Elginkan

Warm As Love

Contents

About Us

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 18 companies in the heating and building industries, employees approximately 3000 people. 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 for 60 years, 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

Combi Boilers

What is Premix Technology?

The technology which enables high efficient burning by mixing the fuel gas and fresh air before arriving the burner (at the air/gas mixer) with frequency controlled fan support, is called the Premix Technology.

High Efficiency

What is Condensing Technology?

Water vapor in the flue gas, produced as a result of burning contains heat energy (latent heat). The central heating return water, meets with the flue gas inside the heat exchanger and the heat energy within the water vapor, is transferred to the return water. With condensing boiler technology, maximum use of the fuel energy and high efficiency is achieved and the NOx and CO emissions are decreased.

Environment-Friendly System with

Low Emission Values

17 Superior Safety Systems

1. **Pressure Relief Valve (3 Bar)** that protects the central heating circuit and the appliance (device) against possible pressure increases
2. **Water Pressure Sensor** that prevents the appliance (device) to operate in low water pressure **(0.4 Bar)**
3. **Safety System Preventing the Thermal Accumulations** in the installation with its by-pass circuit and “pump over-run” feature
4. **Expansion Tank (10 l)** that compensates for the expansion of the hot water circulating in the central heating circuit
5. **EMC Filter** that eliminates the electromagnetic incompatibilities and provides the ignition safety
6. **Ionization Electrode** that checks (inspects) whether there is flame in the burner or not
7. **Pump Blockage Function** that protects the pump against possible blockage in case that the pump does not work for a long period
8. **3-Way Valve Blockage Function**
9. **Frost Protection System** automatically activated according to the temperature values detected from the central heating temperature sensor
10. **Automatic Air Vent** located on the pump
11. **Flue Gas NTC Sensor** for the safety of flue gas discharge (105°C)
12. **Domestic Hot Water Over-Heat Safety System**
13. **Pump Dry Run Protection System (0.3 Bar)**
14. **High Voltage Protection System (260 VAC)**
15. **Low Voltage Protection System (160 VAC)**
16. **Boiler Over-Heat Safety System** that limits the water temperature coming out of the heat exchanger in two levels (95 and 105°C) and stopping the system
17. **Water Flow Supervision** that checks (inspects) whether there is water flow in the central heating circuit or not

Technology Combining

Many Features

NEW MODEL! EVEN MORE POWERFUL WITH 35 kW

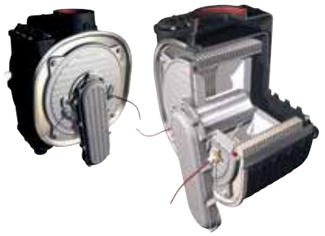
Technical & Design
Properties

- 3 different capacities of 24, 30 and 35 kW
- Suitable for room ventilated and room sealed operation
- Usage possibilities with natural gas, LPG and Propane (in the case that usage with propane is required, the necessary adjustments are carried out by the service).
- Ignition system with double electrodes
- Power modulation between 30-100%
- Less power consumption due to its 3-speed stage pump with automatic air vent
- Possibility of cancelling the priority for domestic hot water (DHW)
- Easy on-plaster mounting possibility with the installation mounting kit provided as a standard accessory
- Models with only heating, plate heat exchanger, and external boiler connection modules for all capacities (24 kW - 30 kW - 35 kW (only suitable with plate heat exchanger models))
- Increased domestic hot water capacity with the BOOST FUNCTION feature (24 kW - 30 kW - 35 kW Central heating heat output, 26 kW - 31 kW - 36 kW DHW heat output)
- The comfort feature that learns the consumer domestic hot water habits (only available in combi versions)
- Usage possibility with concentric ducts at the horizontal and vertical applications.
- CE approved & SEDBUK A Efficiency Band
- Expansion tank (10 l)
- Elegant appearance with round lined design
- Ergonomic control panel design
- Transparent control panel cover
- Economy in usage area with the dimensions of 750X454X365 mm (different at 35 kW, 400 mm) (HxWxD)
- Design providing service and maintenance easiness

Perfection is
Hidden in Details

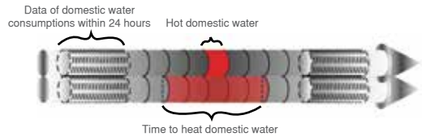
Heat Exchanger

The exterior of the stainless steel heat exchanger, which has a compact design and has been developed for the end user, is covered with composite material that decreases heat losses and operating noise level. It has a high efficiency up to 107.5% and is environment and nature friendly.



Operating Principle

It monitors and records your domestic hot water demands with in the last 24 hours. According the data it records, it estimates the hot water demands that may arise in the next 24 hours and keeps your hot water in the plate heat exchanger ready. (This feature can be cancelled by the user if required.)



Pre-mix Burner

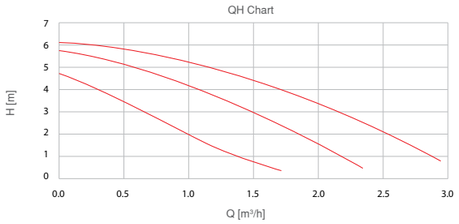
The pre-mix burner is a refractory steel cylindrical burner specially designed for use in high efficiency condensing applications. This burner ensures extreme low emission levels and a very high modulation level.

Comfort Mode

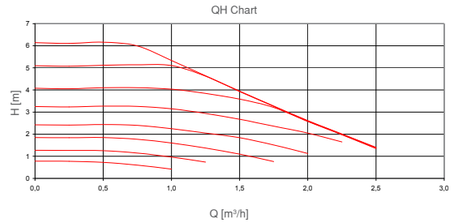
The stainless steel DHW plate heat exchanger is present on the Confeo Premix 35 HM, Confeo Premix 30 HM and Confeo Premix 24 HM models of E.C.A. Confeo Premix. Due to its BOOST FUNCTION (increased DHW capacity) feature, it has a DHW capacity of 20% more than the standard combi boilers.

Circulation Pump

It can be adjusted to the needs of the installation with its 3 speed levels. Due to its special construction, the losses have been decreased and an energy saving up to 20% compared to standard pumps has been obtained.



Modulated Pump (optional)



Technical Specifications

	Confeo Premix 24 HM-24 HST-24 HCH		Confeo Premix 30 HM-30 HST-30 HCH		Confeo Premix 35 HM-35 HST-35 HCH		Unit
Gas Category	$II_{2H\ 3B/P}$		$II_{2H\ 3B/P}$		$II_{2H\ 3B/P}$		
Boiler Type	B_{23} B_{33} C_{13X} C_{33X} C_{43X} C_{53X} C_{63X} C_{83X}		B_{23} B_{33} C_{13X} C_{33X} C_{43X} C_{53X} C_{63X} C_{83X}		B_{23} B_{33} C_{13X} C_{33X} C_{43X} C_{53X} C_{63X} C_{83X}		
Type of gas	G20	G30/G31	G20	G30/G31	G20	G30/G31	
Performances							
CH Min. Heat Output (80/60 °C)	6,6	7,9	8,1	9,6	9,5	9,5	kW
CH Max. Heat Output (80/60 °C)	22,2	22,2	27,3	27,3	32,3	32,3	kW
CH Min. Heat Output (50/30 °C)	7,3	8,8	9	10,8	10,7	10,7	kW
CH Max. Heat Output (50/30 °C)	24	24	30	30	35	35	kW
CH Min. Heat Input	6,8	8,2	8,4	10	9,9	9,9	kW
CH Max. Heat Input	22,8	22,8	28	28	33,3	33,3	kW
DHW Min. Heat Output ***	6,7	8	8,2	9,7	9,6	9,6	kW
DHW Max. Heat Output ***	26	26	31	31	36	36	kW
DHW Min. Heat Input ***	6,8	8,2	8,4	10	9,9	9,9	kW
DHW Max. Heat Input ***	27	27	32	32	37,4	37,4	kW
Gas Consumption*							
Natural Gas, E (Max. Load)	2,41		2,96		3,47		m^3/h
Natural Gas, E (Min. Load)	0,72		0,89		1,03		m^3/h
Natural Gas, LL (Max. Load)	2,80		3,44		3,98		m^3/h
Natural Gas, LL (Min. Load)	0,84		1,03		1,18		m^3/h
LPG (Max. Load)	1,78		2,19		2,60		kg/h
LPG (Min. Load)	0,64		0,78		0,92		kg/h
Gas Supply Pressure							
Natural Gas	20		20		20		mbar
LPG	37		37		37		mbar
Domestic Hot Water							
Min. Flow Rate For Activating **	3		3		3		l/min.
Max. Flow Rate **	12 (Δt=31 °C)		14 (Δt=32 °C)		15.8 (Δt=33 °C)		l/min.
Flow rate at 35 °C temp. rise **	10,6		12,7		14,7		bar
Min. Operating Pressure **	0,40		0,40		0,40		bar
Max. Operating Pressure **	10		10		10		bar
Set Temperature Range ***	35-60		35-60		35-60		°C
Central Heating							
Min. Operating Pressure	0,8		0,8		0,8		bar
Max. Operating Pressure	3		3		3		bar
Set Temperature Range	30-80		30-80		30-80		°C
General							
Electrical Supply	230V AC-50Hz		230V AC-50Hz		230V AC-50Hz		VAC-Hz
Electrical Power Consumption	115		115		110		watt
Expansion Vessel	10		10		10		l
Dimensions (HxWxD)	750X454X365		750X454X365		750X454X400		mm
Weight (Net)	42,6		43		45		kg

*For gas consumption calculation; Natural Gas, E: Hu=9,45 kWh/m^3

Natural Gas, LL: Hu=8,13 kWh/m^3

LPG: Hu=12,79 kWh/kg

** For only HM Series

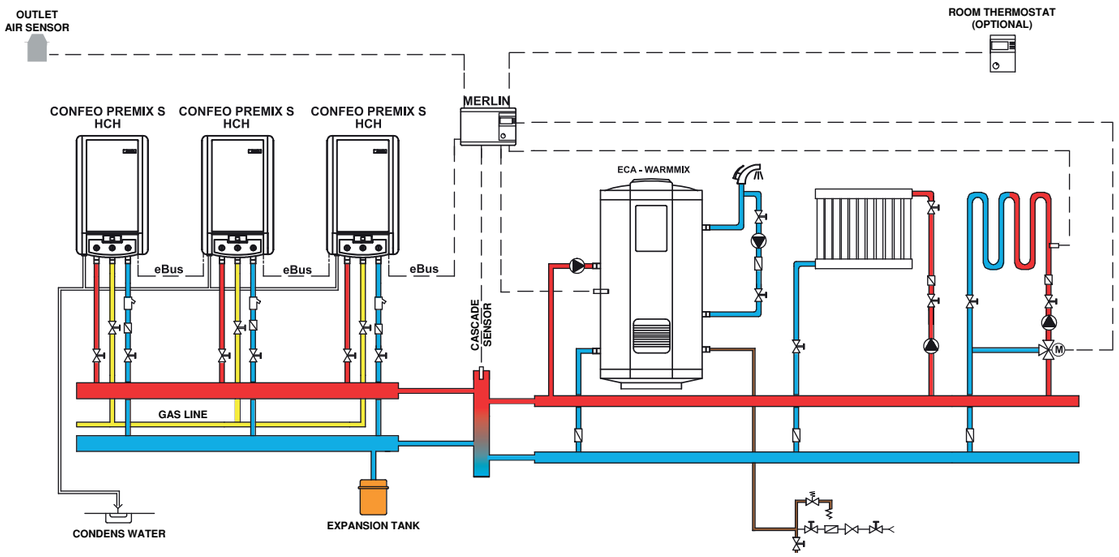
*** For only HM & HST Series

The Most Economical System
for Housing Estates

Cascade System

Confeo Premix condensing boilers can be made cascade system up to 8 quantity boilers by using cascade controller of MERLIN unit. MERLIN unit can control two heating circuit with mixing valve and a domestic hot water heating circuit.

For cascade systems only Confeo Premix HCH type of condensing boilers can be used.



Sample: Cascade System (One direct heating circuit+one heating circuit with mixing valve+domestic hot water circuit)

Cascade Controller Unit
MERLIN & Sensors

MERLIN Group

Outlet air sensor and a cascade sensor is given with MERLIN unit

- Possibility of control cascade system up to 8 boilers.
- Possibility of programming up to 7 days.
- Adjusting parameters for each heating circuit.

Sensor and Communication Accessories

eBus Communication Cable

It's enough to use eBus cable as much as boiler quantities for cascade system.

Cascade and Hot Water Sensor

It's necessary additional even if there is a domestic hot water circuit on the installation. It is included in MERLIN Group for usage of cascade sensor.

Outlet Air Sensor

It is included in Merlin Group.

MERLIN BM

It can be used optional for controlling of each heating circuit. If it is used, heating circuit parameters can be only set up over MERLIN BM.

E.C.A.

Fortius Plus & Confeo Plus

Combi Boilers

What Advantages & Benefits does The Dicom System Provide

- **Much more silent and economical initial combustion** Initial combustion of the burner is realized with a flame shorter than conventional combi boilers, so that it acts in a more silent and economical way.
- **Automatic calibration** This feature ensures the combi burner always to operate on its factory (ideal) settings throughout its service life. The combi burner performs an automatic calibration after every five thermostat operations, so that it preserves its factory settings at all times.
- **No need to adjust the gas valve manually** This feature ensures service and maintenance works to be performed in an easier way and in a shorter time.

What is Dicom?

- Dicom, is an acronym for Digitally Controlled Combustion, a system for digital control of the combustion process of a combi boiler
- Dicom, is a new electronic control system developed for conventional (non-condensing) combi boilers.
- Dicom, ensures the gas valve and burner pressure to be controlled by a printed circuit board

Comfort Ensured by
Trust

17 Superior Safety Systems

1. **High Water Pressure (3 bars)** 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. **Ionization Electrode** checks whether the burner produces flame
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 Pressure Switch** for safe discharge of exhaust gas
12. **Overheating Protection Unit** (75°C) for domestic water.
13. **Safety Unit (0.4 bar)** to prevent the circulation pump from operating when it is dry
14. **High Voltage Safety Unit** (260 VAC)
15. **Low Voltage Safety Unit** (160 VAC)
16. **Overheating Safety Unit** (95°C) for the central heating system water to limit the temperature of the central heating system water outgoing from the exchanger
17. **Limit Thermostat** to limit the temperature of the water outgoing from the exchanger at 105°C and to switch the combi boiler off

Much More Silent,
Much More Practical

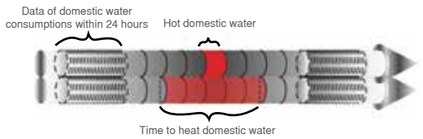
Technical & Design
Properties

- Available in two different capacities: 23.4 kW and 28 kW
- Choice of using hermetic and only natural gas
- Models containing only a heating system, a plate exchanger and a connection module for external boiler, for both capacities (23.4 kW and 28 kW)
- Twin-electrode ignition system
- Power modulation between 35% and 100% (adjustable between a range of 8.3 to 23.4 kW or 9.7 to 28 kW)
- Feed forward and turbine systems ensure domestic water to be supplied at a permanent temperature and flow rate (only for the models containing a plate exchanger)
- Stainless steel burner provides high combustion efficiency and low exhaust gas emission
- 17 different safety systems
- Digital readout (two digits) and 4 LED display make it easy to use the combi boiler
- 3-stage circulation pump reduces energy consumption and is suitable for all kinds of living spaces
- Ability to cancel the priority for hot domestic water
- Ability to use a modulation room thermostat which modulates the combi boiler, in addition to on off room thermostats
- Ability to install an exterior weather temperature sensor
- Installation kit supplied as a standard accessory, easy to install on surfaces
- Elegant appearance thanks to round contours
- Economical use of space thanks to compact dimensions 750X454X340 mm (HxWxD)

Perfection is
Hidden in Details

Operating Principle

This system monitors and records your demands of how water in the last 24 hours. Then it uses the stored data to estimate your demands within the next 24 hours and makes how domestic water available inside the domestic water plate exchanger. Thus hot domestic water is made available in a shorter time (you can turn this function off).

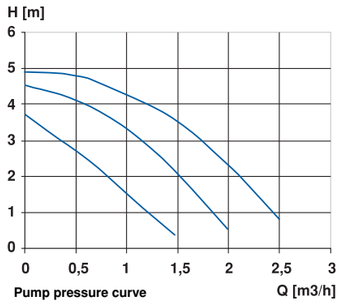


Comfort Mode

The Fortius Plus & Confeo Plus 24 HM and 28 HM models combi boilers contain a hot domestic water exchanger made of stainless steel.

Circulation Pump

It can be adjusted to the needs of the installation with its 3 speed levels. Due to its special construction, the losses have been decreased and an energy saving up to 20% compared to standard pumps has been obtained.



Technical Specifications

	Confeo Plus 24 HM Fortius Plus 24 HM	Confeo Plus 28 HM Fortius Plus 28 HM	Unit
Gas Category*	I_{2H}	I_{2H}	
Boiler Type	C_{12X} C_{32X}	C_{12X} C_{32X}	
Type of gas	G20(NG)	G20(NG)	
Performances			
P_{min} Min. Heat Output	8,3	9,7	kW
P_{max} Max. Heat Output	23,4	28	kW
Q_{min} Min. Thermal Load	9,2	10,7	kW
Q_{max} Max. Thermal Load	25,4	30,6	kW
Gas Consumption **			
Natural Gas (Max. Load)	2,65	3,19	m^3/h
Natural Gas (Min. Load)	0,96	1,12	m^3/h
Gas Supply Pressure			
Natural Gas	20	20	mbar
Domestic Hot Water			
Min. Flow Rate For Activating	3	3	l/min.
Max. Flow Rate	10 (Δt=33,5)	12 (Δt=33,5)	l/min.
Min. Operating Pressure	0,3	0,3	bar
Max. Operating Pressure	10	10	bar
Set Temperature Range	35-60	35-60	^0C
Central Heating			
Min. Operating Pressure	0,8	0,8	bar
Max. Operating Pressure	3	3	bar
Set Temperature Range	40-80	40-80	^0C
General			
Electrical Supply	230V AC-50Hz	230V AC-50Hz	VAC-Hz
Electrical Power Consumption	123	123	watt
Expansion Vessel	8	8	l
Dimensions (HxWxD)	750X454X340	750X454X340	mm
Weight (Net)	40,8	41,3	kg
NOx class	2	2	

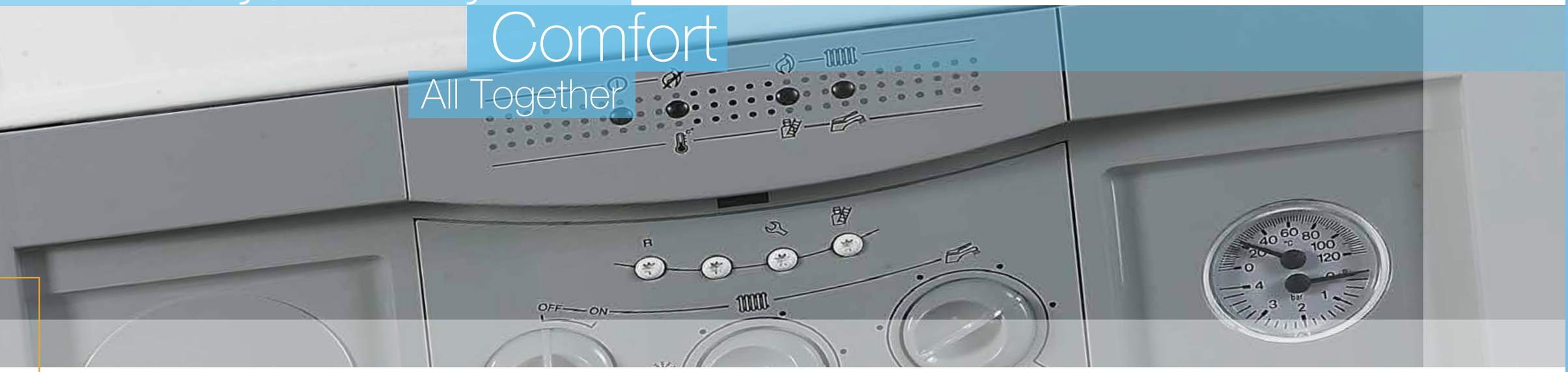
* The following gas category can also be used

	Confeo Plus 24 HM Fortius Plus 24 HM	Confeo Plus 28 HM Fortius Plus 28 HM
Gas Category	I_{2E}	I_{2E}

** For gas consumption calculation; Hu=9,59 kWh/m^3

E.C.A.
Calora
Combi Boilers

Safety, Quality and Comfort All Together



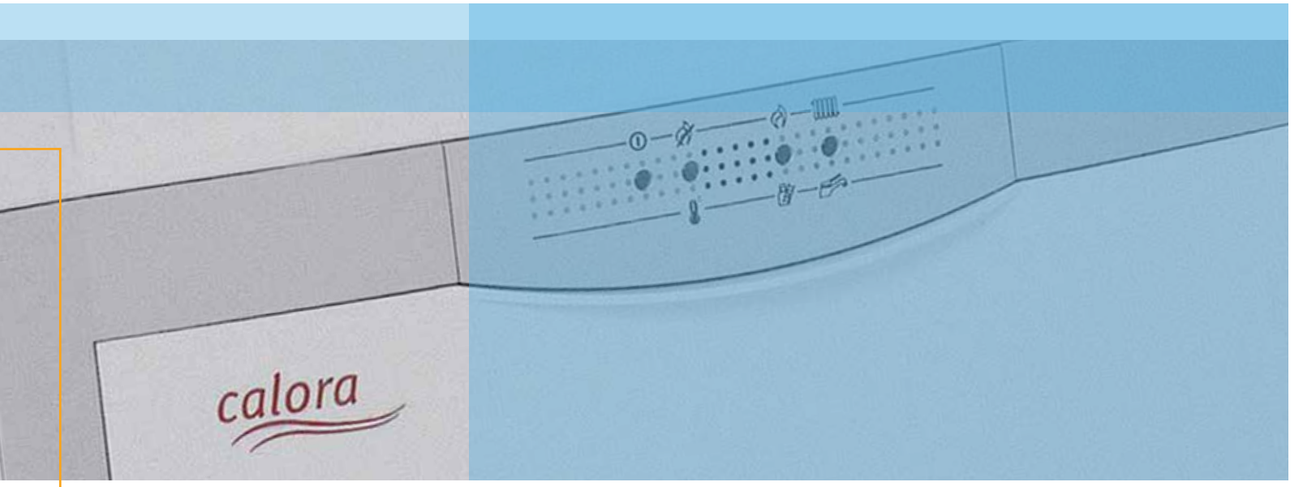
14 Superior Safety Systems

1. **Automatic Air Vent** on the pump
2. **High Water Pressure (3 bars)** safety unit protects both the central heating system and the combi boiler against overpressure
3. **The Discharge Valve** used for discharging the central heating system's water from the combi boiler
4. **The Water Pressure Switch** which turns off the combi boiler when the pressure of water drops
5. **Overheating Safety Unit (95°C)** to limit the water temperature, going to central heating
6. **Domestic Hot Water Over-Heat Safety System** 35°C- 60°C
7. **Limit Thermostat** to limit the temperature of the water outgoing from the exchanger at 105°C and to switch the combi boiler off
8. **Expansion Tank (8 l)** that compensates for the expansion of the hot water circulating in the central heating circuit
9. **Differential Pressure Switch** for safe discharge of exhaust gas
10. **EMC Filter** removes electromagnetic interferences and ensures safety for the ignition process
11. **Ionization Electrode** checks whether the burner produces flame
12. **Pump Blockage Unit** protects the pump against blockage risk after it remains idle for a long time
13. **3-Way Blockage Protection** (for only monothermic type)
14. **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

Technical& Design Properties

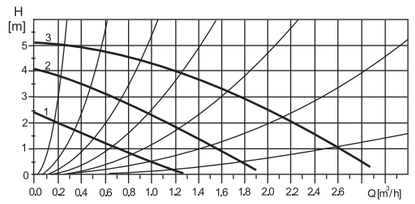
- Ergonomic design (750X454X340) (HxWxD)
- Ergonomic control panel design
- Design providing service and maintenance easiness
- Possibility to see the flame on front panel
- Designed suitable to burner and heat exchanger, provided high efficiency
- Heat exchanger designed less heat loss and suitable for burner for usage in high efficiency ensures extreme low emission levels and a very high modulation level
- 24 and 28 kW Hermetic Monothermic Combi Boiler
- Usage possibilities with Natural Gas and LPG
- Ignition system with double electrodes
- Power modulation between 35% - 100%
- New design heat exchanger for thermal shock absorption
- Stainless steel domestic hot water plate heat exchanger (only for 28 kW)
- Stainless steel burner provides high combustion efficiency and low exhaust gas emission
- Feed forward and turbine systems ensure domestic water to be supplied at a permanent temperature
- Automatic by-pass system
- Less power consumption due to its 3-speed stage pump
- Ability to use a room thermostat and an exterior weather temperature sensor
- Safety system preventing the thermal accumulations in the installation with its "pump over run" feature
- Easy on-plaster mounting possibility with the installation mounting kit provided as an optional accessory

Perfection is
Hidden in Details



Circulation Pump

It can be adjusted to the needs of the installation with its 3 speed levels. Due to its special construction, the losses have been decreased and an energy saving up to 20% compared to standard pumps has been obtained.



Technical Specifications

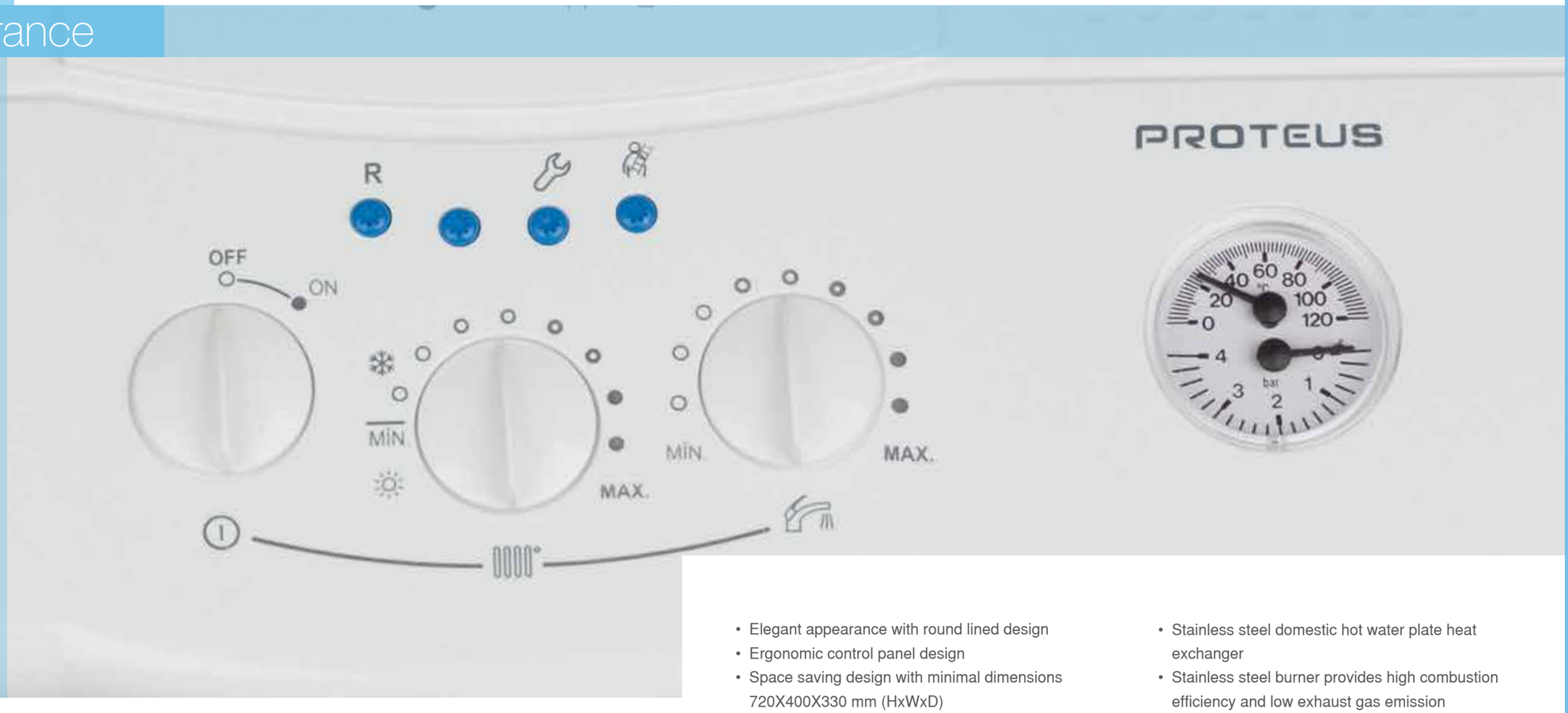
	Calora 24 BB	Calora 24 HB	Calora 24 HM	Calora 28 HM	Unit
Gas Category	$II_{2H\ 3B/P}$	$II_{2H\ 3B/P}$	$II_{2H\ 3B/P}$	$II_{2H\ 3B/P}$	
Boiler Type	$B_{11\ BS}$	$C_{12X}\ C_{32X}$	$C_{12X}\ C_{32X}$	$C_{12X}\ C_{32X}$	
Type of gas	Natural gas	Natural gas	Natural gas	Natural gas	
	Propane	Propane	Propane	Propane	
Performances					
P_{min} Min. Heat Output	8,4	8,4	8,4	9,8	kW
P_{max} Max. Heat Output	24	24	24	28	kW
$P_{80\%}$ Heat Output	19,2	19,2	19,2	22,4	kW
Q_{min} Min. Thermal Load	9,3	9,2	9,2	10,7	kW
Q_{max} Max. Thermal Load	26,6	26,2	26,2	30,6	kW
$P_{80\%}$ Thermal Load	21,3	21	21	24,5	kW
Gas Consumption*					
Natural Gas (Max. Load)	2,77	2,73	2,73	3,19	m^3/h
Natural Gas (Min. Load)	0,97	0,96	0,96	1,12	m^3/h
LPG	2,08	2,08	2,08	2,39	kg/h
Gas Supply Pressure					
Natural Gas	20 / 25	20 / 25	20 / 25	20 / 25	mbar
LPG	28 / 37	28 / 37	28 / 37	28 / 37	mbar
Domestic Hot Water					
Min. Flow Rate For Activating	3	3	3	3	l/min.
Max. Flow Rate	10 (Δt=34)	10 (Δt=34)	10 (Δt=34)	12 (Δt=33)	l/min.
Min. Operating Pressure	0,3	0,3	0,3	0,3	bar
Max. Operating Pressure	10	10	10	10	bar
Set Temperature Range	35-60	35-60	35-60	35-60	°C
Central Heating					
Min. Operating Pressure	0,8	0,8	0,8	0,8	bar
Max. Operating Pressure	3	3	3	3	bar
Set Temperature Range	40-80	40-80	40-80	40-80	°C
General					
Electrical Supply	230V AC-50Hz	230V AC-50Hz	230V AC-50Hz	230V AC-50Hz	V AC-Hz
Electrical Power Consumption	105	150	150	150	watt
Expansion Vessel	8	8	8	8	l
Dimensions (HxWxD)	750X454X340	750X454X340	750X454X340	750X454X340	mm
Weight (Net)	33,7	39,8	40,8	41,3	kg

* For gas consumption calculation; Natural Gas: Hu=9,59 kWh/m^3

LPG: Hu=12,793 kWh/kg

E.C.A.
Proteus
Combi Boilers

Elegant
Appearance



Technical & Design
Properties

- Elegant appearance with round lined design
- Ergonomic control panel design
- Space saving design with minimal dimensions 720X400X330 mm (HxWxD)
- Design providing service and maintenance easiness
- Possibility to see the flame on front panel
- Designed suitable to burner and heat exchanger, provided high efficiency
- The pre-mix burner designed for use in high efficiency ensures extreme low emission levels and a very high modulation level
- 23,3 kW Hermetic Monothermic Combi Boiler
- Usage possibilities with Natural Gas and LPG
- Ignition system with double electrodes
- Power modulation between 35% - 100% adjustable between a range of 8,4 - 23,3 kW
- New design heat exchanger for thermal shock absorption
- Stainless steel domestic hot water plate heat exchanger
- Stainless steel burner provides high combustion efficiency and low exhaust gas emission
- Feed forward and turbine systems ensure domestic water to be supplied at a permanent temperature
- Automatic by-pass system
- Less power consumption due to its 3-speed stage pump
- Ability to use a room thermostat and an exterior weather temperature sensor
- Safety system preventing the thermal accumulations in the installation with its “pump over run” feature
- Easy on-plaster mounting possibility with the installation mounting kit provided as an optional accessory

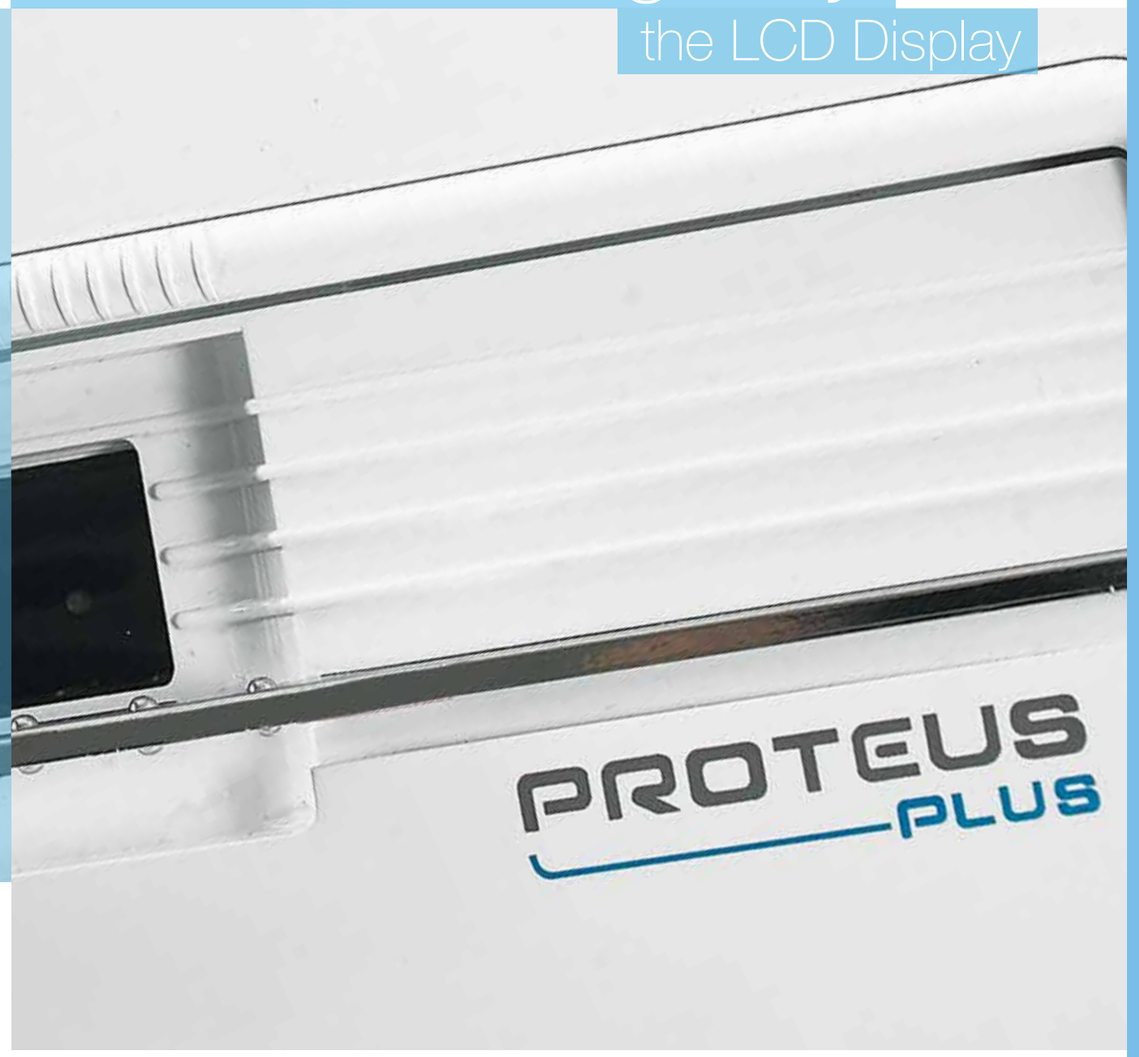
Perfect Safety

Precautions

14 Superior Safety Systems

1. **Automatic Air Vent** on the pump
2. **High Water Pressure (3 bars)** safety unit protects both the central heating system and the combi boiler against overpressure
3. **The Discharge Valve** used for discharging the central heating system's water from the combi boiler
4. **The Water Pressure Switch** which turns off the combi boiler when the pressure of water drops
5. **Overheating Safety Unit (95°C)** to limit the water temperature, going to central heating
6. **Domestic Hot Water Over-Heat Safety System** 35°C- 60°C
7. **Limit Thermostat** to limit the temperature of the water outgoing from the exchanger at 105 ^{0}C and to switch the combi boiler off
8. **Expansion Tank (7 l)** that compensates for the expansion of the hot water circulating in the central heating circuit
9. **Differential Pressure switch** for safe discharge of exhaust gas
10. **EMC Filter** removes electromagnetic Interferences and ensures safety for the ignition process
11. **Ionization Electrode** checks whether the burner produces flame
12. **Pump Blockage Unit** protects the pump against blockage risk after it remains idle for a long time
13. **3-Way Blockage Protection**
14. **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

Comfort Brought by
the LCD Display

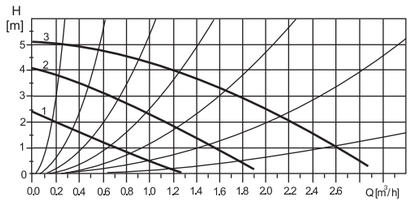


Proteus Plus contains all superior features and technical values of Proteus Combi Boilers. Added to these, Proteus Plus contains an LCD display. The LCD display both increases comfort in use and ensures easy detection in case of a failure.

Perfection is
Hidden in Details

Circulation Pump

It can be adjusted to t he needs of the installation with its 3 speed levels. Due to its special construction, the losses have been decreased and an energy saving up to 20% compared to standard pumps has been obtained.



Technical Specifications

	Proteus 24 HB	Proteus 24 HM	Proteus Plus 24 HM	Unit
Gas Category*	$II_{2H\ 3B/P}$	$II_{2H\ 3B/P}$	$II_{2H\ 3B/P}$	
Boiler Type	$C_{12X}C_{32X}C_{42X}C_{52X}$	$C_{12X}C_{32X}C_{42X}C_{52X}$	$C_{12X}C_{32X}C_{42X}C_{52X}$	
Type of gas	Natural gas	Natural gas	Natural gas	
	LPG	LPG	LPG	
Performances				
P_{min} Min. Heat Output	8,2	8,2	8,2	kW
P_{max} Max. Heat Output	23,3	23,3	23,3	kW
$P_{80\%}$ Heat Output	18,7	18,7	18,7	kW
Q_{min} Min. Thermal Load	9,2	9,2	9,2	kW
Q_{max} Max. Thermal Load	25,6	25,6	25,6	kW
$P_{80\%}$ Thermal Load	20,5	20,5	20,5	kW
Gas Consumption **				
Natural Gas (Max. Load)	2,67	2,67	2,67	m^3/h
Natural Gas (Min. Load)	0,96	0,96	0,96	m^3/h
LPG	2,00	2,00	2,00	kg/h
Gas Supply Pressure				
Natural Gas	20	20	20	mbar
LPG	28 / 37	28 / 37	30 / 37	mbar
Domestic Hot Water				
Min. Flow Rate For Activating	3	3	3	l/min.
Max. Flow Rate	10 (Δt=33,4)	10 (Δt=33,4)	10 (Δt=33,4)	l/min.
Min. Operating Pressure	0,3	0,3	0,3	bar
Max. Operating Pressure	10	10	10	bar
Set Temperature Range	35-60	35-60	35-64	°C
Central Heating				
Min. Operating Pressure	0,8	0,8	0,6	bar
Max. Operating Pressure	3	3	3	bar
Set Temperature Range	35-80	35-80	40-80	°C
General				
Electrical Supply	230V AC-50Hz	230V AC-50Hz	230V AC-50Hz	VAC-Hz
Electrical Power Consumption	140	140	95	watt
Expansion Vessel	7	7	8	l
Dimensions (HxWxD)	720X400X330	720X400X330	720X400X330	mm
Weight (Net)	39,8	39,8	35	kg
NOx	3	3	2	

*The following gas categories can also be used

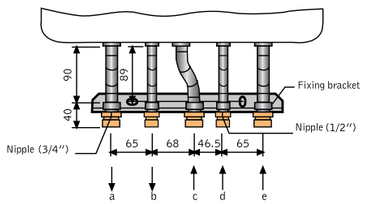
	Proteus 24 HM / Proteus 24 HB Proteus Plus 24 HM
Gas Category	$II_{2H\ 3B/P}$ $II_{2E\ 3B/P}$ $II_{2E+\ 3+}$

** For gas consumption calculation; Natural Gas: Hu=9,59 kWh/m^3

LPG: Hu=12,793 kWh/kg

Accessories

Facilitating Life



Installation Mounting Kit

1- Mounting bracket
2- 3/4" return line (cold) for central heating system pipe
3- 1/2" input line (cold) for domestic water
4- 3/4" gas input pipe line
5- 1/2" output line (hot) for domestic water
6- 3/4" input line (hot) for central heating system pipe

Programmable Digital Room Thermostat

- Possibility of programming up to 7 days
- 6 different levels for each day
- Limitation program period of 10 minutes
- 5°C to 35°C setpoint range with 0.5°C increments
- Visual control of room temperature
- Program frost protection (5°C to 10°C)
- Battery life of 4 years
- Low battery warning
- Manuel control mode for only use thermostat
- Explanations of faul/error with built-in default program

Programmable Modulated Room Thermostat

- Digital LCD display
- Setting 3 different time period at one temperature point at weekly and weekend
- 5°C to 40°C setpoint range with 0.5°C increments

Wireless Programmable Room Thermostat

- Wireless connection
- Possibility of programming up to 7 days
- Backlight LCD display
- 5°C to 35°C setpoint range with 0.5°C increments for 6 different levels
- Usage with holiday mode

On / Off Room Thermostat

- Dual diagram sensing element ensures close temperature control for all loads and applications
- Decorative appearance
- Easy wall mounting
- Voltages supply : 230V, 50-60 Hz.
- Control range :10°C - 30°C

All accessories are optional

Accessories

Facilitating Life

On / Off Digital Room Thermostat

- Digital display
- Decorative appearance
- Easy mounting
- Control range: 5-35°C

Outlet Air Sensor

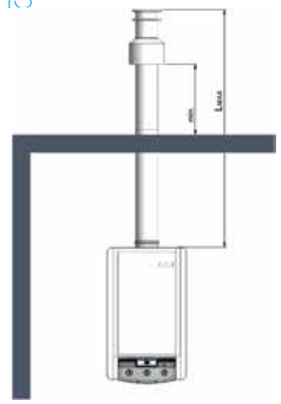
Product Type	Proteus Plus	Proteus	Confeo Plus	Fortius Plus	Calora	Confeo Premix
On/Off Room Thermostat	✓	✓	✓	✓	✓	✓
On/Off Digital Room Thermostat	✓	✓	✓	✓	✓	✓
Programmable Digital Room Thermostat	✓	✓	✓	✓	✓	✓
Modulated Room Thermostat			✓	✓		✓
Wireless Programmable Room Thermostat	✓	✓	✓	✓	✓	✓
Outlet Air Sensor	✓	✓	✓	✓	✓	✓

All accessories are optional

Chimney

Applications

Horizontal & Vertical Applications



	Horizontal		Vertical		Loses	
Product Type	⌀ 60/100 mm	⌀ 80/125 mm	⌀ 80/125 mm	⌀ 60/100 mm	90° elbow	45° elbow
Proteus Hermetic Combi Boiler	Lmax ≤ 3 meter	Lmax ≤ 6 meter	Lmax ≤ 8 meter	-	1 meter	0,5 meter
Proteus Plus 24 Hermetic Combi Boiler	Lmax ≤ 3 meter	Lmax ≤ 6 meter	Lmax ≤ 8 meter	-	1 meter	0,5 meter
Calora 24 Hermetic Combi Boiler	Lmax ≤ 3 meter	-	Lmax ≤ 8 meter	-	1 meter	0,5 meter
Calora 28 Hermetic Combi Boiler	Lmax ≤ 3 meter	-	Lmax ≤ 8 meter	-	1 meter	0,5 meter
Confeo Plus 24 Hermetic Combi Boiler	Lmax ≤ 3 meter	-	Lmax ≤ 8 meter	-	1 meter	0,5 meter
Confeo Plus 28 Hermetic Combi Boiler	Lmax ≤ 3 meter	-	Lmax ≤ 8 meter	-	1 meter	0,5 meter
Fortius Plus 24 Hermetic Combi Boiler	Lmax ≤ 3 meter	-	Lmax ≤ 8 meter	-	1 meter	0,5 meter
Fortius Plus 28 Hermetic Combi Boiler	Lmax ≤ 3 meter	-	Lmax ≤ 8 meter	-	1 meter	0,5 meter
Confeo Premix 24 Hermetic Combi Boiler	Lmax ≤ 7 meter	-	-	Lmax ≤ 8 meter	1 meter	0,5 meter
Confeo Premix 30 Hermetic Combi Boiler	Lmax ≤ 4 meter	-	-	Lmax ≤ 5 meter	1 meter	0,5 meter
Confeo Premix 35 Hermetic Combi Boiler	Lmax ≤ 5 meter	-	-	Lmax ≤ 6 meter	1 meter	0,5 meter

Warm As
You Wish...

- 11 l / min utility water capacity
- Capability of being used with or converted to natural gas or LPG
- 5 different superior safety systems
- 640X360X240 mm (HxWxD) compact size

Technical & Design
Properties

- 22 HS-11 model is hermetic gas water heater with fan. Through the special hermetic flue set that is used, the burning air is obtained from the exterior while the waste flue gas resulting from the burning is discharged to the exterior through the same hermetic flue set
- Heating power of 19,7 kW, which equals a hot water capacity of 11 l/min
- Natural Gas and LPG product options are available; product must be ordered according to the fuel to be used
- Fuel conversion can be carried out by authorised service centres for a fee
- Thanks to the electronic ignition system, ignition occurs electronically when the tap is turned on and hot water is obtained at the temperature you set
- Saves usage and assembly space due to its compact size

Excellence
In Safety

5
Superior
Safety Systems

1. **Excessive Heating Safety** An excessive heat lock steps into action when the temperature of the utility water exceeds 85°C. It stops ignition and prevents the intake of gas
2. **Ionization Electrode** It checks whether or not there is flame in the burner. It interrupts ignition and prevents the intake of gas if the burner flame goes out for whatever reason
3. **Flue Gas Pressurestat** The burner shuts down if any problem occurs in the flue draught in the waste gas discharge system
4. **Low Voltage Protection**
5. **Gas Cut-off Safety System** The device shuts down automatically if there is a cut-off in the gas supply for whatever reason

Chimney Applications

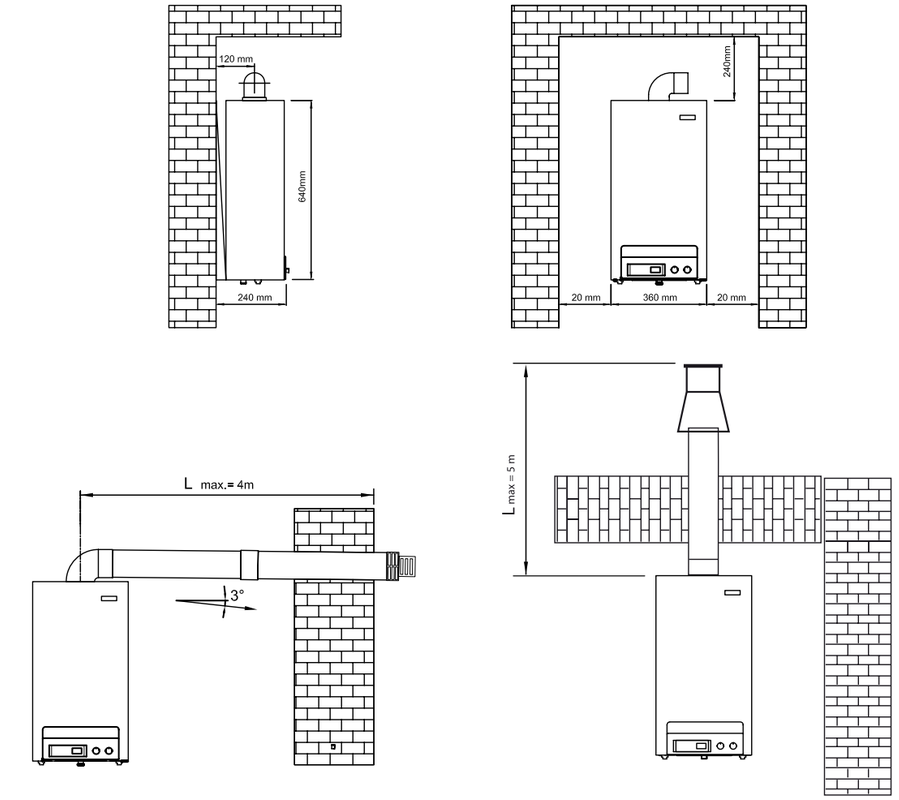
Technical Specifications

	22HS-11	Unit
Gas Category*	$II_{2H\,3B/P}$	
Type of gas	Natural gas - LPG	
Performances		
P_{min} Min. Heat Output	8	kW
P_{max} Max. Heat Output	19,7	kW
Q_{min} Min. Thermal Load	9,2	kW
Q_{max} Max. Thermal Load	22	kW
Gas Consumption		
Natural Gas (Max. Load)	2,29	m^3/h
Natural Gas (Min. Load)	0,96	m^3/h
LPG (Max.)	1,72	kg/h
LPG (Min.)	0,72	kg/h
Gas Supply Pressure		
Natural Gas	20	mbar
LPG	30	mbar
Domestic Hot Water		
Min. Flow Rate For Activating	2,5	l/min.
Max. Flow Rate	10 (Δt=25)	l/min.
Min. Operating Pressure	0,2	bar
Max. Operating Pressure	10	bar
Set Temperature Range	35-60	^0C
General		
Electrical Supply	230V AC-50Hz	V AC-Hz
Electrical Power Consumption	65	watt
Dimensions (HxWxD)	640X360X240	mm
Weight (Net)	18	kg

*For gas consumption calculation; Natural Gas: Hu=9,59 kWh/m^3
LPG: Hu=12,793 kWh/kg
Propane: Hu=12,91 kWh/kg

Horizontal & Vertical Applications

A maximum horizontal hermetic flue application of 4 m and vertical hermetic flue application of 5 meter can be carried out on the device using the Ø60/100 mm hermetic flue set.



	Horizontal	Vertical	Loses
Product Type	Ø60/100 mm		90^0 elbow
GAS WATER HEATER	Lmax ≤ 4 meter	Lmax ≤ 5 meter	1 meter

Radiators

High Heat Output

Maximum Efficiency

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

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.

High Quality

Paint Finish

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

Radiators

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 9001:2000 quality system, ISO 14001 Environmental Management System and OHSAS 18001 Health and Safety Management System. Each durable radiator is fully guaranteed against all defects caused by faulty materials or manufacture.

Packaging & Easy Installation

Al l 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.

Radiators

E.C.A. Lux

Panel Radiators

Integrity & Liberty

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

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

E.C.A. Lux 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.

Liberty

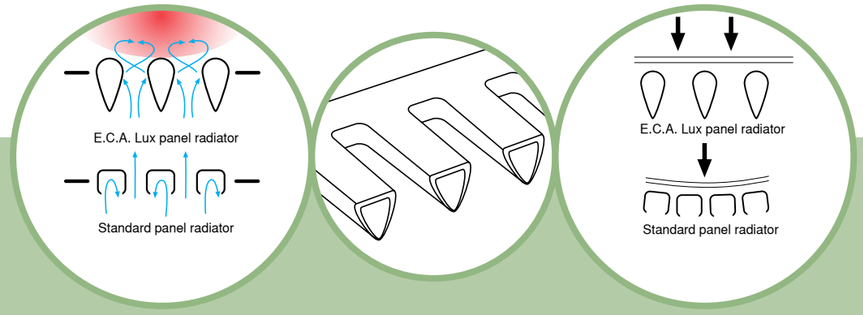
Easy to open cover system

Integrity

Aesthetical shape providing integrity

Healthy

Advantage of cleaning thanks to its easy to open covers

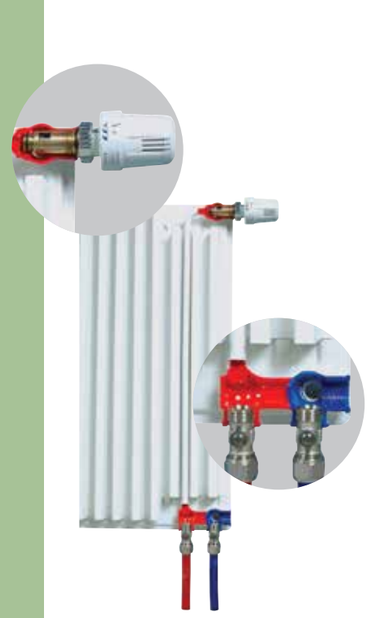


Thriftily

Its drop-shaped grill increases the air circulation and facilitates the heat transfer to save from energy costs.

Solidity

Its drop-shaped grill ensures its body to be more endurable.



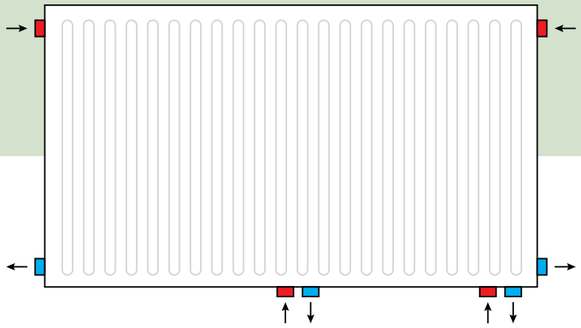
Ventil Compact (6 Hole)

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 ventils to be placed on right or left side of the radiators.

Hygienic 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.



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 fit ting 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.

Free Heat Control

The radiator structure allow to have the option to fix the thermostatic radiator valve on one of the preferable side of the radiator.

Free Size Selection

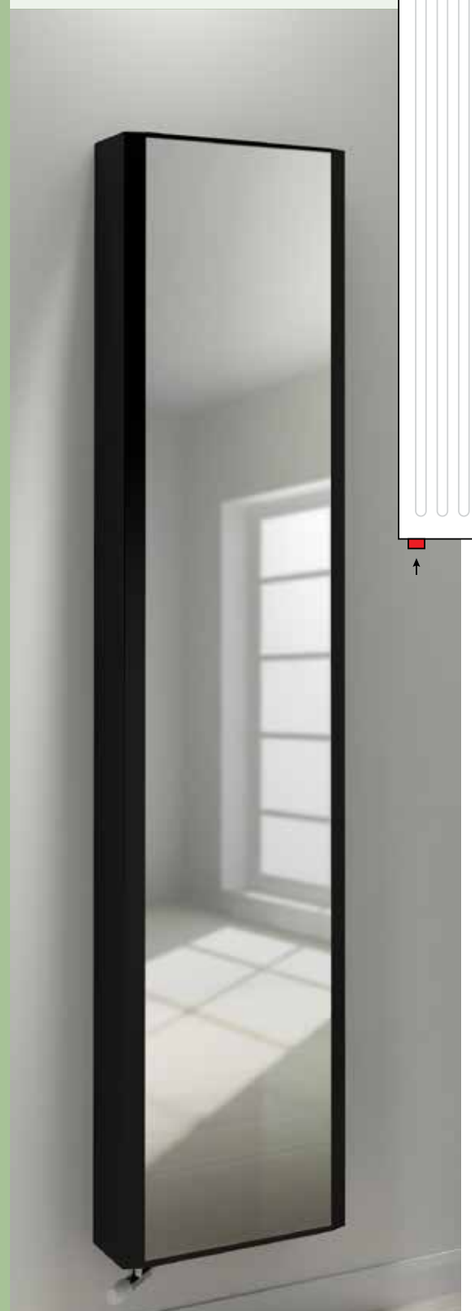
With middle connection, more options to select the available size/type of the required radiator.

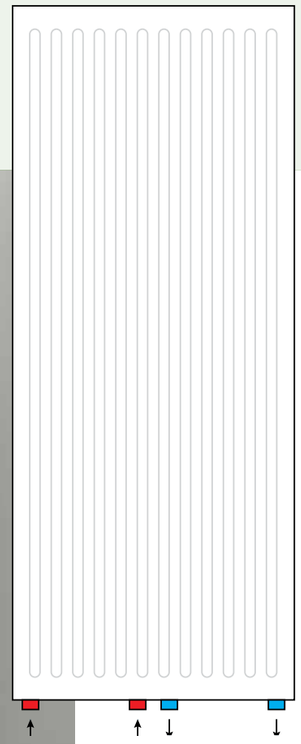
Higher Efficiency & Uniform Heat Distribution & Energy Saver

Water circulation from upper part along the radiator to the lower part heat up the air homogeneously and quickly comparing to classic 4 hole radiators more heat in a uniform way may be obtained in a short time.

Flat Surface Panel Radiators

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





Vertical Flat
Panel Radiators

Vertical flat panel radiators are produced with height 1500-1800 mm and lengths 400-500-600 mm. The flat surface has 3 sides which constitutes an integral form covering the sides of the radiator. This radiator will combine the comfort of warmth with an exceptional view in your place.

Panel radiators unite technology and aesthetics to present mirror vertical radiators. 1500-1800 mm high, 500 mm long and 81 mm wide, this radiator is equipped with a specially designed mirror to meet your heating and mirror needs with a single product. The mirrors are smoke coloured and available on the RAL 9005 (Black) and RAL 9010 (White) coloured surfaces. These mirrors are resistant against cracking and were made with special protection measures to prevent them from being shattered in case of breaking or cracking.

4D Design
Panel Radiators

- Height option 400 - 500 - 600 - 700 mm
- Length option 600 - 800 - 1000 -1200 - 1400 mm
- New elegant design
- Aesthetically pleasing, elegant appearance

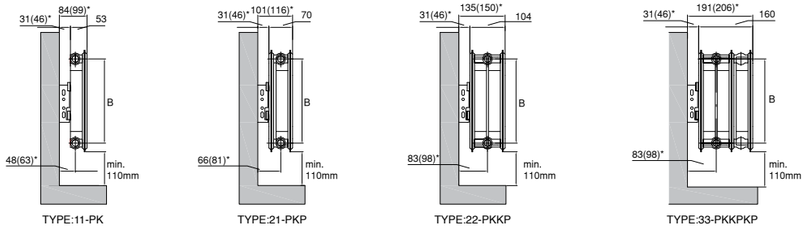
Icon Design
Panel Radiators

- Height 400 mm, length 600 mm
- Easy cleaning
- Chrome towel hanger

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)	8.648	1.73	11.395	2.12	14.144	2.58	15.448	2.79	16.892	3	19.642	3.4	22.391	3.9	25.138	4.3
21(PKP)	14.112	3.39	18.825	4.17	23.385	5.08	25.281	5.5	27.946	5.92	32.506	6.8	37.067	7.72	41.628	8.87
22(PKKP)	16.027	3.42	21.38	4.22	26.721	5.13	28.641	5.55	31.979	5.97	37.235	6.84	42.491	7.77	47.748	8.92
33(PKKPKP)	23.966	5.08	32.059	6.25	39.929	7.61	42.799	8.24	47.798	8.87	55.668	10.24	63.536	11.57	71.406	13.17

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

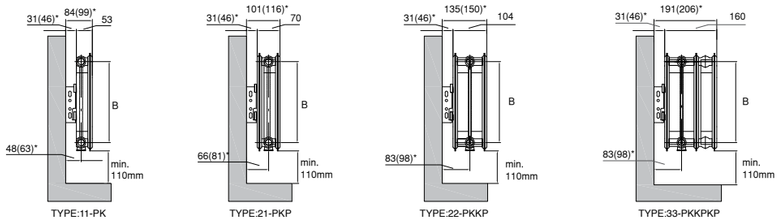


Height mm	300	400	500	550	600	700	800	900
B mm	249	349	449	500	549	649	749	849
L_{11} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{21} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{22} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-2400	400-2000	400-1800
L_{33} 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	1.76	11.66	2.17	14.26	2.65	15.71	2.88	17.16	3.10	19.91	3.47	22.65	4.05	25.40	4.47
21(PKP)	14.37	3.41	19.08	4.22	23.52	5.15	25.54	5.59	28.20	6.02	32.76	6.87	37.32	7.87	41.88	8.87
22(PKKP)	16.28	3.44	21.63	4.27	26.72	5.20	28.89	5.64	32.23	6.07	37.49	6.91	42.74	7.92	48.00	8.92
33(PKKPKP)	24.22	5.10	32.31	6.30	39.94	7.68	43.05	8.33	48.05	8.97	55.92	10.90	63.79	11.72	71.66	13.17

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

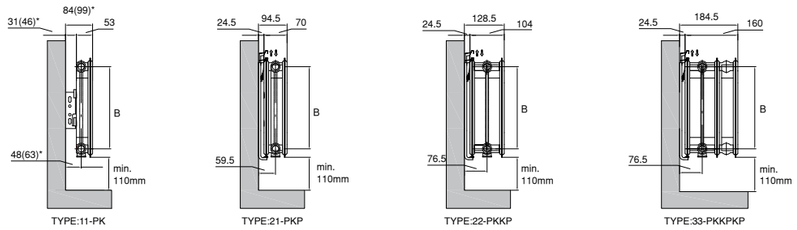


Height mm	300	400	500	550	600	700	800	900
B mm	249	349	449	500	549	649	749	849
L_{11} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{21} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{22} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{33} 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	1.94	12.45	2.35	15.14	2.83	16.64	3.06	18.13	3.28	20.97	3.65	23.81	4.23	26.65	4.65
21(PKP)	15.07	3.59	19.87	4.40	24.40	5.33	26.46	5.77	29.17	6.20	33.82	7.05	38.47	8.05	43.12	9.05
22(PKKP)	16.89	3.62	22.33	4.45	27.51	5.38	29.73	5.82	33.11	6.25	38.46	7.09	43.80	8.10	49.15	9.10
33(PKKPKP)	24.83	5.28	33.01	6.48	40.73	7.86	43.88	8.51	48.93	9.15	56.89	11.08	64.85	11.90	72.81	13.35

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



TYPE11

EN 442

HEIGHT	ΔT 50° C		ΔT 60° C		n	K_M
	Watt/m	Kcal/hm	Watt/m	Kcal/hm		
300	558	480	703	605	1.2631	3.990000
400	722	621	916	788	1.2960	4.542272
500	876	753	1108	953	1.2890	5.656291
550	953	819	1204	1035	1.2846	6.257146
600	1026	882	1296	1115	1.2802	6.858000
700	1151	990	1454	1250	1.2770	7.795927
800	1280	1101	1615	1389	1.2700	8.909580
900	1401	1205	1777	1529	1.3047	8.507900

TYPE21

EN 442

HEIGHT	ΔT 50° C		ΔT 60° C		n	K_M
	Watt/m	Kcal/hm	Watt/m	Kcal/hm		
300	778	669	983	846	1.2833	5.138600
400	998	858	1267	1090	1.3210	5.674400
500	1193	1026	1517	1305	1.3130	7.018701
550	1294	1113	1642	1412	1.3072	7.783251
600	1389	1195	1761	1514	1.3013	8.547800
700	1542	1326	1953	1679	1.2950	9.725641
800	1699	1461	2147	1846	1.2860	11.093338
900	1837	1580	2339	2012	1.3267	10.233300

TYPE22

EN 442

HEIGHT	ΔT 50° C		ΔT 60° C		n	K_M
	Watt/m	Kcal/hm	Watt/m	Kcal/hm		
300	1001	861	1266	1089	1.2865	6.527400
400	1273	1095	1618	1391	1.3190	7.303746
500	1528	1314	1941	1670	1.3170	8.836810
550	1656	1424	2106	1812	1.3204	9.457505
600	1788	1538	2276	1957	1.3237	10.078200
700	2006	1725	2550	2193	1.3130	11.797765
800	2233	1920	2835	2438	1.3120	13.171813
900	2451	2108	3127	2689	1.3363	13.152400

TYPE33

EN 442

HEIGHT	ΔT 50° C		ΔT 60° C		n	K_M
	Watt/m	Kcal/hm	Watt/m	Kcal/hm		
300	1446	1244	1835	1578	1.3069	8.707000
400	1810	1557	2305	1982	1.3290	9.988665
500	2149	1848	2737	2354	1.3300	11.814196
550	2315	1991	2952	2539	1.3325	12.610748
600	2486	2138	3171	2727	1.3350	13.407300
700	2791	2400	3556	3058	1.3310	15.285341
800	3091	2658	3939	3387	1.3310	16.928926
900	3395	2920	4340	3732	1.3483	17.377100

* 550 mm height obtained through calculation.

HEIGHT	Type 11				Type 21				Type 22				Type 33			
mm	Km	n	ϕ	W/m	Km	n	ϕ	W/m	Km	n	ϕ	W/m	Km	n	ϕ	W/m
300	3.9900	1.2631	558		5.1386	1.2833	778		6.5274	1.2865	1001		8.7070	1.3069	1446	
400	4.5423	1.2960	722		5.6744	1.3210	996		7.3037	1.3190	1273		9.9887	1.3290	1810	
500	5.6563	1.2890	876		7.0187	1.3130	1193		8.8368	1.3170	1528		11.8142	1.3300	2149	
550	6.2571	1.2846	951		7.7833	1.3072	1291		9.4575	1.3204	1658		12.6107	1.3325	2317	
600	6.8580	1.2802	1026		8.5478	1.3013	1389		10.0782	1.3237	1788		13.4073	1.3350	2486	
700	7.7959	1.2770	1151		9.7256	1.2950	1542		11.7978	1.3130	2006		15.2853	1.3310	2791	
800	8.9096	1.2700	1280		11.0933	1.2860	1699		13.1718	1.3120	2233		16.9289	1.3310	3091	
900	8.5079	1.3047	1401		10.2333	1.3267	1837		13.1524	1.3363	2451		17.3771	1.3483	3395	

The ϕ values given in the table are for ΔT 50 °C and 1000 mm products.

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:

$\phi = K_m . \Delta T^n$

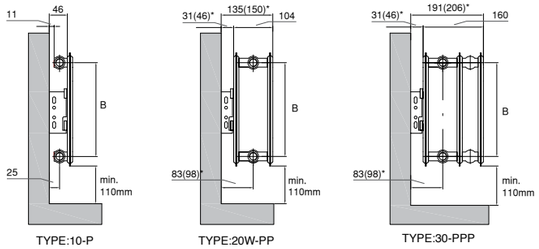
The KM and n values shown in the table are used for calculating the capacity at various input/output water and ambient temperature.

Example:
Calculation of capacity of Type 22 600x1000 product at water temperature 80/50°C and ambient temperature 22ºC:
t_g, Input water temperature = 80 ºC
t_c, Output water temperature = 50 ºC
t_o, Ambient temperature to = 22 ºC
t_m, Average temperature= (t_g+t_c) / 2 = (80 +50) / 2 = 65 ºC
ΔT, Extreme temperature = t_m - t_o = 65-22 = 43 ºC
Using the formula; $\phi = 10,0782.43^{1.3237} = 1464$ W/m

Hygienic 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
10 (P)	6.32	1.73	8.19	2.12	10.06	2.58	10.98	2.79	11.93	3.00	13.80	3.40	15.67	3.90	17.54	4.30
20W(PP)	12.24	3.42	16.07	4.22	19.78	5.13	21.63	5.55	23.49	5.97	27.20	6.84	30.90	7.77	34.61	8.92
30(PPP)	18.26	5.08	23.94	6.25	29.48	7.61	32.26	8.24	35.03	8.87	40.58	10.24	46.13	11.57	51.68	13.17

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

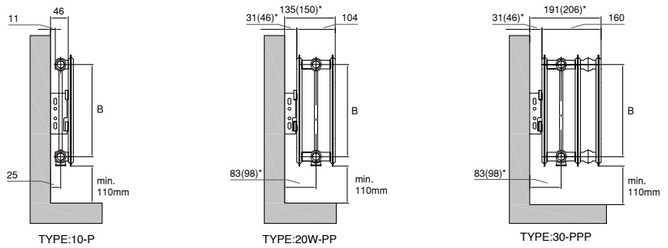


Height mm	300	400	500	550	600	700	800	900
B mm	249	349	449	500	549	649	749	849
L_{10} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{20} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{30} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-2400	400-2000	400-1800

Hygienic Compact Panel Radiator

TYPE	300		400		500		550		600		700		800		900	
	Weight 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
10 (P)	6.58	1.76	8.45	2.17	10.29	2.65	11.24	2.88	12.19	3.10	14.06	3.47	15.93	4.05	17.80	4.47
20W(PP)	12.49	3.44	16.32	4.27	19.99	5.20	21.88	5.64	23.74	6.07	27.45	6.91	31.16	7.92	34.86	8.92
30(PPP)	18.51	5.10	24.19	6.30	29.69	7.68	32.51	8.33	35.28	8.97	40.83	10.90	46.38	11.72	51.93	13.17

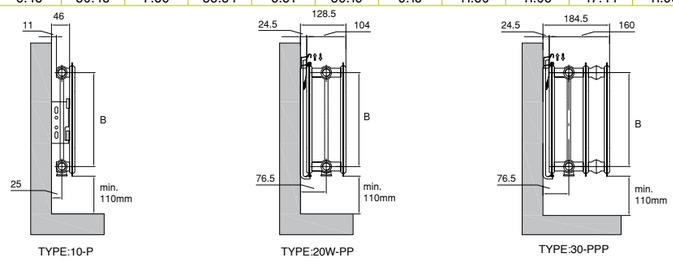
* This is valid for installation on the 45 mm side of the console



Height mm	300	400	500	550	600	700	800	900
B mm	249	349	449	500	549	649	749	849
L_{10} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{20} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{30} 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 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
10 (P)	7.28	1.94	9.25	2.35	11.17	2.83	12.17	3.06	13.17	3.28	15.13	3.65	17.09	4.23	19.05	4.65
20W(PP)	13.10	3.62	17.02	4.45	20.78	5.38	22.72	5.82	24.62	6.25	28.42	7.09	32.22	8.10	36.01	9.10
30(PPP)	19.12	5.28	24.89	6.48	30.48	7.86	33.34	8.51	36.16	9.15	41.80	11.08	47.44	11.90	53.08	13.35



Height mm	300	400	500	550	600	700	800	900
B mm	249	349	449	500	549	649	749	849
L_{10} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{20} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L_{30} mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-2400	400-2000	400-1800

TYPE10

EN 442

HEIGHT	ΔT 50° C		ΔT 60° C		n	K_M
	Watt/m	Kcal/hm	Watt/m	Kcal/hm		
300	332	286	423	364	1.3255	1.858461
400	436	375	554	476	1.3121	2.571982
500	537	462	680	585	1.2987	3.338274
550	586	504	742	638	1.2920	3.742559
600	633	544	800	688	1.2853	4.146843
700	725	624	917	789	1.2907	4.650262
800	813	699	1030	886	1.2961	5.105703
900	896	771	1136	977	1.3015	5.509327

TYPE20W

EN 442

HEIGHT	ΔT 50° C		ΔT 60° C		n	K_M
	Watt/m	Kcal/hm	Watt/m	Kcal/hm		
300	619	532	783	674	1.2913	3.961053
400	780	671	987	849	1.2904	5.008916
500	932	802	1179	1014	1.2895	6.006121
550	1004	863	1270	1092	1.2891	6.479108
600	1075	925	1360	1169	1.2886	6.952095
700	1212	1042	1535	1320	1.2946	7.656249
800	1344	1156	1704	1465	1.3006	8.293138
900	1470	1264	1865	1604	1.3066	8.860192

TYPE30

EN 442

HEIGHT	ΔT 50° C		ΔT 60° C		n	K_M
	Watt/m	Kcal/hm	Watt/m	Kcal/hm		
300	864	743	1097	944	1.3103	5.132788
400	1077	926	1368	1176	1.3118	6.360728
500	1281	1102	1628	1400	1.3133	7.521281
550	1380	1187	1753	1508	1.3141	8.077172
600	1479	1272	1880	1617	1.3148	8.633063
700	1671	1437	2124	1827	1.3162	9.700456
800	1857	1597	2361	2031	1.3177	10.717150
900	2040	1754	2595	2231	1.3192	11.704390

* 550 mm height obtained through calculation.

HEIGHT mm	Type 10			Type 20W			Type 30		
	Km	n	ϕ W/m	Km	n	ϕ W/m	Km	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

The ϕ values given in the table are for ΔT 50 ^{0}C and 1000 mm products.

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:

$\phi = K_m . \Delta T^n$

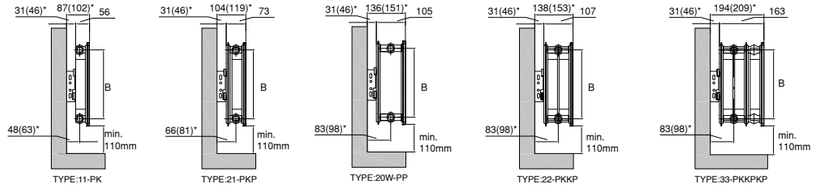
The Km and n values shown in the table are used for calculating the capacity at various input/output water and ambient temperature.

Example:
Calculation of capacity of Type 20W 600x1000 product at water temperature 80/50°C and ambient temperature 22^{0}C:
t_g, Input water temperature = 80 ^{0}C
t_c, Output water temperature = 50 ^{0}C
t_o, Ambient temperature to = 22 ^{0}C
t_m, Average temperature= $(t_g+t_c) / 2 = (80 +50) / 2 = 65$ ^{0}C
ΔT, Extreme temperature = $t_m - t_o = 65-22 = 43$ ^{0}C
Using the formula; $\phi = 6{,}951 . 43^{1.2886} = 885$ W/m

Flat Surface 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)	11.24	1.73	14.82	2.12	18.41	2.58	20.42	2.79	22.00	3.00	25.59	3.40	29.18	3.90	37.77	4.30
21(PKP)	16.70	3.39	22.25	4.17	27.65	5.08	30.26	5.50	33.06	5.92	38.46	6.80	43.86	7.72	49.26	8.87
20W(PP)	14.83	3.42	19.50	4.22	24.05	5.13	26.61	5.55	28.60	5.97	33.15	6.84	37.69	7.77	42.24	8.92
22(PKKP)	18.62	3.42	24.81	4.22	30.99	5.13	33.62	5.55	37.09	5.97	43.18	6.84	49.28	7.77	55.38	8.92
33(PKKPKP)	26.55	5.08	35.49	6.25	44.19	7.61	47.72	8.24	52.91	8.87	61.62	10.24	70.33	11.57	79.04	13.17

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

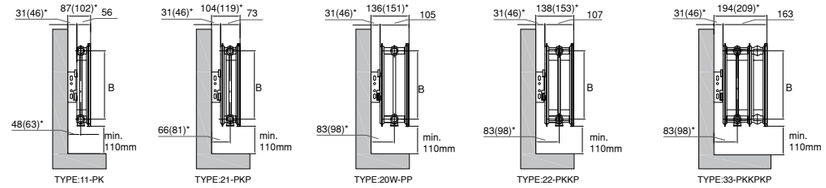


Height mm	300	400	500	550	600	700	800	900
B mm	249	349	449	500	549	649	749	849
L_{11} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{21} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{20} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{22} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{33} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-1800

Flat Surface 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)	11.50	1.76	15.09	2.17	18.53	2.65	20.69	2.88	22.27	3.10	25.85	3.47	29.44	4.05	33.03	4.47
21(PK)	16.96	3.41	22.51	4.22	27.79	5.15	30.51	5.59	33.31	6.02	38.71	6.87	44.11	7.87	49.51	8.87
20W(PP)	15.08	3.44	19.75	4.27	24.26	5.20	26.86	5.64	28.85	6.07	33.40	6.91	37.95	7.92	42.49	8.92
22(PKKP)	18.87	3.44	25.06	4.27	30.99	5.20	33.87	5.64	37.34	6.07	43.43	6.91	49.53	7.92	55.63	8.92
33(PKKPKP)	26.81	5.10	35.74	6.30	44.21	7.68	48.03	8.33	53.16	8.97	61.87	10.90	70.58	11.72	79.29	13.17

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

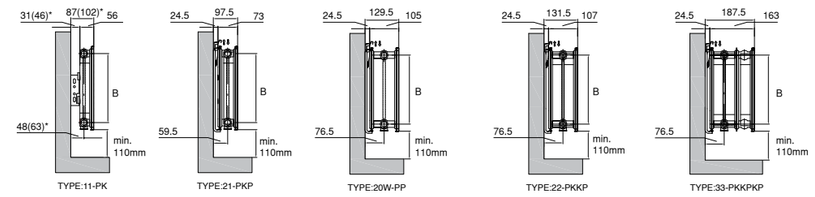


Height mm	300	400	500	550	600	700	800	900
B mm	249	349	449	500	549	649	749	849
L_{11} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{21} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{20} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{22} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{33} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-1800

Flat Surface 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)	12.20	1.94	15.88	2.35	19.41	2.83	21.62	3.06	23.24	3.28	26.92	3.65	30.60	4.23	34.28	4.65
21(PKP)	17.66	3.59	23.30	4.40	28.67	5.33	31.44	5.77	34.28	6.20	39.77	7.05	45.26	8.05	50.75	9.05
20W(PP)	15.69	3.62	20.45	4.45	25.05	5.38	27.70	5.82	29.73	6.25	34.57	7.09	39.01	8.10	43.64	9.10
22(PKKP)	19.48	3.62	25.76	4.45	31.78	5.38	34.70	5.82	38.22	6.25	44.40	7.09	50.59	8.10	56.78	9.10
33(PKKPKP)	27.42	5.28	36.44	6.48	45.00	7.86	48.86	8.51	54.04	9.15	62.84	11.08	71.64	11.90	80.44	13.35

* 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_{11} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{21} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{20} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{22} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000
L_{33} mm	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-2000	400-1800

TYPE11

HEIGHT	ΔT 50° C			ΔT 60° C		
	Watt/m	Kcal/hm	Btu/m	Watt/m	Kcal/hm	Btu/m
300	531	457	1813	664	571	2268
400	682	587	2328	866	744	2955
500	828	712	2827	1047	900	3575
550	895	770	3056	1138	978	3885
600	970	834	3312	1225	1053	4181
700	1088	936	3715	1374	1182	4691
800	1210	1041	4131	1526	1313	5211
900	1324	1139	4520	1679	1444	5733

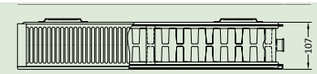
TYPE21

HEIGHT	ΔT 50° C			ΔT 60° C		
	Watt/m	Kcal/hm	Btu/m	Watt/m	Kcal/hm	Btu/m
300	737	634	2516	929	799	3172
400	943	811	3220	1197	1030	4088
500	1127	969	3848	1434	1233	4894
550	1215	1045	4148	1552	1334	5298
600	1313	1129	4483	1664	1431	5682
700	1457	1253	4974	1846	1587	6301
800	1606	1381	5483	2029	1745	6927
900	1736	1493	5927	2210	1901	7547

TYPE20W

HEIGHT	ΔT 50° C			ΔT 60° C		
	Watt/m	Kcal/hm	Btu/m	Watt/m	Kcal/hm	Btu/m
300	585	503	1997	740	636	2526
400	737	634	2517	933	802	3184
500	881	757	3007	1114	958	3804
550	949	816	3239	1200	1032	4098
600	1016	874	3468	1285	1105	4388
700	1145	985	3910	1451	1247	4953
800	1270	1092	4336	1610	1385	5498
900	1389	1195	4743	1762	1516	6017

TYPE22



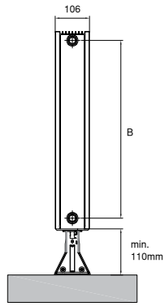
HEIGHT	ΔT 50° C			ΔT 60° C		
	Watt/m	Kcal/hm	Btu/m	Watt/m	Kcal/hm	Btu/m
300	946	814	3230	1196	1029	4085
400	1203	1035	4107	1529	1315	5220
500	1444	1242	4930	1834	1577	6262
550	1559	1341	5323	1990	1712	6795
600	1690	1453	5770	2151	1850	7343
700	1896	1631	6473	2410	2072	8227
800	2110	1815	7204	2679	2304	9147
900	2318	1993	7914	2955	2541	10089

TYPE33

HEIGHT	ΔT 50° C			ΔT 60° C		
	Watt/m	Kcal/hm	Btu/m	Watt/m	Kcal/hm	Btu/m
300	1368	1176	4671	1734	1491	5920
400	1711	1471	5842	2178	1873	7437
500	2031	1747	6934	2586	2224	8831
550	2186	1880	7463	2790	2399	9524
600	2349	2020	8020	2997	2577	10231
700	2637	2268	9003	3360	2890	11473
800	2921	2512	9973	3722	3201	12709
900	3208	2759	10953	4101	3527	14003

* 550 mm height obtained through calculation.
* Thermal capacity data have not been certified.

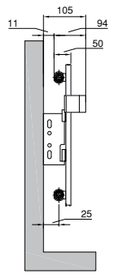
4D Design Panel Radiator



	400		500		600		700	
TYPE	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
22(PKKP)	25.28	4.27	37.72	5.20	45.23	6.07	52.49	6.91

Height mm	400	500	600	700
B mm	349	449	549	649
L_{22} mm	400-2000	400-2000	400-2000	400-2000

Icon Design Panel Radiator

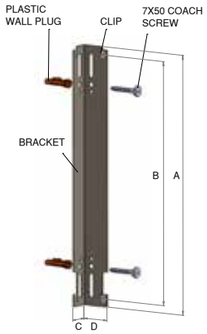


	400	
TYPE	Weight kg/m	Water Volume l/m
10(P)	9.40	2.17

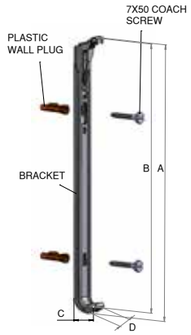
Height mm	400
B mm	349
L_{10} mm	600

Installation Kit

The installation kit and installation booklet comes with every radiator.

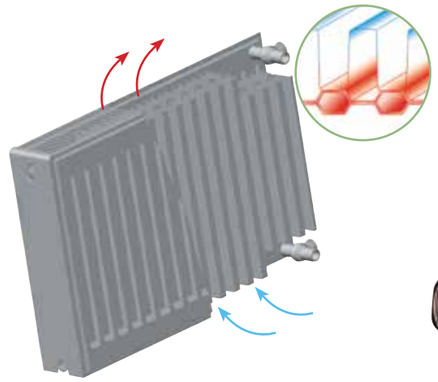


Height	300 mm	400 mm	500 mm	550 mm	600 mm	700 mm	800 mm	900 mm
A mm	110	210	310	360	410	510	610	710
B mm	85	185	285	335	385	485	585	685
C mm	30	30	30	30	30	30	30	30
D mm	45	45	45	45	45	45	45	45



Height	300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm
A mm	309	409	509	609	709	809	909
B mm	298	398	498	598	698	798	898
C mm	31.5	31.5	31.5	31.5	31.5	31.5	31.5
D mm	32	32	32	32	32	32	32

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



Valves

Each Room at a Different Temperature, Economy at Maximum

Thermostatic Radiator Valve (Angle)

PN10/F type
Max. Temperature: 120ºC
Standard: EN 215
Sandblasted, Nickel Plated, Brass (EN 12164/165)

D	L	B	H
G1/2”	53	23	100.2
G3/4”	63	26	100.2

Automatic Air Purger

PN10
Max Temperature: 120ºC
Sandblasted Nickel Plated

D	B	H	A
G1/2”	13	59,5	42
G3/8”	13	61	42

RV2 Radiator Valve (Angle)

PN10
Max. Temperature: 120ºC
Standard: TS 579
Sandblasted Nickel plated, Brass (EN-12164/165)

D	L	B	H
G1/2”	54.4	23	51.5
G3/4”	61.5	26	51.5

Collector (Manifold) Sets

PN10
Max. Temperature: 120ºC
Standard: TS 579
Sandblasted Nickel plated
Ø16 mm x 2 Plastic Pipe & Ø17 mm x 2 Plastic Pipe

Description
Collectors for Underfloor Heating Systems (3 holes up to 9 holes)

Valves Set For Combi Boilers

In Carton Box Sandblasted Nickel Plated

Description
Strainer 3/4”& Strainer 1/2”
Ball Valve 3/4” & Ball Valve 1/2”
Natural Gas Ball Valve 3/4”
Nippel 3/4” X 3/4”& Nippel 1/2” X 1/ 2”
Mini Ball Valve 1/2”
Teflon Tape

Natural Gas Ball Valve Full Bore

PN5 PTFE
Temperature: -40ºC, + 120ºC
Standard: EN 331
Combustible gases, natural gas,
Sandblasted, Nickel Plated, Brass (EN 12164/165)

D	d	L	A	H
G1/2”	14	73	83	38
63/4”	19	78	83	41
G1”	24	88	114	47

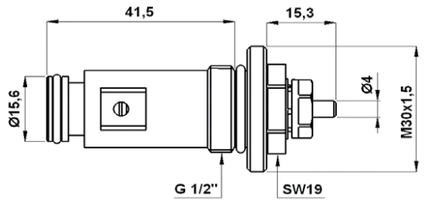
GV2 Check Radiator Valve (Angle)

PN10
Max. Temperature: 120ºC
Standard: TS 579
Sandblasted Nickel plated, Brass (EN-12164/165)

D	L	B	H
G1/2”	47.5	26	58.2
G3/4”	53.7	29	65.1

E.C.A.
Integrated Valve
Compact Ventil

Integrated valve is a kind of sealing group which is directly inserted into the radiator panel for regulating the water flow passing through. The permissible maximum flow rate can be set up by the user with an interior adjustment device. The numbers seen on the product represent the pre-determined flow rate values. This product ensures an economical heating performance. Additionally, environment temperature can be controlled by using a TRV head in order to get more comfort.



Technical Properties

Working Pressure	: 10 bar
Max. Working Temperature	: +120°C
Relevant Standard	: EN 215
Main Body	: Brass (EN 12164, CW614N)
Stem	: Stainless Steel (AISI 304)
0-Rings	: EPDM (EN 549)
Connection-1	: G 1/2” connection to radiator panel
Connection-2	: M30 x 1,5 connection to TRV head

Position	1	2	3	4	5	6
Flow Rate (kg/h)	28,8	46,8	84	120	150	180

Double Valve Block Straight
Diam: 1/2”

Double Valve Block Angle
Diam: 1/2”

Double Valve Block Straight + 16 mm
Pex Al Pipe Connections
Diam: 1/2” *16

Double Valve Block Straight + 15 mm
Copper Tube Connections
Diam: 1/2” *15

Double Valve Block Angle + 16 mm
Pex Al Pipe Connections
Diam: 1/2” *16

Double Valve Block Angle + 15 mm
Copper Tube Connections
Diam: 1/2” *15

Double Valve Block Straight + 20 mm
Pex Al Pipe Connections
Diam: 1/2” *20

Double Valve Block Angle + 20 mm
Pex Al Pipe Connections
Diam: 1/ 2” *20

Insert Ventil + White Trv Head
Diam: 1/2”

Insert Ventil + Chrome Plated Trv Head (Liquid Type)
Diam: 1/2”

Elginkan

028

E.C.A.®
TOGETHER FOR YEARS

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