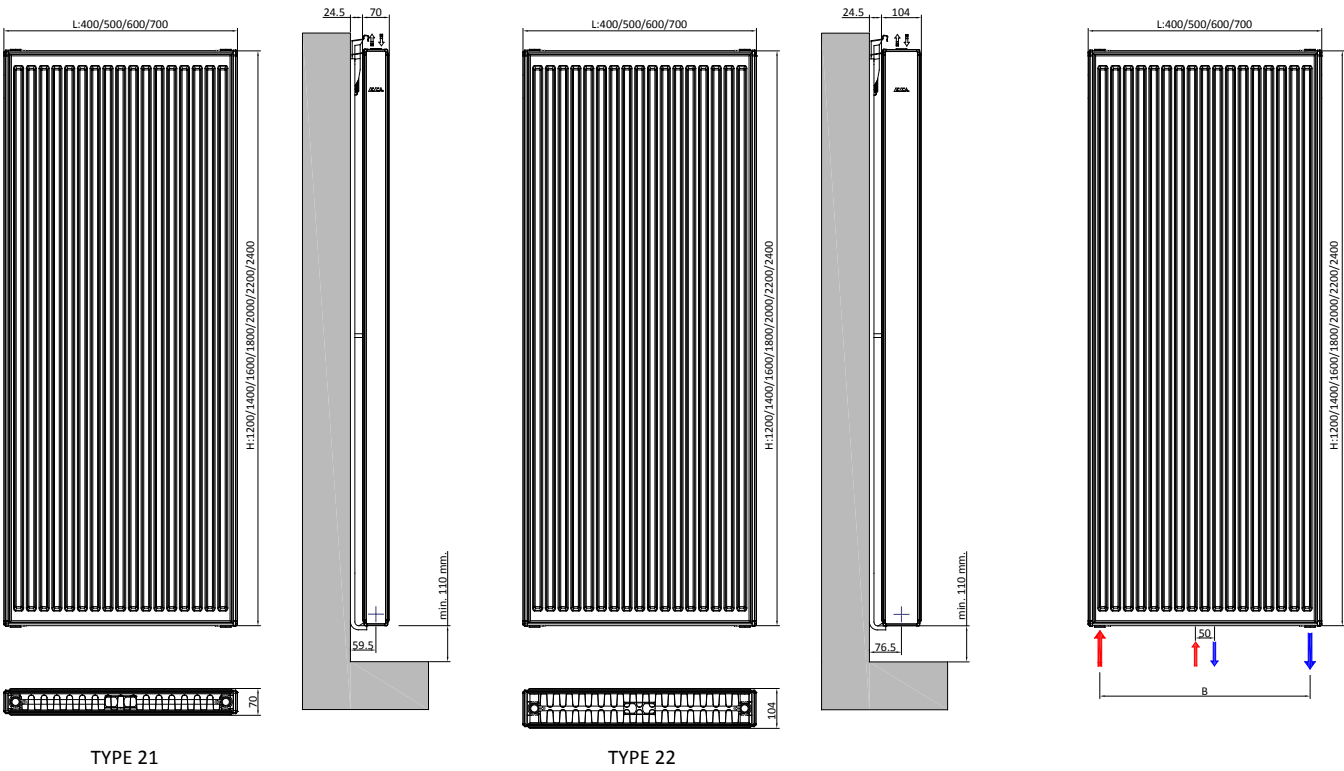
## Vertical Panel Radiators

E.C.A. panel radiators which bring new good looks to our homes with its elegant design which combines technology and aesthetics bring living areas heating and aesthetics together with its vertical water channel model which has recently been added to the product range. It will make your home look elegant with the options of vertical plane surface with or without a mirror. It offers 6 height options from 1200 mm up to 2200 mm and 4 different length options from 400 mm to 700 mm. In radiators with mirrors, cracking and shattering of the mirror is prevented thanks to a special film layer.





Vertical Standard Panel Radiator



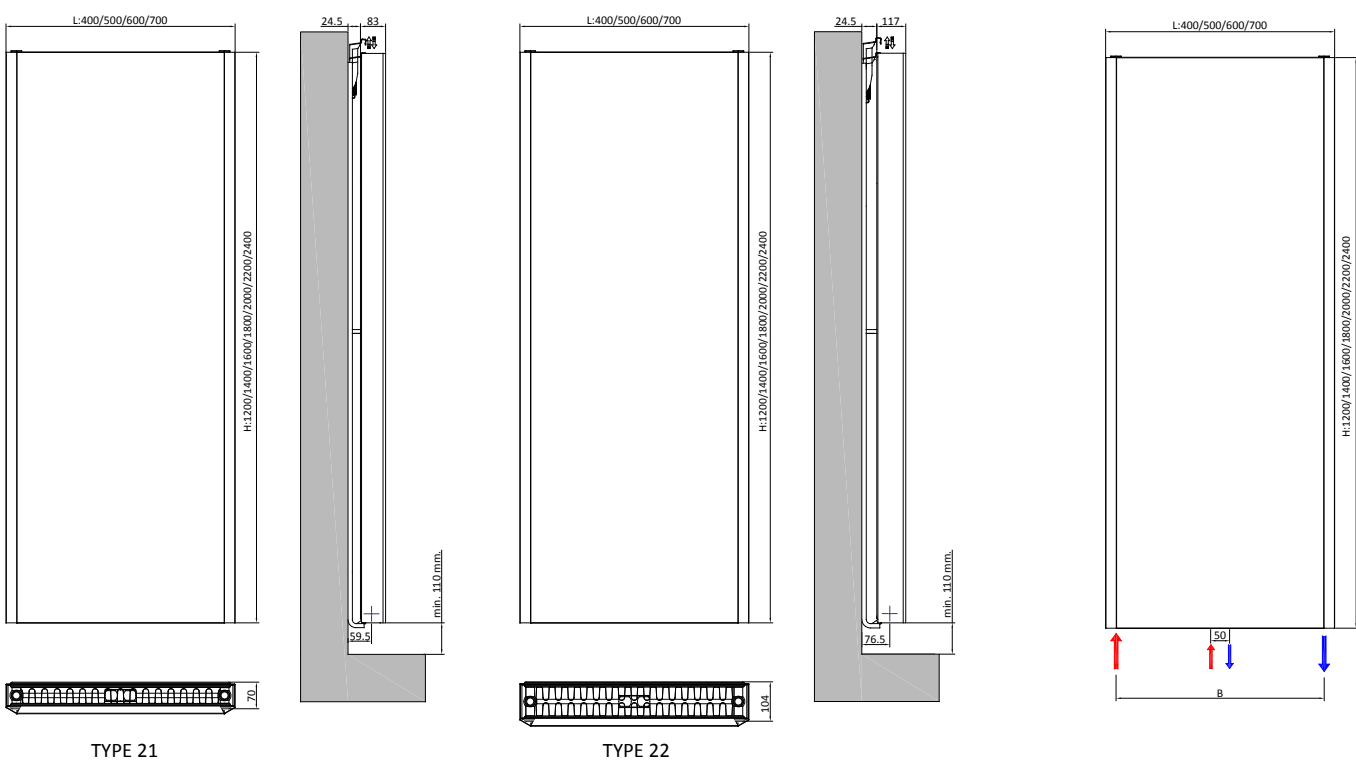
| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |          |        |          |        |          |         | Length<br>(mm) | Manifold<br>Gauge/B<br>(mm) | Water<br>Volume (lt) | Weight<br>(kg) |
|----------------|------|---------------|-------------|--------|----------|--------|----------|--------|----------|---------|----------------|-----------------------------|----------------------|----------------|
|                |      |               | ΔT 30° C    |        | ΔT 50° C |        | ΔT 60° C |        | Km       | n       |                |                             |                      |                |
|                |      |               | Kcal/hm     | Watt/m | Kcal/hm  | Watt/m | Kcal/hm  | Watt/m |          |         |                |                             |                      |                |
| 1200           | T21  | 70            | 974         | 1132   | 1975     | 2297   | 2543     | 2957   | 10,19790 | 1,38476 | 400 - 700      | 50 & L -51                  | 12,9                 | 54             |
| 1400           |      |               | 1097        | 1276   | 2237     | 2601   | 2884     | 3353   | 11,13330 | 1,39406 |                |                             | 14,7                 | 63             |
| 1600           |      |               | 1213        | 1411   | 2485     | 2889   | 3209     | 3731   | 11,92560 | 1,40336 |                |                             | 16,2                 | 72             |
| 1800           |      |               | 1349        | 1569   | 2721     | 3164   | 3495     | 4064   | 14,69820 | 1,37315 |                |                             | 18                   | 81             |
| 2000           |      |               | 1478        | 1719   | 2946     | 3425   | 3767     | 4381   | 17,45640 | 1,34948 |                |                             | 19,8                 | 90             |
| 2200           |      |               | 1605        | 1866   | 3160     | 3674   | 4024     | 4679   | 20,54280 | 1,32580 |                |                             | 21,6                 | 96             |
| 2400           |      |               | 1497        | 1705   | 3258     | 3787   | 4332     | 5035   | 8,39062  | 1,56241 |                |                             | 24,6                 | 102            |

| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |          |        |          |        |          |         | Length<br>(mm) | Manifold<br>Gauge/B<br>(mm) | Water<br>Volume (lt) | Weight<br>(kg) |
|----------------|------|---------------|-------------|--------|----------|--------|----------|--------|----------|---------|----------------|-----------------------------|----------------------|----------------|
|                |      |               | ΔT 30° C    |        | ΔT 50° C |        | ΔT 60° C |        | Km       | n       |                |                             |                      |                |
|                |      |               | Kcal/hm     | Watt/m | Kcal/hm  | Watt/m | Kcal/hm  | Watt/m |          |         |                |                             |                      |                |
| 1200           | T22  | 104           | 1254        | 1458   | 2490     | 2896   | 3181     | 3699   | 15,13260 | 1,34309 | 400 - 700      | 50 & L -51                  | 13,2                 | 63             |
| 1400           |      |               | 1381        | 1605   | 2786     | 3240   | 3580     | 4163   | 14,95290 | 1,37485 |                |                             | 15                   | 72             |
| 1600           |      |               | 1502        | 1746   | 3081     | 3582   | 3981     | 4629   | 14,60010 | 1,40660 |                |                             | 16,5                 | 81             |
| 1800           |      |               | 1716        | 1995   | 3375     | 3924   | 4296     | 4996   | 22,05870 | 1,32442 |                |                             | 18,3                 | 90             |
| 2000           |      |               | 1867        | 2171   | 3671     | 4268   | 4673     | 5433   | 24,06690 | 1,32364 |                |                             | 20,1                 | 99             |
| 2200           |      |               | 2019        | 2348   | 3969     | 4615   | 5051     | 5874   | 26,10240 | 1,32285 |                |                             | 21,9                 | 108            |
| 2400           |      |               | 2137        | 2483   | 4221     | 4906   | 5382     | 6255   | 26,70098 | 1,33267 |                |                             | 25                   | 114            |

| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |

The ϕ values given in the table are for 1000 mm products.

Vertical Plane Surface Panel Radiator



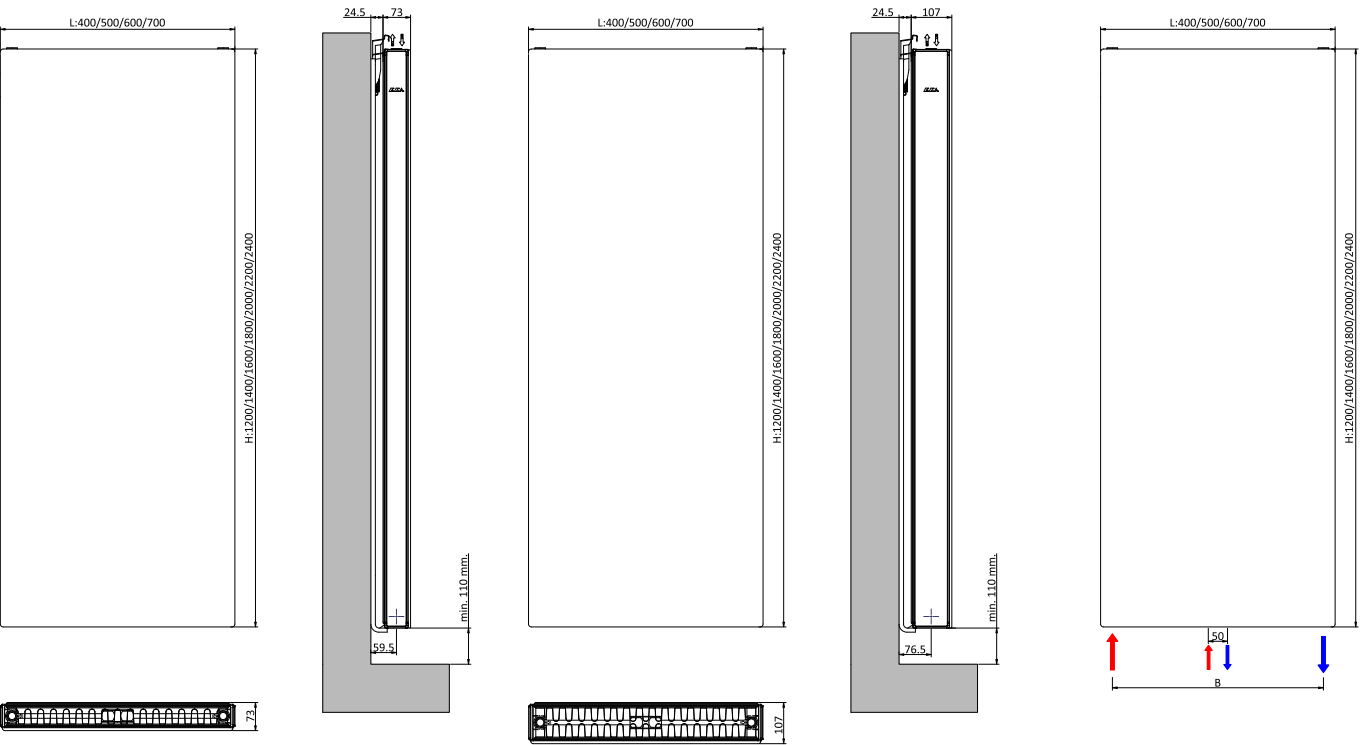
| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |          |        |          |        |          |         | Length<br>(mm) | Manifold<br>Gauge/B<br>(mm) | Water<br>Volume (lt) | Weight<br>(kg) |
|----------------|------|---------------|-------------|--------|----------|--------|----------|--------|----------|---------|----------------|-----------------------------|----------------------|----------------|
|                |      |               | ΔT 30° C    |        | ΔT 50° C |        | ΔT 60° C |        | Km       | n       |                |                             |                      |                |
|                |      |               | Kcal/hm     | Watt/m | Kcal/hm  | Watt/m | Kcal/hm  | Watt/m |          |         |                |                             |                      |                |
| 1200           | T21  | 83            | 835         | 971    | 1686     | 1960   | 2166     | 2519   | 9,02242  | 1,37550 | 400 - 700      | 50 & L -51                  | 12,9                 | 66             |
| 1400           |      |               | 931         | 1082   | 1892     | 2200   | 2437     | 2834   | 9,61376  | 1,38880 |                |                             | 14,7                 | 77             |
| 1600           |      |               | 1018        | 1184   | 2083     | 2422   | 2689     | 3127   | 10,08666 | 1,40110 |                |                             | 16,2                 | 87             |
| 1800           |      |               | 1113        | 1294   | 2259     | 2627   | 2909     | 3382   | 11,61522 | 1,38580 |                |                             | 18                   | 96             |
| 2000           |      |               | 1206        | 1402   | 2422     | 2816   | 3106     | 3612   | 13,49581 | 1,36520 |                |                             | 19,8                 | 107            |
| 2200           |      |               | 1294        | 1505   | 2571     | 2990   | 3286     | 3821   | 15,53839 | 1,34450 |                |                             | 21,6                 | 117            |
| 2400           |      |               | 1258        | 1462   | 2781     | 3232   | 3691     | 4290   | 7,41796  | 1,55338 |                |                             | 24,6                 | 124            |

| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |          |        |          |        |          |         | Length<br>(mm) | Manifold<br>Gauge/B<br>(mm) | Water<br>Volume (lt) | Weight<br>(kg) |
|----------------|------|---------------|-------------|--------|----------|--------|----------|--------|----------|---------|----------------|-----------------------------|----------------------|----------------|
|                |      |               | ΔT 30° C    |        | ΔT 50° C |        | ΔT 60° C |        | Km       | n       |                |                             |                      |                |
|                |      |               | Kcal/hm     | Watt/m | Kcal/hm  | Watt/m | Kcal/hm  | Watt/m |          |         |                |                             |                      |                |
| 1200           | T22  | 117           | 1147        | 1333   | 2254     | 2621   | 2869     | 3336   | 14,80437 | 1,32320 | 400 - 700      | 50 & L -51                  | 13,2                 | 75             |
| 1400           |      |               | 1266        | 1472   | 2495     | 2901   | 3178     | 3696   | 16,08739 | 1,32790 |                |                             | 15                   | 86             |
| 1600           |      |               | 1381        | 1606   | 2729     | 3173   | 3479     | 4046   | 17,27518 | 1,33260 |                |                             | 16,5                 | 96             |
| 1800           |      |               | 1471        | 1710   | 2958     | 3439   | 3795     | 4413   | 16,31477 | 1,36780 |                |                             | 18,3                 | 105            |
| 2000           |      |               | 1597        | 1857   | 3182     | 3700   | 4070     | 4732   | 18,85566 | 1,34950 |                |                             | 20,1                 | 117            |
| 2200           |      |               | 1725        | 2006   | 3405     | 3959   | 4340     | 5047   | 21,67288 | 1,33120 |                |                             | 21,9                 | 129            |
| 2400           |      |               | 1870        | 2174   | 3711     | 4313   | 4739     | 5508   | 22,67572 | 1,34153 |                |                             | 25                   | 137            |

| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |

The ϕ values given in the table are for 1000 mm products.

Vertical Flat Board Panel Radiator



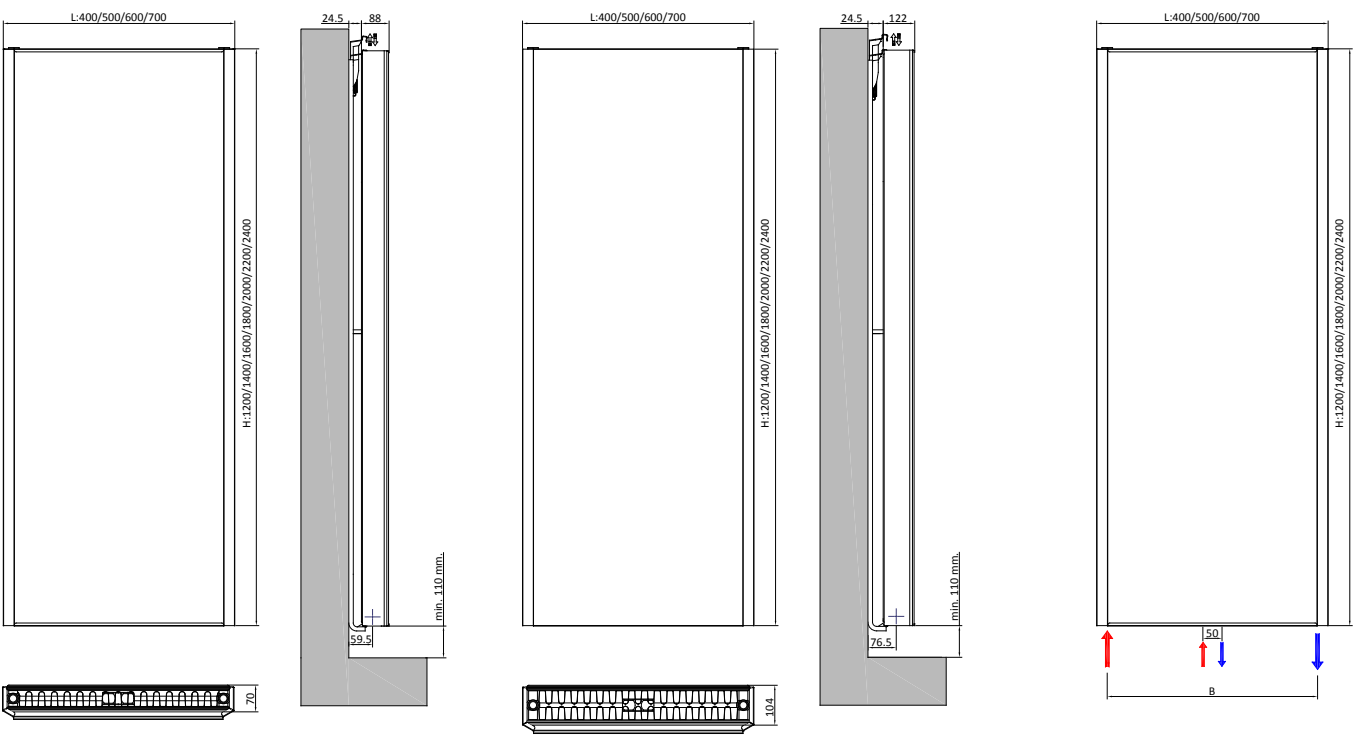
| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |          |        |          |        |          |         | Length<br>(mm) | Manifold<br>Gauge/B<br>(mm) | Water<br>Volume (lt) | Weight<br>(kg) |
|----------------|------|---------------|-------------|--------|----------|--------|----------|--------|----------|---------|----------------|-----------------------------|----------------------|----------------|
|                |      |               | ΔT 30° C    |        | ΔT 50° C |        | ΔT 60° C |        | Km       | n       |                |                             |                      |                |
|                |      |               | Kcal/hm     | Watt/m | Kcal/hm  | Watt/m | Kcal/hm  | Watt/m |          |         |                |                             |                      |                |
| 1200           | T21  | 73            | 835         | 971    | 1686     | 1960   | 2166     | 2519   | 9,02242  | 1,37550 | 400 - 700      | 50 & L -51                  | 12,9                 | 66             |
| 1400           |      |               | 931         | 1082   | 1892     | 2200   | 2437     | 2834   | 9,61376  | 1,38880 |                |                             | 14,7                 | 77             |
| 1600           |      |               | 1018        | 1184   | 2083     | 2422   | 2689     | 3127   | 10,08666 | 1,40110 |                |                             | 16,2                 | 87             |
| 1800           |      |               | 1113        | 1294   | 2259     | 2627   | 2909     | 3382   | 11,61522 | 1,38580 |                |                             | 18                   | 96             |
| 2000           |      |               | 1206        | 1402   | 2422     | 2816   | 3106     | 3612   | 13,49581 | 1,36520 |                |                             | 19,8                 | 107            |
| 2200           |      |               | 1294        | 1505   | 2571     | 2990   | 3286     | 3821   | 15,53839 | 1,34450 |                |                             | 21,6                 | 117            |
| 2400           |      |               | 1258        | 1462   | 2781     | 3232   | 3691     | 4290   | 7,41796  | 1,55338 |                |                             | 24,6                 | 124            |

| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |          |        |          |        |          | Length<br>(mm) | Manifold<br>Gauge/B<br>(mm) | Water<br>Volume (lt) | Weight<br>(kg) |     |
|----------------|------|---------------|-------------|--------|----------|--------|----------|--------|----------|----------------|-----------------------------|----------------------|----------------|-----|
|                |      |               | ΔT 30° C    |        | ΔT 50° C |        | ΔT 60° C |        | Km       |                |                             |                      |                | n   |
|                |      |               | Kcal/hm     | Watt/m | Kcal/hm  | Watt/m | Kcal/hm  | Watt/m |          |                |                             |                      |                |     |
| 1200           | T22  | 107           | 1147        | 1333   | 2254     | 2621   | 2869     | 3336   | 14,80437 | 1,32320        | 400 - 700                   | 50 & L-51            | 13,2           | 75  |
| 1400           |      |               | 1266        | 1472   | 2495     | 2901   | 3178     | 3696   | 16,08739 | 1,32790        |                             |                      | 15             | 86  |
| 1600           |      |               | 1381        | 1606   | 2729     | 3173   | 3479     | 4046   | 17,27518 | 1,33260        |                             |                      | 16,5           | 96  |
| 1800           |      |               | 1471        | 1710   | 2958     | 3439   | 3795     | 4413   | 16,31477 | 1,36780        |                             |                      | 18,3           | 105 |
| 2000           |      |               | 1597        | 1857   | 3182     | 3700   | 4070     | 4732   | 18,85566 | 1,34950        |                             |                      | 20,1           | 117 |
| 2200           |      |               | 1725        | 2006   | 3405     | 3959   | 4340     | 5047   | 21,67288 | 1,33120        |                             |                      | 21,9           | 129 |
| 2400           |      |               | 1870        | 2174   | 3711     | 4313   | 4739     | 5508   | 22,67572 | 1,34153        |                             |                      | 25             | 137 |

| TEST PRESSURE MAXIMUM |  | OPERATING PRESSURE MAXIMUM |  | OPERATING TEMPERATURE |  | CONNECTION DIMENSION |  |
|-----------------------|--|----------------------------|--|-----------------------|--|----------------------|--|
| 13 Bar                |  | 10 Bar                     |  | 120° C                |  | G ½"                 |  |

The  $\phi$  values given in the table are for 1000 mm products.  
Vertical Flat Board Panel Radiator do not have quality certificate.

Vertical Panel Radiator with Mirror



TYPE 21

TYPE 22

| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |          |        |          |        |          |         | Length<br>(mm) | Manifold<br>Gauge/B<br>(mm) | Water<br>Volume (lt) | Weight<br>(kg) |
|----------------|------|---------------|-------------|--------|----------|--------|----------|--------|----------|---------|----------------|-----------------------------|----------------------|----------------|
|                |      |               | ΔT 30° C    |        | ΔT 50° C |        | ΔT 60° C |        | Km       | n       |                |                             |                      |                |
|                |      |               | Kcal/hm     | Watt/m | Kcal/hm  | Watt/m | Kcal/hm  | Watt/m |          |         |                |                             |                      |                |
| 1200           | T21  | 88            | 835         | 971    | 1686     | 1960   | 2166     | 2519   | 9,02242  | 1,37550 | 400 - 700      | 50 & L -51                  | 12,9                 | 77             |
| 1400           |      |               | 931         | 1082   | 1892     | 2200   | 2437     | 2834   | 9,61376  | 1,38880 |                |                             | 14,7                 | 89             |
| 1600           |      |               | 1018        | 1184   | 2083     | 2422   | 2689     | 3127   | 10,08666 | 1,40110 |                |                             | 16,2                 | 101            |
| 1800           |      |               | 1113        | 1294   | 2259     | 2627   | 2909     | 3382   | 11,61522 | 1,38580 |                |                             | 18                   | 112            |
| 2000           |      |               | 1206        | 1402   | 2422     | 2816   | 3106     | 3612   | 13,49581 | 1,36520 |                |                             | 19,8                 | 124            |
| 2200           |      |               | 1294        | 1505   | 2571     | 2990   | 3286     | 3821   | 15,53839 | 1,34450 |                |                             | 21,6                 | 137            |
| 2400           |      |               | 1258        | 1462   | 2781     | 3232   | 3691     | 4290   | 7,41796  | 1,55338 |                |                             | 24,6                 | 146            |

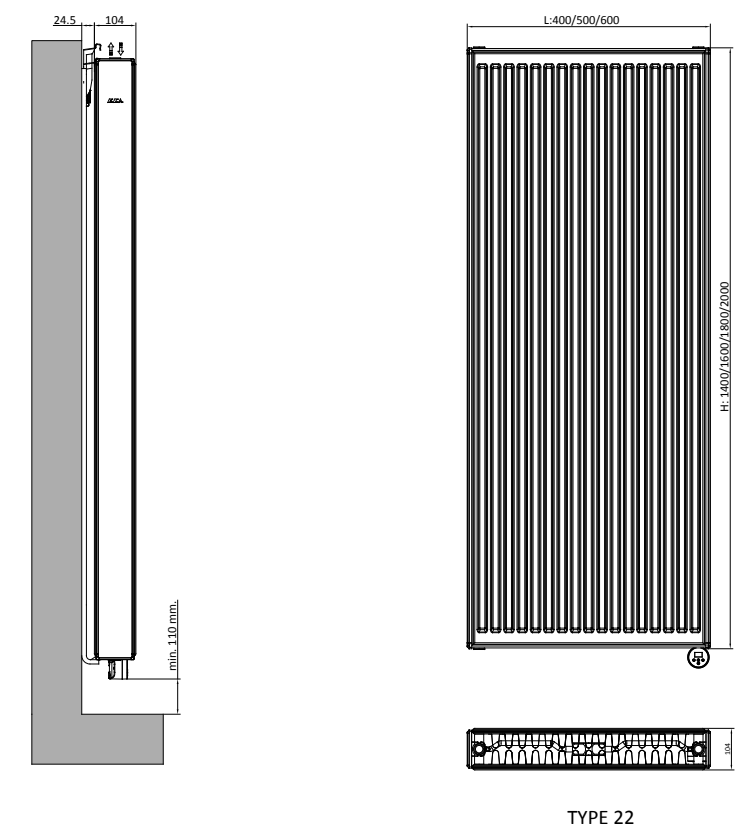
| Height<br>(mm) | TYPE | Width<br>(mm) | Heat Output |        |          |        |          |        |          |         | Length<br>(mm) | Manifold<br>Gauge/B<br>(mm) | Water<br>Volume (lt) | Weight<br>(kg) |
|----------------|------|---------------|-------------|--------|----------|--------|----------|--------|----------|---------|----------------|-----------------------------|----------------------|----------------|
|                |      |               | ΔT 30° C    |        | ΔT 50° C |        | ΔT 60° C |        | Km       | n       |                |                             |                      |                |
|                |      |               | Kcal/hm     | Watt/m | Kcal/hm  | Watt/m | Kcal/hm  | Watt/m |          |         |                |                             |                      |                |
| 1200           | T22  | 122           | 1147        | 1333   | 2254     | 2621   | 2869     | 3336   | 14,80437 | 1,32320 | 400 - 700      | 50 & L-51                   | 13,2                 | 86             |
| 1400           |      |               | 1266        | 1472   | 2495     | 2901   | 3178     | 3696   | 16,08739 | 1,32790 |                |                             | 15                   | 98             |
| 1600           |      |               | 1381        | 1606   | 2729     | 3173   | 3479     | 4046   | 17,27518 | 1,33260 |                |                             | 16,5                 | 110            |
| 1800           |      |               | 1471        | 1710   | 2958     | 3439   | 3795     | 4413   | 16,31477 | 1,36780 |                |                             | 18,3                 | 121            |
| 2000           |      |               | 1597        | 1857   | 3182     | 3700   | 4070     | 4732   | 18,85566 | 1,34950 |                |                             | 20,1                 | 135            |
| 2200           |      |               | 1725        | 2006   | 3405     | 3959   | 4340     | 5047   | 21,67288 | 1,33120 |                |                             | 21,9                 | 149            |
| 2400           |      |               | 1870        | 2174   | 3711     | 4313   | 4739     | 5508   | 22,67572 | 1,34153 |                |                             | 25                   | 159            |

| TEST PRESSURE MAXIMUM |  | OPERATING PRESSURE MAXIMUM |  | OPERATING TEMPERATURE |  | CONNECTION DIMENSION |  |
|-----------------------|--|----------------------------|--|-----------------------|--|----------------------|--|
| 13 Bar                |  | 10 Bar                     |  | 120° C                |  | G ½"                 |  |

The  $\phi$  values given in the table are for 1000 mm products.  
Vertical Panel Radiator With Mirror do not have quality certificate.



## Vertical Electric Panel Radiator



| Heights<br>(mm) | Length<br>(mm) | Weight<br>(kg) | Electrical Power<br>(W) |
|-----------------|----------------|----------------|-------------------------|
| 1400            | 400            | 37             | 1100                    |
|                 | 500            | 46             | 1300                    |
|                 | 600            | 55             | 1500                    |
| 1600            | 400            | 41             | 1300                    |
|                 | 500            | 51             | 1500                    |
|                 | 600            | 62             | 1800                    |
| 1800            | 400            | 46             | 1400                    |
|                 | 500            | 57             | 1800                    |
|                 | 600            | 69             | 2000                    |
| 2000            | 400            | 50             | 1600                    |
|                 | 500            | 62             | 2000                    |
|                 | 600            | 76             | 2000                    |



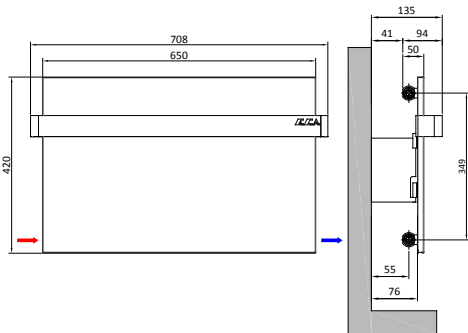


# Icon Design Panel Radiators

Icon Panel Radiators will bring delicacy to your bathroom and kitchen with its various design and colour options. Smart chrome towel rail will be pleasing to the eye as well as providing easy use.

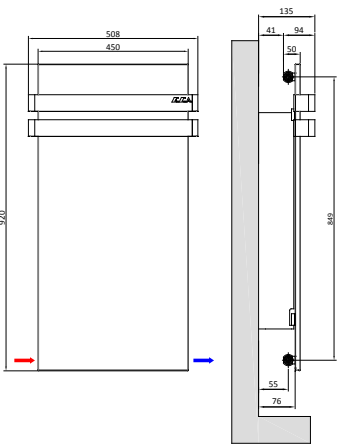
| Icon Panel Radiator<br>(400 mm x 600 mm) | Weight<br>(kg) | Water Volume<br>(lt) | Heat Output |      |          |      |          |      |         |         | Manifold Gauge/B<br>(mm) |
|------------------------------------------|----------------|----------------------|-------------|------|----------|------|----------|------|---------|---------|--------------------------|
|                                          |                |                      | ΔT 30° C    |      | ΔT 50° C |      | ΔT 60° C |      | Km      | n       |                          |
|                                          |                |                      | Kcal/h      | Watt | Kcal/h   | Watt | Kcal/h   | Watt |         |         |                          |
|                                          | 9              | 1,3                  | 113         | 132  | 212      | 246  | 265      | 308  | 2,04393 | 1,22477 | 349                      |

The warranty for chrome towel rail is 3 years.  
Icon panel radiators do not have quality certificate.



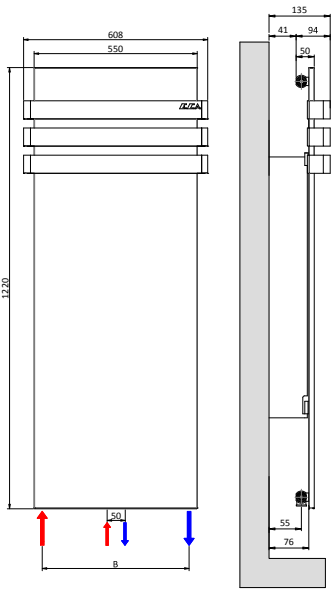
| Icon Panel Radiator<br>(900 mm x 400 mm) | Weight<br>(kg) | Water Volume<br>(lt) | Heat Output |      |          |      |          |      |         |         | Manifold Gauge/B<br>(mm) |
|------------------------------------------|----------------|----------------------|-------------|------|----------|------|----------|------|---------|---------|--------------------------|
|                                          |                |                      | ΔT 30° C    |      | ΔT 50° C |      | ΔT 60° C |      | Km      | n       |                          |
|                                          |                |                      | Kcal/h      | Watt | Kcal/h   | Watt | Kcal/h   | Watt |         |         |                          |
|                                          |                |                      |             |      |          |      |          |      |         |         |                          |
|                                          | 14             | 1,7                  | 167         | 195  | 314      | 365  | 393      | 457  | 2,93607 | 1,23306 | 849                      |

The warranty for chrome towel rail is 3 years.  
Icon panel radiators do not have quality certificate.



| Icon Panel Radiator<br>(1200 mm x 500 mm) | Weight (kg) | Water Volume (lt) | Heat Output |      |          |      |          |      |         |         | Manifold Gauge/B (mm) |
|-------------------------------------------|-------------|-------------------|-------------|------|----------|------|----------|------|---------|---------|-----------------------|
|                                           |             |                   | ΔT 30° C    |      | ΔT 50° C |      | ΔT 60° C |      | Km      | n       |                       |
|                                           |             |                   | Kcal/h      | Watt | Kcal/h   | Watt | Kcal/h   | Watt |         |         |                       |
|                                           | 18          | 3                 | 239         | 278  | 464      | 540  | 589      | 685  | 3,37101 | 1,29776 | 50 & 449              |

The warranty for chrome towel rail is 3 years.  
Icon panel radiators do not have quality certificate.



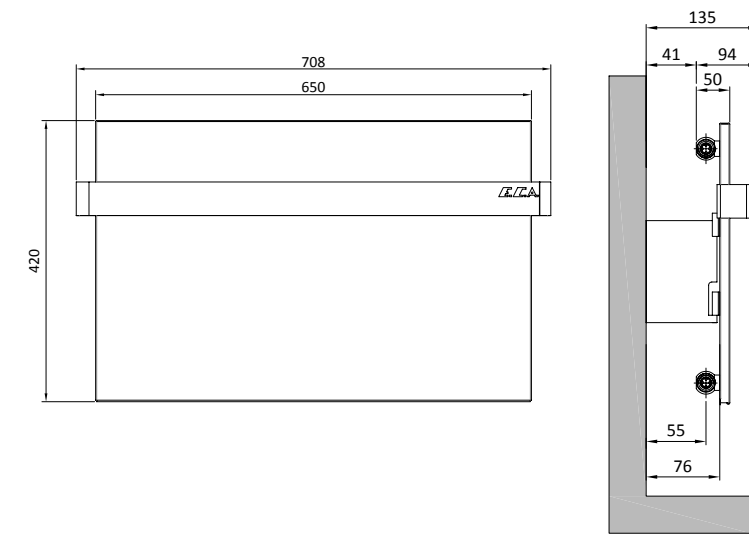
| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |

There are different colour options that will bring charm to the place they're in.



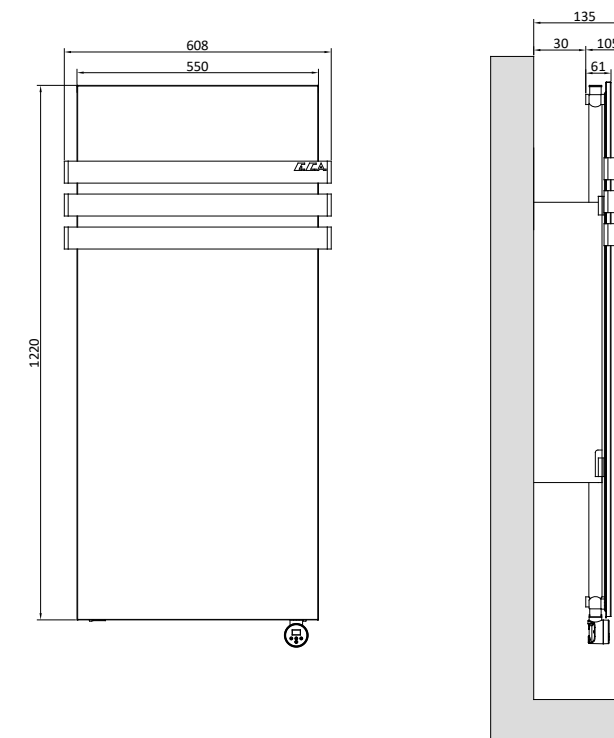
## Icon Electric Panel Radiators

Icon electric panel radiators provide extra comfort for your living areas.



| Icon Electric Panel Radiator<br>(400 mm x 600 mm) | Weight (kg) | Electrical Power (W) |
|---------------------------------------------------|-------------|----------------------|
|                                                   | 10          | 300                  |

The warranty for chrome towel rail is 3 years.



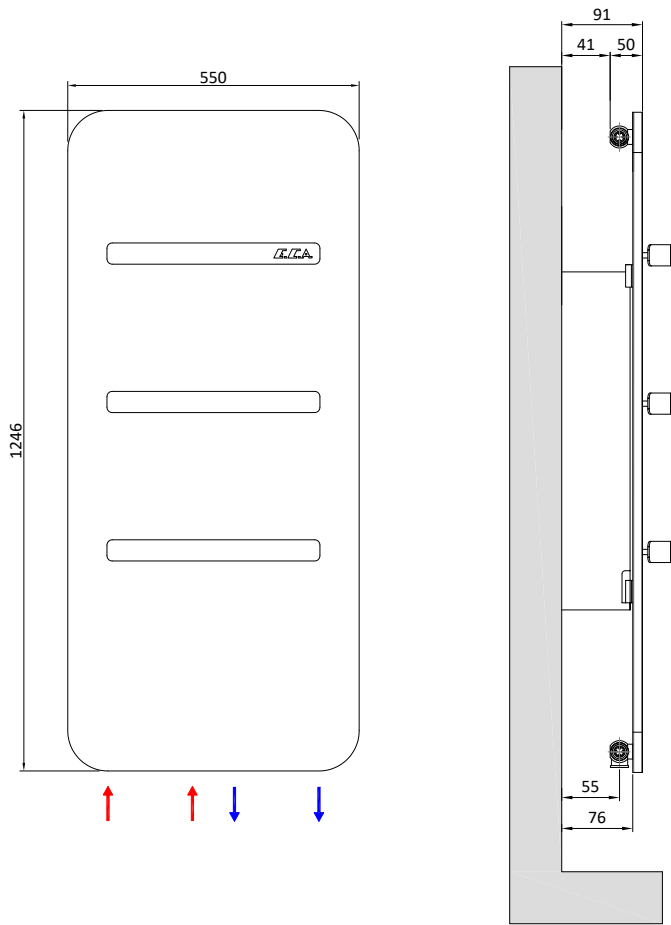
| Icon Electric Panel Radiator<br>(500 mm x 1200 mm) | Weight (kg) | Electrical Power (W) |
|----------------------------------------------------|-------------|----------------------|
|                                                    | 19          | 750                  |

The warranty for chrome towel rail is 3 years.



# Smooth Design Panel Radiators

It's slim design with rounded lines provide the perfect solution for restricted spaces such as bathrooms and kitchens.



| TEST PRESSURE<br>MAXIMUM | OPERATING<br>PRESSURE MAXIMUM | OPERATING<br>TEMPERATURE | CONNECTION<br>DIMENSION |
|--------------------------|-------------------------------|--------------------------|-------------------------|
| 13 Bar                   | 10 Bar                        | 120° C                   | G ½"                    |

| Smooth Panel Radiator<br>(1200 mm x 500 mm) | Weight<br>(kg) | Water<br>Volume<br>(lt) | Heat Output |      |          |      |          |      | Km      | n       | Manifold<br>Gauge<br>(mm) |
|---------------------------------------------|----------------|-------------------------|-------------|------|----------|------|----------|------|---------|---------|---------------------------|
|                                             |                |                         | ΔT 30° C    |      | ΔT 50° C |      | ΔT 60° C |      |         |         |                           |
|                                             |                |                         | Kcal/h      | Watt | Kcal/h   | Watt | Kcal/h   | Watt |         |         |                           |
|                                             | 20             | 3                       | 244         | 284  | 457      | 531  | 571      | 664  | 4,40929 | 1,22465 | 50 & 449                  |

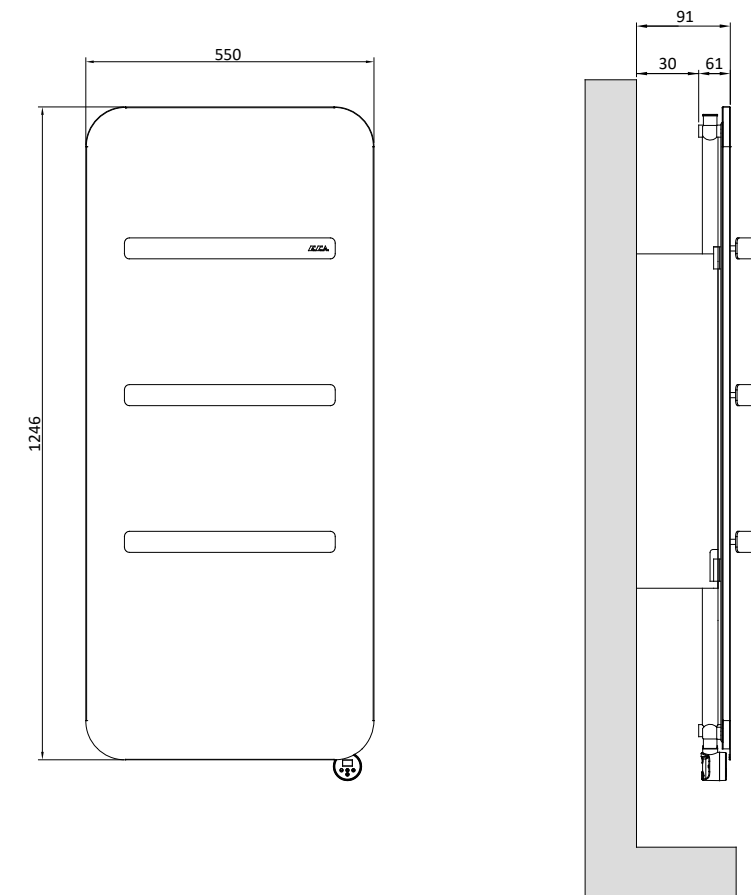
The warranty for chrome towel rail is 3 years.  
Smooth panel radiators do not have quality certificate.  
It provides ease of use thanks to the towel rack on the product.





## Smooth Electric Panel Radiators

It's slim design with rounded lines provide the perfect solution for restricted spaces such as bathrooms and kitchens.



| Smooth Electric Panel Radiator<br>(500 mm x 1200 mm) | Weight (kg) | Electrical Power (W) |
|------------------------------------------------------|-------------|----------------------|
|                                                      | 21          | 750                  |

The warranty for chrome towel rail is 3 years.  
It provides ease of use thanks to the towel rack on the product.



# E.C.A. Fan Assisted

E.C.A. Fan Assisted is suited for houses and flats when you want more output from a radiator in low-temperature systems. With the integrated fans, the convection heat is distributed better throughout the entire room, and the temperature setting can be lower as a result. The integrated fans operate silently and increase the performance of the radiators with increased convection.



## Fan Control

- Adjustable room temperature
- 4 different fan speed (1-2-3 boost)
- Manuel mode control
- Automatic return to fan speed 1 after 120 minutes in boost mode
- Soundless



## Digital Control

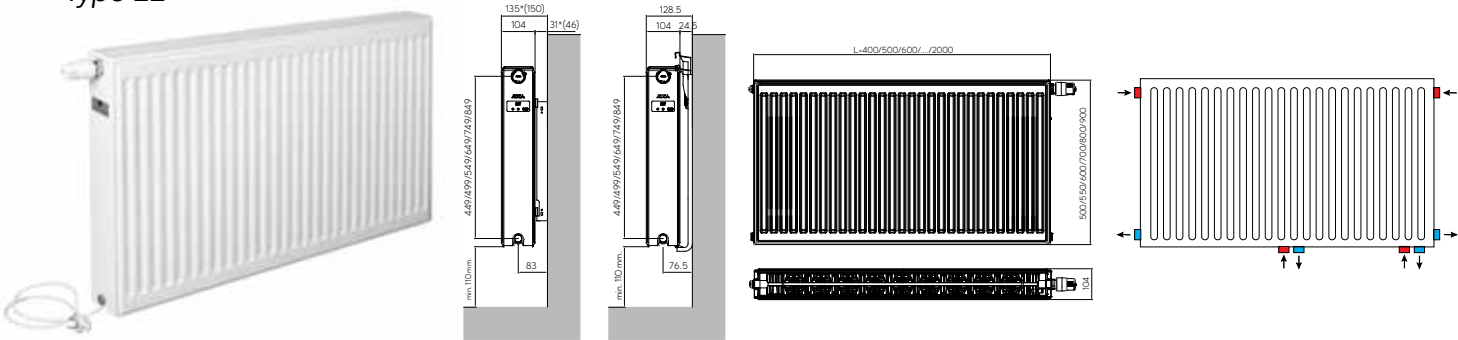
- Aesthetic-digital control panel
- Automatic and manuel mod
- Easy control

## Sound Levels and Energy Consumption

| L(mm) | Static           |                        | Comfort          |                        | Boost            |                        |
|-------|------------------|------------------------|------------------|------------------------|------------------|------------------------|
|       | Sound Level (dB) | Energy Consumption (W) | Sound Level (dB) | Energy Consumption (W) | Sound Level (dB) | Energy Consumption (W) |
| 600   | 13,7             | 0,6                    | 28,3             | 7,6                    | 33,4             | 9,1                    |
| 700   | 14,6             | 0,6                    | 29,4             | 9,1                    | 34,5             | 10,9                   |
| 800   | 15,5             | 0,6                    | 30,4             | 10,7                   | 35,6             | 12,8                   |
| 900   | 16,3             | 0,6                    | 31,3             | 12,2                   | 36,5             | 14,6                   |
| 1000  | 17,1             | 0,6                    | 32,1             | 13,7                   | 37,3             | 16,4                   |
| 1100  | 17,8             | 0,6                    | 32,9             | 15,2                   | 38,1             | 18,2                   |
| 1200  | 18,5             | 0,6                    | 33,6             | 16,7                   | 38,8             | 20                     |
| 1300  | 19,2             | 0,6                    | 34,3             | 18,3                   | 39,5             | 21,9                   |
| 1400  | 19,8             | 0,6                    | 34,9             | 19,8                   | 40,1             | 23,7                   |
| 1500  | 20,4             | 0,6                    | 35,5             | 21,3                   | 40,7             | 25,5                   |
| 1600  | 21               | 0,6                    | 36,1             | 22,8                   | 41,3             | 27,3                   |
| 1700  | 21,5             | 0,6                    | 36,6             | 24,4                   | 41,8             | 29,2                   |
| 1800  | 22,1             | 0,6                    | 37,1             | 25,9                   | 42,4             | 31                     |
| 1900  | 22,6             | 0,6                    | 37,6             | 27,4                   | 42,9             | 32,8                   |
| 2000  | 23,1             | 0,6                    | 38,1             | 28,9                   | 43,3             | 34,6                   |

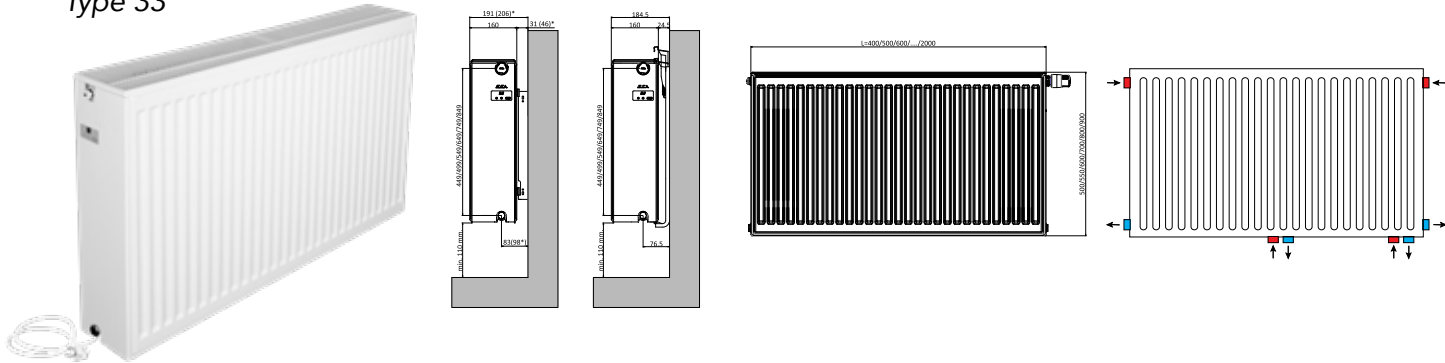


Standard  
Type 22



| Height x Length<br>(mm) | °C       | Static Mode |          |        | Silent Comfort Mode |          |        | Silent Boost Mode |          |        | Weight<br>(kg) | Water Volume<br>(lt) |
|-------------------------|----------|-------------|----------|--------|---------------------|----------|--------|-------------------|----------|--------|----------------|----------------------|
|                         |          | Φ (W)       | Km       | n      | Φ (W)               | Km       | n      | Φ (W)             | Km       | n      |                |                      |
| 500                     | 45/35/20 | 411         | 8,22326  | 1,3056 | 733                 | 21,58767 | 1,1765 | 807               | 25,46322 | 1,1535 | 24,95          | 6,3                  |
|                         | 40/35/20 | 345         |          |        | 626                 |          |        | 691               |          |        |                |                      |
|                         | 35/30/20 | 222         |          |        | 421                 |          |        | 469               |          |        |                |                      |
| 550                     | 45/35/20 | 447         | 9,00748  | 1,3036 | 797                 | 24,2888  | 1,1654 | 878               | 28,43884 | 1,1448 | 27,95          | 6,83                 |
|                         | 40/35/20 | 376         |          |        | 682                 |          |        | 753               |          |        |                |                      |
|                         | 35/30/20 | 242         |          |        | 461                 |          |        | 512               |          |        |                |                      |
| 600                     | 45/35/20 | 483         | 9,79504  | 1,3015 | 859                 | 27,06752 | 1,1542 | 945               | 31,42634 | 1,136  | 30,95          | 7,35                 |
|                         | 40/35/20 | 406         |          |        | 736                 |          |        | 812               |          |        |                |                      |
|                         | 35/30/20 | 262         |          |        | 499                 |          |        | 554               |          |        |                |                      |
| 700                     | 45/35/20 | 549         | 10,86047 | 1,3093 | 945                 | 28,72453 | 1,1662 | 1042              | 33,75045 | 1,1449 | 36,95          | 8,4                  |
|                         | 40/35/20 | 461         |          |        | 809                 |          |        | 894               |          |        |                |                      |
|                         | 35/30/20 | 297         |          |        | 546                 |          |        | 608               |          |        |                |                      |
| 800                     | 45/35/20 | 610         | 11,80211 | 1,3172 | 1016                | 29,76365 | 1,1783 | 1120              | 35,3301  | 1,1539 | 42,95          | 9,45                 |
|                         | 40/35/20 | 512         |          |        | 868                 |          |        | 960               |          |        |                |                      |
|                         | 35/30/20 | 329         |          |        | 584                 |          |        | 651               |          |        |                |                      |
| 900                     | 45/35/20 | 670         | 12,64769 | 1,325  | 1071                | 30,28547 | 1,1903 | 1180              | 36,24307 | 1,1628 | 48,95          | 10,5                 |
|                         | 40/35/20 | 561         |          |        | 914                 |          |        | 1011              |          |        |                |                      |
|                         | 35/30/20 | 359         |          |        | 612                 |          |        | 683               |          |        |                |                      |

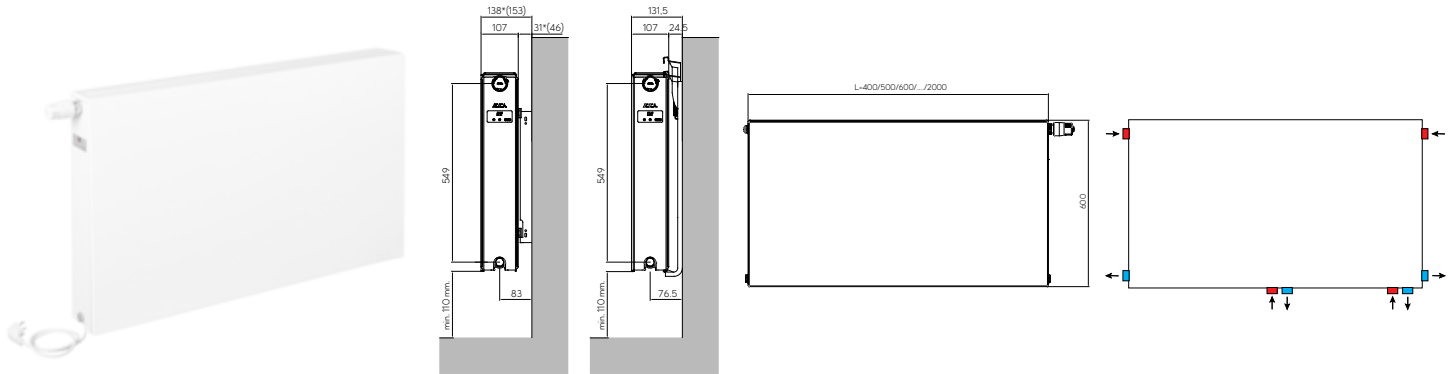
Type 33



| Height x Length<br>(mm) | °C       | Static Mode |          |        | Silent Comfort Mode |          |        | Silent Boost Mode |          |        | Weight<br>(kg) | Water Volume<br>(lt) |
|-------------------------|----------|-------------|----------|--------|---------------------|----------|--------|-------------------|----------|--------|----------------|----------------------|
|                         |          | Φ (W)       | Km       | n      | Φ (W)               | Km       | n      | Φ (W)             | Km       | n      |                |                      |
| 500                     | 45/35/20 | 571         | 11,00675 | 1,3184 | 777                 | 17,05026 | 1,2747 | 824               | 20,35814 | 1,2352 | 37,3           | 9,45                 |
|                         | 40/35/20 | 479         |          |        | 655                 |          |        | 698               |          |        |                |                      |
|                         | 35/30/20 | 307         |          |        | 427                 |          |        | 461               |          |        |                |                      |
| 550                     | 45/35/20 | 617         | 11,69072 | 1,3241 | 836                 | 18,36097 | 1,2748 | 880               | 21,28996 | 1,2422 | 44,45          | 11,15                |
|                         | 40/35/20 | 517         |          |        | 706                 |          |        | 745               |          |        |                |                      |
|                         | 35/30/20 | 331         |          |        | 459                 |          |        | 491               |          |        |                |                      |
| 600                     | 45/35/20 | 662         | 12,32367 | 1,3298 | 896                 | 19,654   | 1,2749 | 935               | 22,15898 | 1,2492 | 51,6           | 12,85                |
|                         | 40/35/20 | 554         |          |        | 755                 |          |        | 791               |          |        |                |                      |
|                         | 35/30/20 | 354         |          |        | 492                 |          |        | 520               |          |        |                |                      |
| 700                     | 45/35/20 | 747         | 13,44831 | 1,3411 | 1012                | 22,19796 | 1,2751 | 1044              | 23,73383 | 1,2631 | 56,78          | 13,92                |
|                         | 40/35/20 | 625         |          |        | 854                 |          |        | 882               |          |        |                |                      |
|                         | 35/30/20 | 398         |          |        | 556                 |          |        | 577               |          |        |                |                      |
| 800                     | 45/35/20 | 838         | 15,18043 | 1,339  | 1133                | 25,21224 | 1,2701 | 1168              | 26,65142 | 1,262  | 61,95          | 14,99                |
|                         | 40/35/20 | 701         |          |        | 956                 |          |        | 987               |          |        |                |                      |
|                         | 35/30/20 | 447         |          |        | 623                 |          |        | 646               |          |        |                |                      |
| 900                     | 45/35/20 | 927         | 16,89151 | 1,3369 | 1252                | 28,31123 | 1,265  | 1296              | 29,6595  | 1,2608 | 67,13          | 16,06                |
|                         | 40/35/20 | 775         |          |        | 1058                |          |        | 1095              |          |        |                |                      |
|                         | 35/30/20 | 494         |          |        | 691                 |          |        | 716               |          |        |                |                      |

|                       |                            |                       |                      |
|-----------------------|----------------------------|-----------------------|----------------------|
| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
| 13 Bar                | 10 Bar                     | 70° C                 | G ½"                 |

Flat  
Type 22



| Height x Length<br>(mm) | °C       | Static Mode |         |        | Silent Comfort Mode |          |        | Silent Boost Mode |          |        | Weight<br>(kg) | Water Volume<br>(lt) |
|-------------------------|----------|-------------|---------|--------|---------------------|----------|--------|-------------------|----------|--------|----------------|----------------------|
|                         |          | Φ (W)       | Km      | n      | Φ (W)               | Km       | n      | Φ (W)             | Km       | n      |                |                      |
| 600                     | 45/35/20 | 454         | 9,22488 | 1,3006 | 822                 | 25,94675 | 1,1536 | 898               | 29,06051 | 1,1451 | 35,35          | 7,35                 |
|                         | 40/35/20 | 382         |         |        | 705                 |          |        | 770               |          |        |                |                      |
|                         | 35/30/20 | 246         |         |        | 478                 |          |        | 524               |          |        |                |                      |

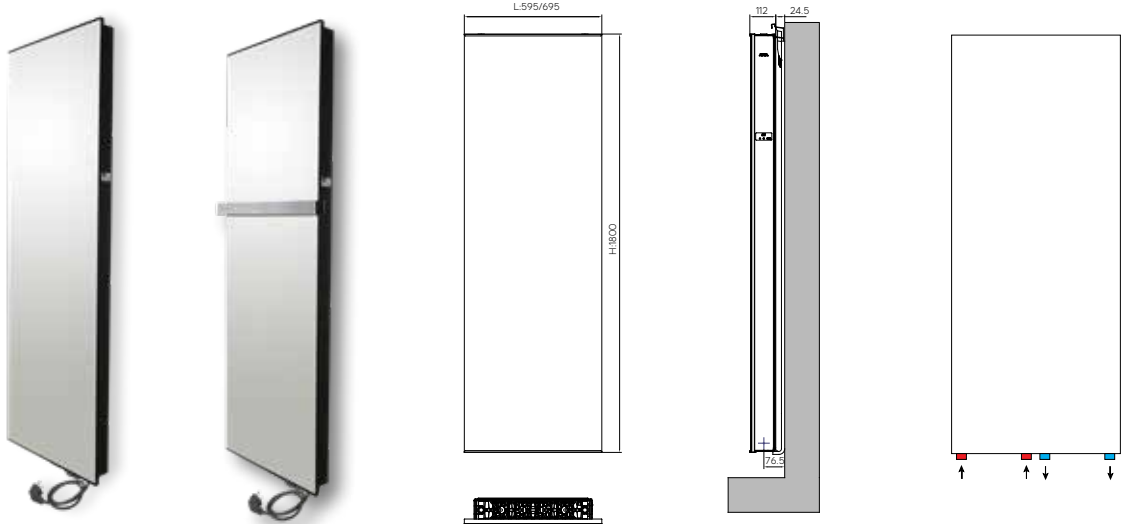
|                       |                            |                       |                      |
|-----------------------|----------------------------|-----------------------|----------------------|
| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
| 13 Bar                | 10 Bar                     | 70° C                 | G ½"                 |







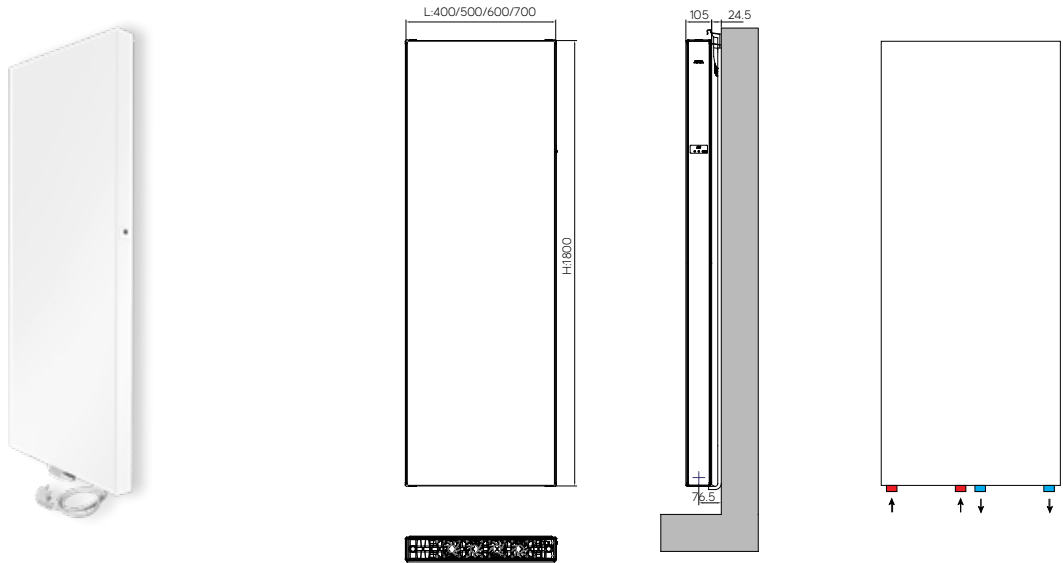
Vertical with Mirror



Towel hanger is optional.

| Height x Length<br>(mm) | °C       | Static Mode |         |        | Silent Comfort Mode |           |        | Silent Boost Mode |           |        | Water Volume<br>(lt) | Weight<br>(kg) | Manifold Gauge/B<br>(mm) |
|-------------------------|----------|-------------|---------|--------|---------------------|-----------|--------|-------------------|-----------|--------|----------------------|----------------|--------------------------|
|                         |          | ϕ (W)       | Km      | n      | ϕ (W)               | Km        | n      | ϕ (W)             | Km        | n      |                      |                |                          |
| 1800 x 500              | 45/35/20 | 408         | 5,27195 | 1,4517 | 739                 | 20,42326  | 1,1977 | 788               | 22,35552  | 1,1891 | 9                    | 59,6           | 50 & L -51               |
|                         | 40/35/20 | 336         |         |        | 629                 |           |        | 672               |           |        |                      |                |                          |
|                         | 35/30/20 | 206         |         |        | 421                 |           |        | 451               |           |        |                      |                |                          |
| 1800 x 600              | 45/35/20 | 490         | 6,32634 | 1,4517 | 886                 | 24,507912 | 1,1977 | 945               | 26,826624 | 1,1891 | 10,8                 | 71,5           | 50 & L -51               |
|                         | 40/35/20 | 403         |         |        | 755                 |           |        | 807               |           |        |                      |                |                          |
|                         | 35/30/20 | 247         |         |        | 505                 |           |        | 541               |           |        |                      |                |                          |

Vertical

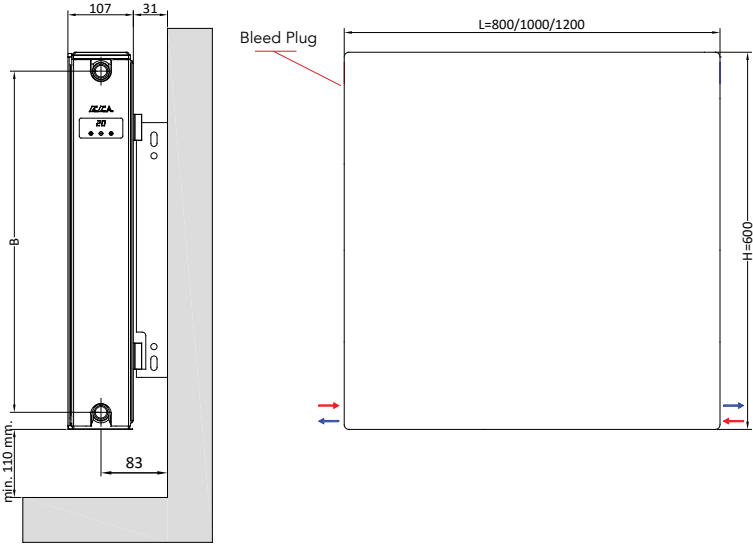


| Height x Length       | °C       | Static Mode                |         |        | Silent Comfort Mode   |           |        | Silent Boost Mode    |           |        | Water Volume | Weight | Manifold Gauge/B |
|-----------------------|----------|----------------------------|---------|--------|-----------------------|-----------|--------|----------------------|-----------|--------|--------------|--------|------------------|
| (mm)                  |          | ϕ (W)                      | Km      | n      | ϕ (W)                 | Km        | n      | ϕ (W)                | Km        | n      | (lt)         | (kg)   | (mm)             |
| 1800 x 500            | 45/35/20 | 408                        | 5,27195 | 1,4517 | 739                   | 20,42326  | 1,1977 | 788                  | 22,35552  | 1,1891 | 9            | 51,6   | 50 & L -51       |
|                       | 40/35/20 | 336                        |         |        | 629                   |           |        | 672                  |           |        |              |        |                  |
|                       | 35/30/20 | 206                        |         |        | 421                   |           |        | 451                  |           |        |              |        |                  |
| 1800 x 600            | 45/35/20 | 490                        | 6,32634 | 1,4517 | 886                   | 24,507912 | 1,1977 | 945                  | 26,826624 | 1,1891 | 10,8         | 61,9   | 50 & L -51       |
|                       | 40/35/20 | 403                        |         |        | 755                   |           |        | 807                  |           |        |              |        |                  |
|                       | 35/30/20 | 247                        |         |        | 505                   |           |        | 541                  |           |        |              |        |                  |
| TEST PRESSURE MAXIMUM |          | OPERATING PRESSURE MAXIMUM |         |        | OPERATING TEMPERATURE |           |        | CONNECTION DIMENSION |           |        |              |        |                  |
| 13 Bar                |          | 10 Bar                     |         |        | 70° C                 |           |        | G ½"                 |           |        |              |        |                  |



# Hybrid

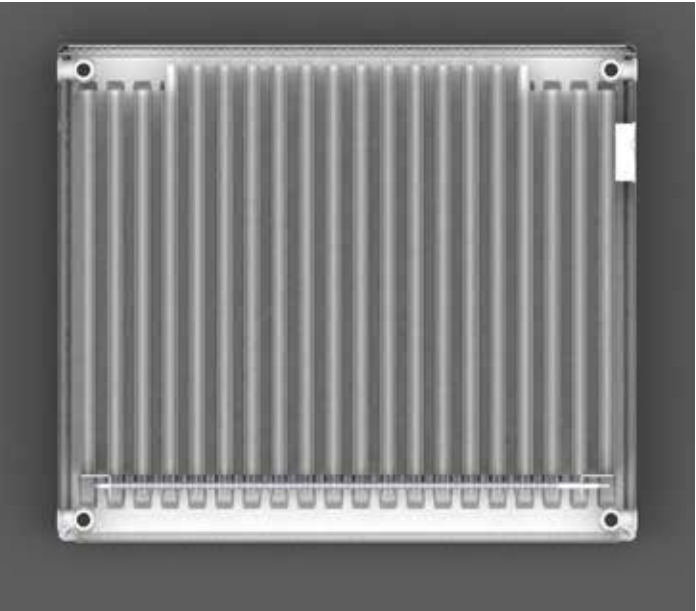
There are 3 different length options from 800 mm to 1200 mm.  
 Hybrid panel radiators also operate electrically and conventionally at the same time.



You can set the temperature with aesthetical digital display.

| Height (mm) | Type | Length (mm) | Weight (kg) | Water Volume (lt) | Electrical Power (W) | Manifold Gauge/B (mm) |
|-------------|------|-------------|-------------|-------------------|----------------------|-----------------------|
| 600         | T22  | 800         | 30          | 5,7               | 1300                 | 549                   |
|             |      | 1000        | 37          | 7,1               | 1700                 |                       |
|             |      | 1200        | 44          | 8,5               | 2000                 |                       |

| TEST PRESSURE MAXIMUM | OPERATING PRESSURE MAXIMUM | OPERATING TEMPERATURE | CONNECTION DIMENSION |
|-----------------------|----------------------------|-----------------------|----------------------|
| 13 Bar                | 10 Bar                     | 120° C                | G ½"                 |





Installation Kit

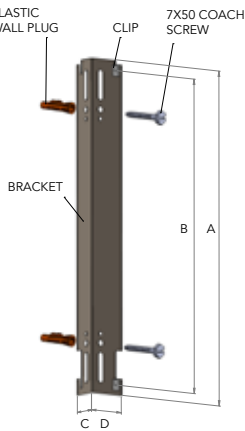
| Height | 300 mm | 400 mm | 500 mm | 550 mm | 600 mm | 700 mm | 800 mm | 900 mm |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| A mm   | 110    | 210    | 310    | 360    | 410    | 510    | 610    | 710    |
| B mm   | 85     | 185    | 285    | 335    | 385    | 485    | 585    | 685    |
| C mm   | 30     | 30     | 30     | 30     | 30     | 30     | 30     | 30     |
| D mm   | 45     | 45     | 45     | 45     | 45     | 45     | 45     | 45     |



| Heights | 300 mm | 400 mm | 500 mm | 600 mm | 700 mm | 800 mm | 900 mm |
|---------|--------|--------|--------|--------|--------|--------|--------|
| A mm    | 298    | 398    | 498    | 598    | 698    | 798    | 898    |
| B mm    | 32     | 32     | 32     | 32     | 32     | 32     | 32     |

\*Spring brackets comply with VDI 6036 standards.

- Compatible with PP, PKKP, PPP and PKKPKP types
- Allows radiator mounting in areas with french windows
- High corrosion resistance
- Compliant with European norms
- High durability



Color Chart

|                  |                  |                  |                   |                  |                   |
|------------------|------------------|------------------|-------------------|------------------|-------------------|
|                  |                  |                  |                   |                  |                   |
| Crocodile 9010   | Crocodile 9005   | Crocodile 1013   | RAL 9010          | RAL 9016         | Metallic Red      |
|                  |                  |                  |                   |                  |                   |
| PE55QC5987103CMX | PE55QC6215103CMX | PE55QC1301103CMX | PE55Q+33030102CMX | PE55QC7762103CMX | Metallic Black    |
|                  |                  |                  |                   |                  |                   |
| PE55Q+1778101CMX | PE55QC7048103CMX | PE55QC1035103CMX | PE58QC4011189GLX  | PE55QC7715103CMX | PE55QC17949102CMX |
|                  |                  |                  |                   |                  |                   |
| PE55Q+1779101CMX | PE58Q+1700187HRX | PE55QC7148103CMX | PE58QC5025189GLX  | PE55Q+6779101CMX | PE55Q+5570103CMX  |
|                  |                  |                  |                   |                  |                   |
| PE55Q+8355103CMX | PE55Q+8870103CMX | PE55Q+8880103CMX | PE55Q+8860103CMX  | PE55Q+1775101CMX | PE58QC5026189GLX  |

Panel Radiator Quality Logos



Consoles



For Vertical Radiators



Accessories







# CAST IRON RADIATORS

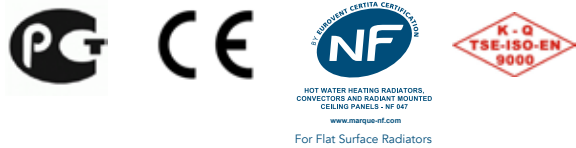




Cast Iron Radiators



- Manufactured with superior and quality considerations.
- Long lasting.
- High thermal efficiency.
- Ensure maintaining of temperature for longer periods.
- Resistant to corrosion.
- Leakproof through intermediate joints.
- Specially designed edges and corners and resistance to impact.
- All our flat surface cast iron radiators have the NF 047 certification.
- Standard Applicable TS EN 442
- RAL7038, RAL9003 and RAL9010 primer paint can be applied for all type of radiators.



Column Cast Iron Radiators



Curtain Column Cast Iron Radiators

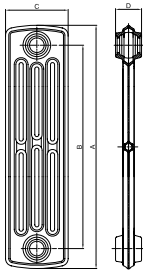


Flat Surface Cast Iron Radiators

Technical Specifications

COLUMN CAST IRON RADIATORS

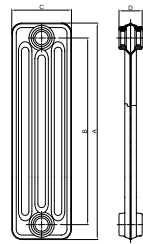
| Single Section |            |     |     |    |                      |                 |              |        | Thermal Efficiencies |        |         |        |                                |        |  |
|----------------|------------|-----|-----|----|----------------------|-----------------|--------------|--------|----------------------|--------|---------|--------|--------------------------------|--------|--|
| Types          | Dimensions |     |     |    | Connection Dimension | Heating Surface | Water Volume | Weight | ΔT=50°C              |        | ΔT=30°C |        | Average Water Temperature (°C) |        |  |
|                | A          | B   | C   | D  |                      |                 |              |        |                      |        |         |        | 70°C                           | 80°C   |  |
|                | mm         | mm  | mm  | mm | Inch                 | m²              | liter        | kg     | watt                 | kcal/h | watt    | kcal/h | watt                           | watt   |  |
| 144/200        | 300        | 200 | 144 | 60 | 1 1/4"               | 0,101           | 0,52         | 3,43   | 47,3                 | 40,7   | 26,1    | 22,4   | 46,42                          | 57,56  |  |
| 144/350        | 447        | 350 | 144 | 60 | 1 1/4"               | 0,150           | 0,65         | 4,85   | 67,2                 | 57,8   | 34,9    | 30,0   | 66,50                          | 84,35  |  |
| 144/500        | 598        | 500 | 144 | 60 | 1 1/4"               | 0,210           | 0,95         | 5,64   | 88,3                 | 75,9   | 45,4    | 39,0   | 86,10                          | 109,55 |  |
| 144/600        | 700        | 600 | 144 | 60 | 1 1/4"               | 0,251           | 0,95         | 6,25   | 106,5                | 91,6   | 57,4    | 49,4   | 104,47                         | 130,69 |  |
| 144/650        | 748        | 650 | 144 | 60 | 1 1/4"               | 0,260           | 1,10         | 7,10   | 104,9                | 90,2   | 52,2    | 44,9   | 104,90                         | 134,86 |  |
| 144/800        | 898        | 800 | 144 | 60 | 1 1/4"               | 0,320           | 1,20         | 8,60   | 127,4                | 109,5  | 64,0    | 55,0   | 121,00                         | 155,25 |  |
| 221/350        | 420        | 350 | 221 | 60 | 1 1/4"               | 0,230           | 1,00         | 7,11   | 96,5                 | 83,0   | 49,4    | 42,5   | 94,20                          | 119,49 |  |
| 221/500        | 598        | 500 | 221 | 60 | 1 1/4"               | 0,320           | 1,30         | 8,58   | 126,5                | 108,8  | 64,2    | 55,2   | 123,80                         | 157,50 |  |
| 221/600        | 700        | 600 | 221 | 60 | 1 1/4"               | 0,374           | 1,27         | 9,10   | 156,9                | 134,9  | 83,1    | 71,5   | 153,78                         | 193,60 |  |
| 221/800        | 898        | 800 | 221 | 60 | 1 1/4"               | 0,480           | 1,80         | 12,69  | 182,4                | 156,8  | 91,8    | 78,9   | 179,70                         | 230,26 |  |



144-500

CURTAIN CAST IRON RADIATORS

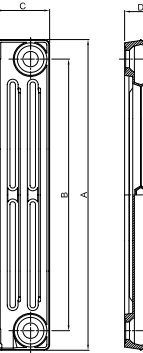
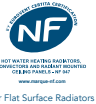
| Single Section |            |     |     |    |                      |                 |              |        | Thermal Efficiencies |        |         |        |                                |        |  |
|----------------|------------|-----|-----|----|----------------------|-----------------|--------------|--------|----------------------|--------|---------|--------|--------------------------------|--------|--|
| Types          | Dimensions |     |     |    | Connection Dimension | Heating Surface | Water Volume | Weight | ΔT=50°C              |        | ΔT=30°C |        | Average Water Temperature (°C) |        |  |
|                | A          | B   | C   | D  |                      |                 |              |        |                      |        |         |        | 70°C                           | 80°C   |  |
|                | mm         | mm  | mm  | mm | Inch                 | m²              | liter        | kg     | watt                 | kcal/h | watt    | kcal/h | watt                           | watt   |  |
| 70/500         | 580        | 500 | 70  | 60 | 1 1/4"               | 0,120           | 0,48         | 3,43   | 52,5                 | 45,1   | 26,9    | 23,1   | 52,50                          | 66,44  |  |
| 160/350        | 430        | 350 | 160 | 60 | 1 1/4"               | 0,185           | 0,80         | 4,81   | 73,3                 | 63,0   | 37,7    | 32,4   | 72,30                          | 92,23  |  |
| 160/500        | 580        | 500 | 160 | 60 | 1 1/4"               | 0,255           | 1,10         | 5,98   | 94,4                 | 81,2   | 48,3    | 41,5   | 95,40                          | 121,71 |  |
| 160/900        | 980        | 900 | 160 | 60 | 1 1/4"               | 0,440           | 1,50         | 9,86   | 146,9                | 126,3  | 73,5    | 63,2   | 142,60                         | 182,46 |  |



160-500

FLAT SURFACE CAST IRON RADIATORS

| Single Section |            |     |     |    |                      |                 |              |        | Thermal Efficiencies |        |         |        |                                |        |  |
|----------------|------------|-----|-----|----|----------------------|-----------------|--------------|--------|----------------------|--------|---------|--------|--------------------------------|--------|--|
| Types          | Dimensions |     |     |    | Connection Dimension | Heating Surface | Water Volume | Weight | ΔT=50°C              |        | ΔT=30°C |        | Average Water Temperature (°C) |        |  |
|                | A          | B   | C   | D  |                      |                 |              |        |                      |        |         |        | 70°C                           | 80°C   |  |
|                | mm         | mm  | mm  | mm | Inch                 | m²              | liter        | kg     | watt                 | kcal/h | watt    | kcal/h | watt                           | watt   |  |
| 99/350         | 420        | 350 | 99  | 60 | 1"                   | 0,145           | 0,61         | 3,65   | 61,1                 | 52,5   | 31,4    | 27,0   | 58,50                          | 74,21  |  |
| 99/500 S       | 570        | 500 | 99  | 60 | 1"                   | 0,200           | 0,75         | 4,84   | 79,1                 | 68,0   | 40,7    | 35,0   | 78,20                          | 99,25  |  |
| 99/623         | 693        | 623 | 99  | 60 | 1"                   | 0,240           | 0,80         | 5,90   | 93,2                 | 80,1   | 47,9    | 41,2   | 91,20                          | 115,75 |  |
| 99/623 S       | 686        | 623 | 92  | 60 | 1"                   | 0,238           | 0,82         | 4,97   | 88,3                 | 75,9   | 45,69   | 39,3   | 86,56                          | 109,86 |  |
| 99/623NEW      | 694        | 623 | 92  | 60 | 1"                   | 0,240           | 0,82         | 5,50   | 88,7                 | 76,3   | 45,7    | 39,4   | 86,60                          | 109,90 |  |
| 99/813         | 883        | 813 | 99  | 60 | 1"                   | 0,310           | 1,00         | 8,00   | 114,0                | 98,0   | 58,7    | 50,5   | 111,50                         | 142,13 |  |
| 134/350        | 420        | 350 | 134 | 60 | 1"                   | 0,185           | 0,78         | 4,60   | 76,5                 | 65,8   | 38,8    | 33,4   | 73,20                          | 92,95  |  |
| 134/500        | 570        | 500 | 134 | 60 | 1"                   | 0,240           | 0,88         | 6,21   | 99,3                 | 85,4   | 50,3    | 43,3   | 97,30                          | 123,72 |  |
| 134/623        | 693        | 623 | 134 | 60 | 1"                   | 0,310           | 1,09         | 6,81   | 118,0                | 101,5  | 59,7    | 51,3   | 115,50                         | 147,32 |  |
| 134/813        | 883        | 813 | 134 | 60 | 1"                   | 0,400           | 1,32         | 10,66  | 146,0                | 123,7  | 73,7    | 63,4   | 143,90                         | 184,85 |  |



99/500

OPERATING AND TEST CONDITIONS FOR CAST IRON RADIATORS

| Heater Installation Type | Max. Operating Pressure* |     | Max. Operating Temperatures | Test Pressures (Cold Water) bar |
|--------------------------|--------------------------|-----|-----------------------------|---------------------------------|
|                          | Bar                      | mSS |                             |                                 |
| Hot Water or Steam       | 9                        | 92  | 120                         | 12-14                           |

\*Each section is tested as single and assembled under a pressure of 12-14 bars twice

Notes:



Notes:



**HEAD OFFICE**

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