

*Centrometal*  
HEATING TECHNIQUE

PRODUCT CATALOGUE







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Dear colleagues, dear present and future users of our products

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Quality product, efficient use of energy, environmental protection and, above all, a satisfied customer are the basic guidelines of Centrometal today. This philosophy is present from the development, production, use and maintenance of Centrometal products, to the training of employees and associates of the company.

## ABOUT US

If we could by any chance turn back into the past, in front of us we could see a **fifty-five-years old tradition of building hot water boilers**, with almost the same long tradition of the rest of the production program. At the very beginning of 1965, Mr. Karlo Zidarić opened a craft workshop for the installation and maintenance of central heating systems. With this experience, we stepped into the world of development and design, which we implemented in 1990 in the newly established company Centrometal d.o.o.

The traditional diligence of the people from Međimurje county, comprehensive cooperation with scientific institutions, especially the Faculty of Mechanical Engineering and Naval Architecture in Zagreb, have resulted in a significant expansion of the company, which today employs 246 employees, **has its own development based on domestic know-how, training center, test center, modern technology park and extensive service in country and abroad.**

The quality of the company's products and management of the **company is guaranteed and ensured by the introduced ISO 9001 quality assurance system and ISO 14001 environmental management system.** The presence on many European markets is ensured by certificates of conformity issued by authorized domestic and international institutions.

Today, Centrometal d.o.o. operates in the markets of 40 European countries, and in five of them has organized its own service network, which confirms not only the quality of our products but also customer care.

We are happy that some of our products will bring warmth to your home.

*Davor Zidarić*

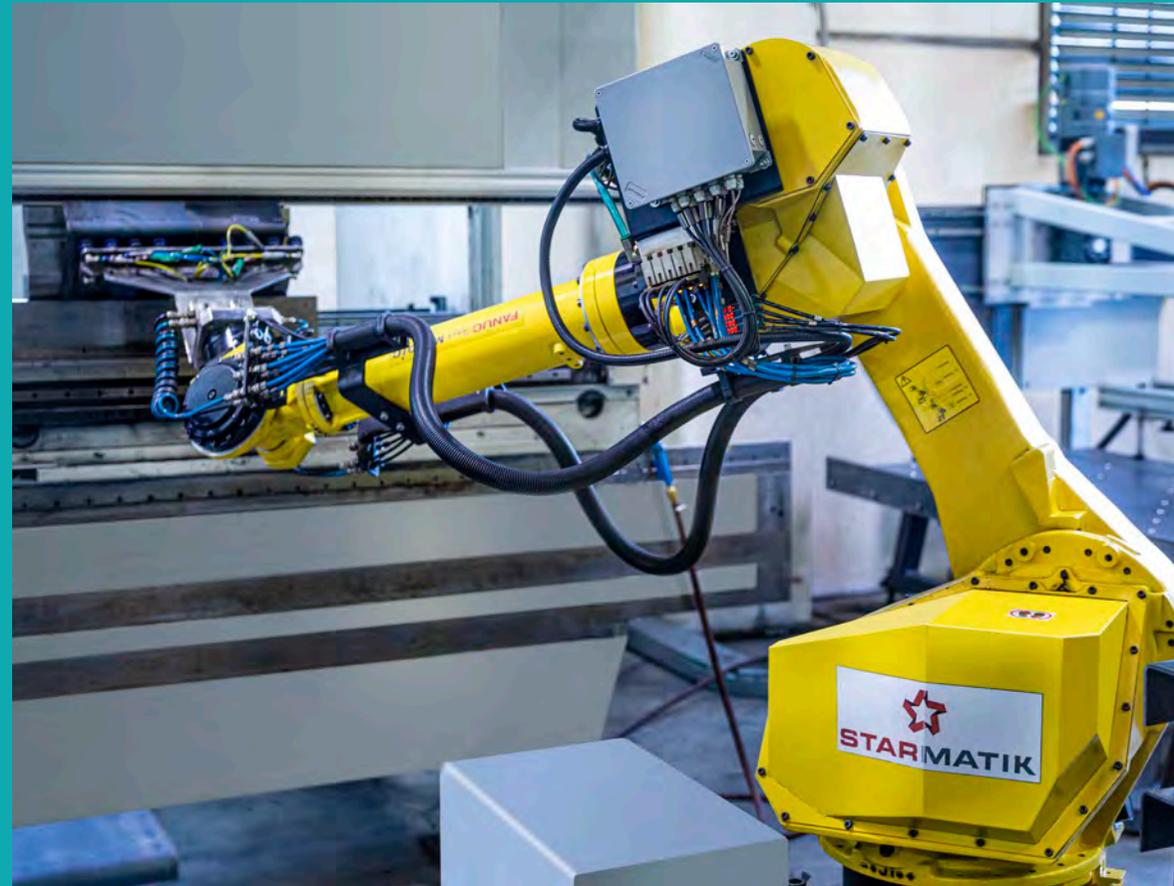


## PRODUCTION

Production in the company Centrometal d.o.o. takes place on modern machines and devices, thus ensuring quality and traceability.

The production of stainless steel equipment is separated from other production, to meet the requirements of this technology.

With the introduction of Industry 4.0 and the constant modernization of the machine park, we increase production capacities, facilitate work and ensure the continuity of the quality of our products, all in order to satisfy our customers.



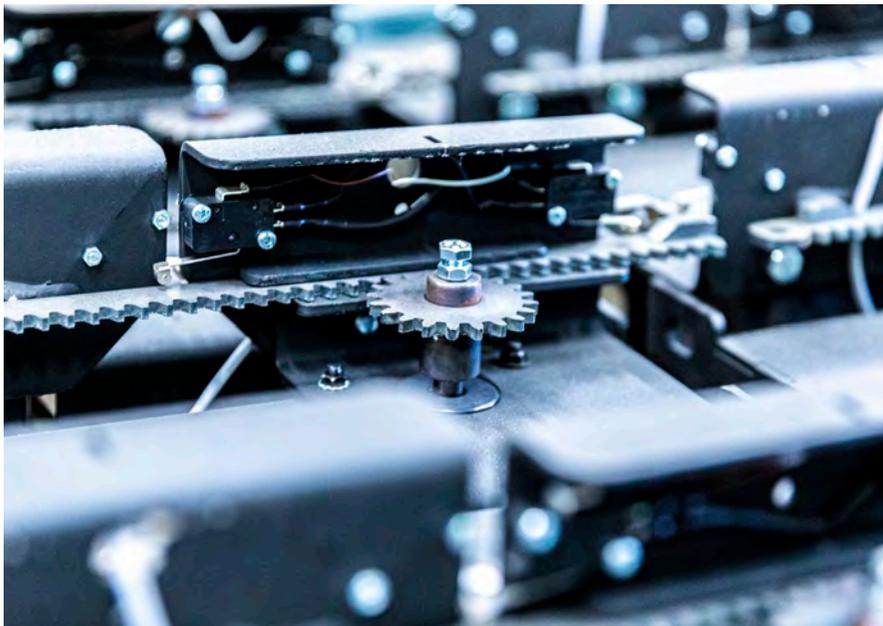
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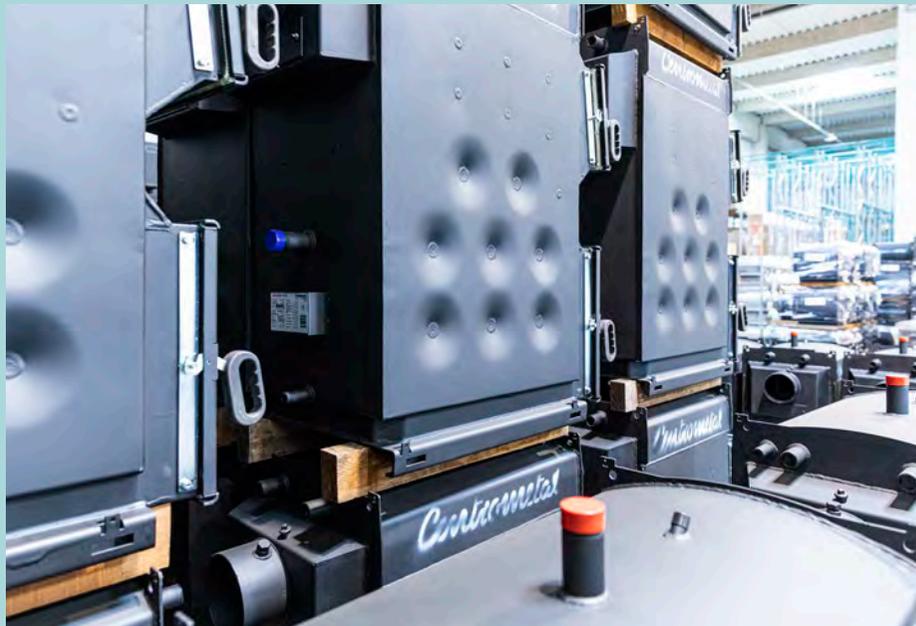
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## ASSEMBLY AND STORAGE

Great attention is paid to the assembly and final inspection of each product.

The recently expanded storage space allows us even more flexibility in production so that the final product arrives on time to its customer.

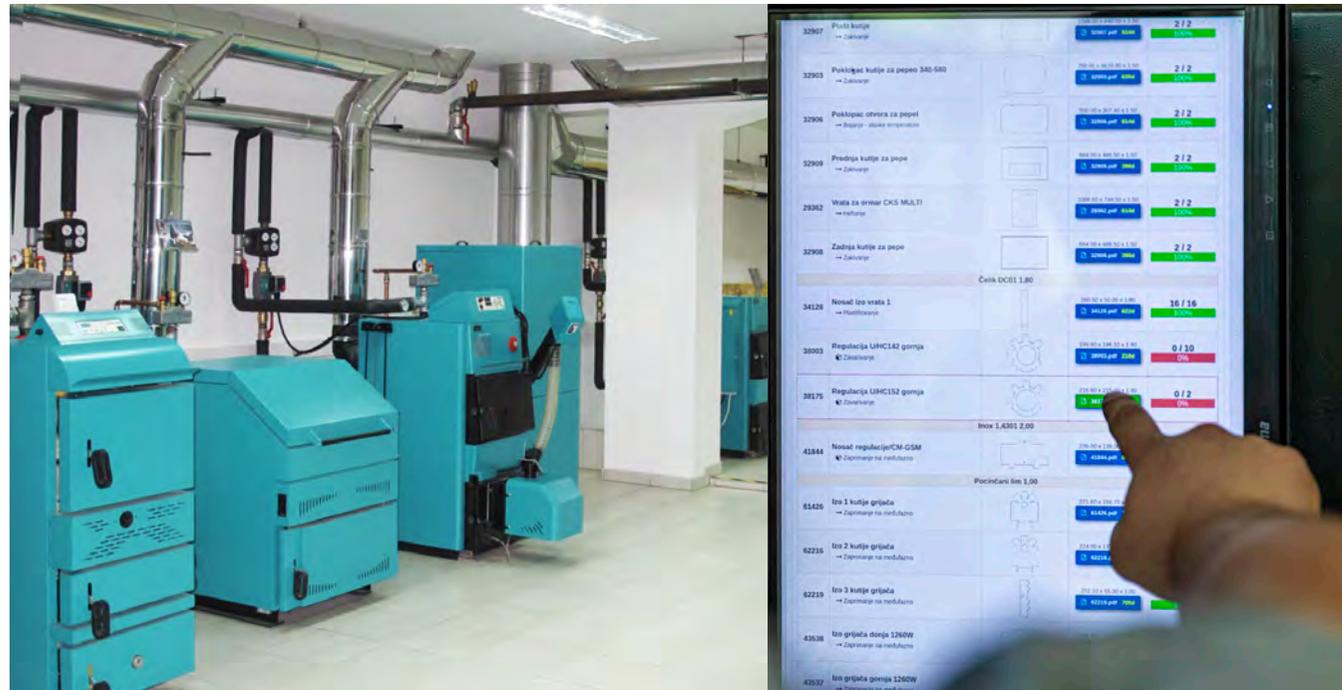




Centrometal products are tested and certified according to the requirements of Croatian and European norms and directives and relevant legal regulations, both for the territory of Croatia and for the countries to which we export our products.

We carry out development and tests in the production process in our own test center, according to the procedures defined by our quality system, and we entrust type and finished product tests to independent test laboratories in the country and abroad.

All our products pass the testing process and have the appropriate certificates and markings necessary for putting the product on the market, guaranteeing their quality and safe operation.





The digital control panel features a color LCD screen displaying a technical interface. The screen is divided into several sections:

- Top Left:** Shows a temperature of 23°C with a small bar chart and 8.5% humidity. Below this, a larger temperature of 23.9°C is displayed with a green checkmark icon.
- Top Right:** Shows a temperature of 23.5°C with a red 'X' icon.
- Center:** A schematic diagram of a refrigeration system. It includes a compressor, condenser, evaporator, and expansion valve. A red line indicates the refrigerant flow. A yellow triangle icon is positioned near the expansion valve. A label '>1M' is visible near the evaporator.
- Bottom Left:** A fan speed control section with a fan icon, a scale from 0 to 10, and a gear icon. Below it, a humidity control section shows 5.0% and 44.9% with a gear icon. At the bottom left, a temperature of 24°C is shown with a vertical bar.
- Bottom Right:** A vertical control panel with a battery level indicator, a timer showing 00:02 and 1.1.0, a power button with a yellow arrow, an 'OFF' button with a red square, and a power button with a blue circle and power symbol.





WE OWN THE  
FOLLOWING MARKINGS





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## BIO-CET B



### Hot water central heating cooker without oven for solid fuel firing

Steel hot water central heating cooker without oven **BIO-CET B** are engineered for firing with solid fuel and are intended for central heating of the building and cooking of food.

The heat output delivered to the heating water is 12, 19 and 25 kW, while the surrounding area is delivered 5 to 6 kW via the upper heating plate. These cookers can be used for heating more than one floor if the heat demand is in accordance with their nominal performance.

They can be installed on closed and open central heating systems, with and without buffer tank. By changing the position of the grate, the firebox simply adapts to the needs of space heating.

Modern design and dimensions that fit into the standard dimensions of kitchen elements make their installation acceptable in the kitchen, but also in another part of the house or apartment, where there is a connection to the chimney.

They are made in accordance with EN 12815, ISO 9001 and ISO 14001.



CHOPPED WOOD, UP TO  
0,33m



WOOD BRIQUETTES



## Characteristics of BIO-CET B cookers

- Hot water cookers for central heating and cooking, designed for heating with solid fuel.
- Part of the heat is transferred to the surrounding space through the upper heating plate.
- Properly dimensioned firebox and multiple passages for heat exchange ensures a high degree of efficiency of the cooker and allows food to be cooked on the upper heating plate.
- The possibility of changing the position of the firebox grate using the built-in mechanism allows cooking throughout the year.
- A thermal protection heat exchanger with connection for a thermal valve is installed at the factory, which enables the installation of cookers in closed central heating systems.
- the large door and the firebox of the cooker enable heating with large solid fuel (length up to 33 cm) and easy cleaning and maintenance.
- They are economical and environmentally friendly.
- The basic delivery of the cooker includes a draft regulator and a thermomanometer.
- The circulation pump of the central heating system is controlled by a factory-installed thermostat.
- The installation of the CAS / -B / -S / -BS buffer tank enables easy cooking throughout the year.



Cooker cross section



Stainless steel heating plate frame



Three possible chimney connections



Boiler door, thermomanometer, draft regulator



Heating system connections, thermal protection connections



## Version

### Cooker BIO-CET B 23 i 29

#### They are made in two versions:

- BIO-CET B – D boiler made in the right version (chimney connection the right side)
- BIO-CET B – L boiler made in the left version (chimney connection on the left side)

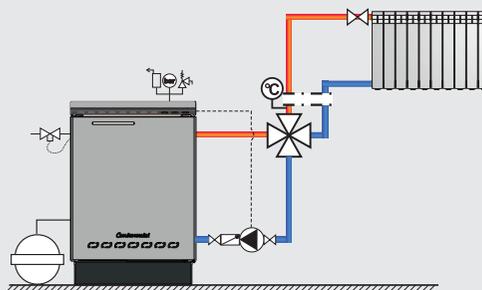
Cookers can be connected to the chimney from the rear, from a side or upper right side of the **cooker - right version**, or from the rear, from a side or upper left side of the **cooker - left version**.

### Delivery and obligatory additional equipment:



#### Delivery:

- Cooker with casing, built-in thermomanometer, draft regulator, pump thermostat and cleaning accessories, grate lifting lever, on a wooden pallet



#### Directly to the heating system

- Manual 4-way mixing valve

#### Closed heating system

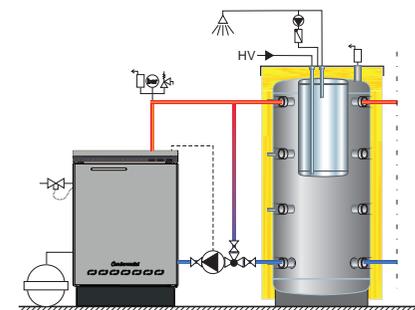
- Thermal valve, safety airvent group (2.5 bar) and expansion vessel

#### Open heating system

- Open expansion vessel

### Cooker BIO-CET B 17

The cookers are connected to the chimney from the top to the flue connection.



#### With CAS buffer tank

- Buffer tank CAS / -B / -S / -BS, 3-way thermostatic valve LTC, VTC ... [60° C]

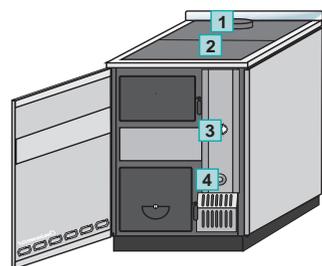
#### Closed heating system

- Thermal valve, safety airvent group (2.5 bar) and expansion vessel

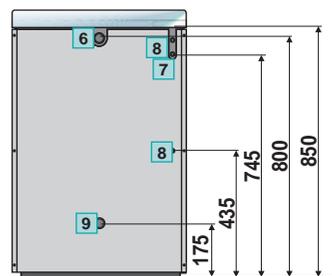
#### Open heating system

- Open expansion vessel

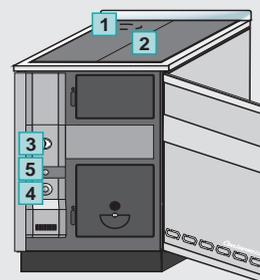
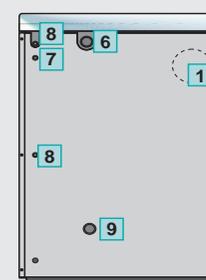
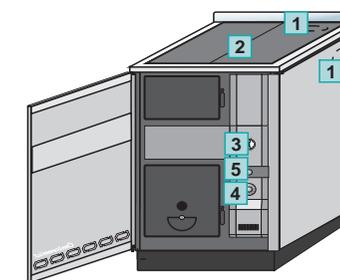
## Basic dimensions



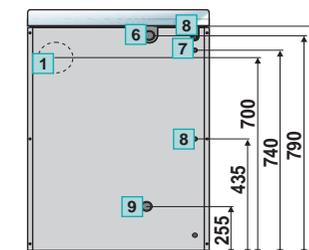
BIO-CET B 17



BIO-CET B 17


 BIO-CET B 23/29  
(made in **left** version)

 BIO-CET B 23/29  
(made in **left** version)

 BIO-CET B 23/29  
(made in **right** version)

BIO-CET		BIO-CET B 17	BIO-CET B 23	BIO-CET B 29
Rated heat output	[kW]	18	23	30
Heat output on the water side	[kW]	12	19	25
Heat output on the surrounding area	[kW]	6	4	5
Cooker water content	[lit.]	29	33	40
Flue gas tube diameter*	∅ [mm]	118	150	150
Chimney underpressure	[Pa]	10	13	15
Boiler depth	[mm]	635	635	635
Boiler width	[mm]	460	600	715
Boiler height	[mm]	910	885	885
Upper boiler door opening	[mm]	240 X 150	240 x 150	150 x 240
Lower boiler door opening	[mm]	275 X 205	270 x 250	250 x 270
Main flow	[R]	1"	5/4"	5/4"
Return flow	[R]	1"	5/4"	5/4"
Max. operating temperature	[°C]	90	90	90
Max. operating overpressure	[bar]	2,5	2,5	2,5
Cooker mass	[kg]	121	176	201
Energy efficiency class		A	A	A

 BIO-CET B 23/29  
(made in **right** version)


- 1 Flue gas tube opening
- 2 Heating plate
- 3 Thermomanometer
- 4 Draft regulator
- 5 Cleaning opening
- 6 Cooker main flow
- 7 Connection for temp. sensors of thermal valve
- 8 Heat exchanger connection
- 9 Cooker return flow

\* the inner diameter of the chimney is determined according to the power of the cooker and the height of the chimney and must almost always be larger than the diameter of the flue gas tube

## BIO-PEK B



### Hot water central heating cooker with oven for solid fuel firing

Steel hot water central heating cooker with oven **BIO-PEK B** are engineered for firing with solid fuel and are intended for central heating of the building and food preparation by cooking and baking.

The heat output delivered to the heating water is 12, 19 and 25 kW, while the surrounding area is delivered 5 to 6 kW via the upper heating plate. It is possible to choose between cookers with left or right chimney connection. These cookers can be used for heating more than one floor if the heat demand is in accordance with their nominal performance.

They can be installed on closed and open central heating systems, with and without buffer tank. By changing the position of the grate, the firebox simply adapts to the needs of space heating.

Modern design and dimensions that fit into the standard dimensions of kitchen elements make their installation acceptable in the kitchen, but also in another part of the house or apartment, where there is a connection to the chimney.

They are made in accordance with EN 12815, ISO 9001 and ISO14001.



CHOPPED WOOD, UP TO  
0,33m



WOOD BRIQUETTES



## Characteristics of BIO-PEK B cookers

- Hot water cookers for central heating, cooking and baking, designed for solid fuel heating.
- Part of the heat is transferred to the surrounding space through the upper heating plate.
- Properly dimensioned firebox and multiple passages for heat exchange ensure a high degree of efficiency of the cooker and allows cooking food on the upper heating plate and baking in the oven.
- The possibility of changing the position of the firebox grate using the built-in mechanism allows cooking and baking throughout the year.
- The spacious oven allows the use of standard dishes.
- The refractory glass and thermometer on the oven door allow you to monitor the progress of baking.
- A thermal heat exchanger and a connection for a thermal valve are installed at the factory, which enables the installation of cooker in closed central heating systems.
- The large door and the firebox of the boiler enable heating with large solid fuel (length up to 33 cm) and easy cleaning and maintenance.
- The circulation pump of the central heating system is controlled by a factory-installed thermostat.
- Cookers can be connected to the chimney from the rear, from a side or upper right side of the cooker - right version, or from the rear, from a side or upper left side of the boiler - left version
- The basic delivery of the boiler includes a draft regulator and a thermomanometer.
- They are economical and environmentally friendly.
- The installation of the CAS / -B / -S / -BS buffer tank enables easy cooking and baking all year round.



Cooker cross section



Stainless steel heating plate frame



Three possible chimney connections



Inbuilt box for wood



Boiler door, thermomanometer, draft regulator



Heating system connections, thermal protection connections



## Version

### BIO-PEK B – D

Cookers made in the right version (oven and chimney connection on right side)

### BIO-PEK B – L

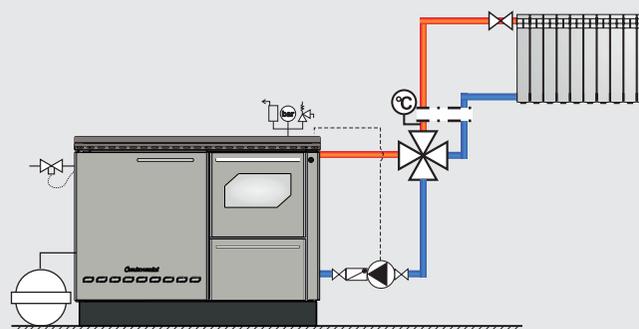
Cookers made in the left version (oven and chimney connection on left side)

## Delivery and obligatory additional equipment:



#### Delivery:

- Cooker with casing, built-in thermomanometer, draft regulator, pump thermostat and cleaning accessories, grate lifting lever, on a wooden pallet



#### Directly to the heating system

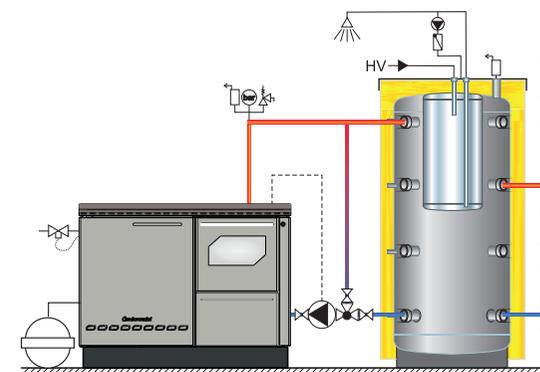
- Manual 4-way mixing valve

#### Closed heating system

- Thermal valve, safety airvent group (2.5 bar) and expansion vessel

#### Open heating system

- Open expansion vessel



#### With CAS buffer tank

- Buffer tank CAS / -B / -S / -BS, 3-way thermostatic valve LTC, VTC... (60°C)

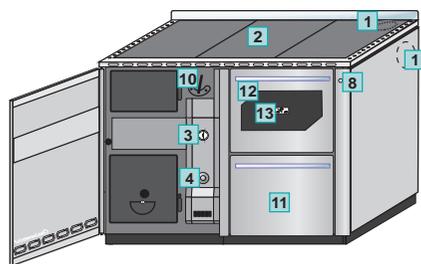
#### Closed heating system

- Thermal valve, safety airvent group (2.5 bar) and expansion vessel

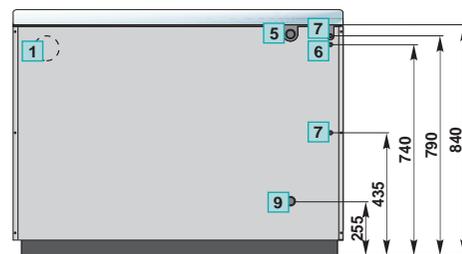
#### Open heating system

- Open expansion vessel

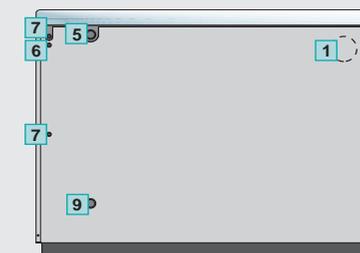
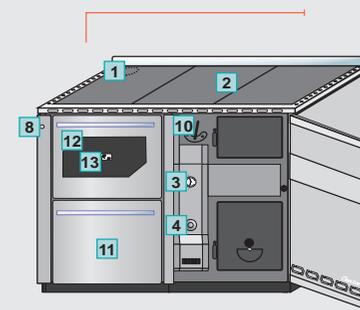
## Basic dimensions



(Right version)



(Left version)



BIO-PEK B		BIO-PEK 17 B	BIO-PEK 23 B	BIO-PEK 29 B
Rated heat output	[kW]	18	23	30
Heat output on the water side	[kW]	12	19	25
Heat output on the surrounding area	[kW]	6	4	5
Cooker water content	[lit.]	23	30	38
Flue gas tube diameter*	∅ [mm]	150	150	150
Chimney underpressure	[Pa]	10	13	15
Boiler depth	[mm]	635	635	635
Boiler width	[mm]	1000	1100	1150
Boiler height	[mm]	885	885	885
Oven dimension (w/h/d)	[mm]	400x260x415	400x260x415	400x260x415
Upper boiler door opening	[mm]	240 x 150	240 x 150	240 x 150
Main flow	[R]	1"	1"	5/4"
Return flow	[R]	1"	1"	5/4"
Max. operating temperature	[°C]	90	90	90
Max. operating overpressure	[bar]	2,5	2,5	2,5
Cooker mass	[kg]	205	234	258
Energy efficiency class		A	A	A

- 1 Flue gas tube opening
- 2 Heating plate
- 3 Thermomanometer
- 4 Draft regulator
- 5 Cooker main flow
- 6 Connection for temp. sensors of thermal valve
- 7 Heat exchanger connection
- 8 Ignition handle
- 9 Cooker return flow
- 10 Working mode selector handle  
(only models 23 and 29)
- 11 Box for wood
- 12 Oven
- 13 Oven thermometer

\* the inner diameter of the chimney is determined according to the power of the cooker and the height of the chimney and must almost always be larger than the diameter of the flue gas tube

## EKO-CK P



### Combined hot water boiler

Steel hot water boilers **EKO-CK P** with a nominal heat output of 14 to 110 kW are designed for heating with solid fuel, pellets or fuel oil.

They are intended for heating from the smallest to large buildings either as a basic heat source or, which is increasingly common today, as an alternative source.

They are recognizable by the successful combination of modern technologies and quality building materials with ease of installation and use. A range of proven technical solutions makes these boilers safe and reliable in operation.

The possibility of easy installation of equipment on pellets or fuel oil is a special value of these boilers.



CHOPPED WOOD, UP TO  
0,5m



WOOD BRIQUETTES



CHARCOAL



WOOD PELLETS



FUEL OIL

WITH ADDITIONAL EQUIPMENT



## Characteristics of EKO-CK P boilers

- Hot water boiler for central heating designed for heating with several types of fuel (solid, pellets or liquid), with a nominal heat output from 14 to 110 kW.
- Adequately dimensioned combustion chamber with triple pass flue gas flow ensure a high degree of efficiency of the boiler, which makes it "economical".
- The boiler combustion chamber is made of high quality 5 mm boiler sheet metal.
- The large door and the combustion chamber of the boiler enable firing with large solid fuel and easy maintenance. Easy to change the opening direction of the upper and lower doors.
- Possibility of installing a thermal protection installation on the factory-prepared openings.
- The boilers are factory equipped with a thermostat that controls the operation of the pump.
- A separate boiler body, separate casing with thermal insulation is supplied, jednostavan which enables easy transport and installation and reduces the risk of damage.
- The basic delivery of the boiler includes a boiler thermometer, cleaning accessories and ashtray.
- In the case of burning wood pellets, in Cm Pelet-set Touch there is a set for installing pellet burner on the lower boiler door, turbulators, pellet burner, pellet tank, transporter, pellet conveyor and boiler controller.
- In the case of heating with fuel oil, you need a set for the installation of oil burner and turbulators (the number of turbulators depends on the power of the boiler).
- The basic boiler controller of the fuel oil burner (EKO-CK/CKB) is additionally delivered and is placed in the factory-prepared place on the upper cover of the boiler casing.
- The boiler has been tested and certified according to the European standard 303-5 and EN 304 and manufactured in accordance with the standards ISO 9001 and ISO 14001.



Boiler cross section



Thermometer, connection for draft regulator



Lower boiler door with possibility of changing the opening direction



Cleaning accessories



Boiler delivery



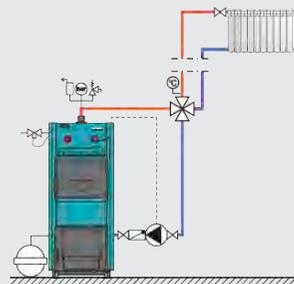
Thermostat connector for pump and connections for thermal protection installation

## Delivery, obligatory and additional equipment:



### Delivery

- Boiler body with boiler doors
- Exterior casing with insulation and pump thermostat, set [screws, dowels, plug, rosettes], cleaning accessories [scraper, poker, brush, accessory holder]



### Solid fuel firing, without CAS buffer tank

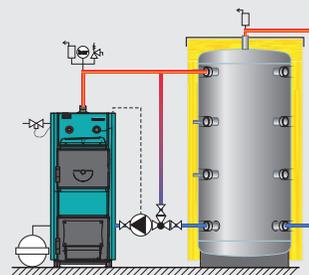
- Draft regulator, manual 4-way mixing valve

### Closed heating system

- Thermal valve, thermal exchanger, safety airvent group (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel



### Solid fuel firing, with CAS buffer tank

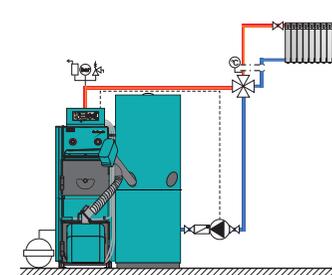
- Draft regulator, buffer tank CAS (min. 30 lit/kW), 3-way thermostatic valve LTC, VTC, 3-way mixing valve with actuator CRA111 ... (60 °C)

### Closed heating system

- Thermal valve, thermal exchanger, safety airvent group (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel



### Wood pellet firing

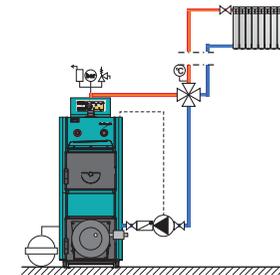
- Cm Pelet-set Touch
- Manual 4-way mixing valve or buffer tank CAS (min. 10lit/kW) and LTC, VTC ... (60 °C)

### Closed heating system

- Safety airvent group and expansion vessel

### Open heating system

- Open expansion vessel



### Fuel oil firing

- Boiler controller EKO-CK/CKB
- Fuel oil burner installation set with turbulators
- Fuel oil burner
- Manual 4-way mixing valve

### Closed heating system

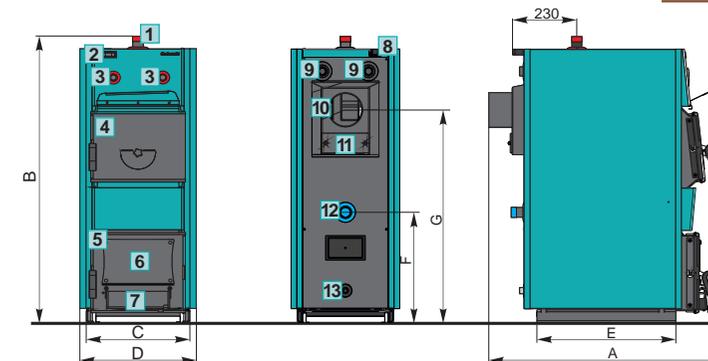
- Safety airvent group and expansion vessel

### Open heating system

- Open expansion vessel

## Basic dimensions

1	Main flow	6	Pellet / fuel oil burner installation opening	10	Flue gas tube
2	Thermometer	7	Primary air flap	11	Flue gas box cleaning opening
3	Draft regulator openings	8	Pump thermostat connector	12	Return flow
4	Upper boiler door	9	Thermal protection mount openings (1" female thread)	13	Filling/draining
5	Lower boiler door				



EKO - CK P		14	20	25	30	35	40	50	60	70	90	110
Rated heat output	[kW]	14	15-20	20-25	25-30	30-35	35-40	40-50	50-60	50-70	70-90	90-110
Boiler water content	[l]	59	60	64	67	76	78	96	118	135	140	157
Boiler mass	[kg]	220	227	234	255	266	293	337	355	429	455	492
Flue gas tube diameter*/height [G]	Ø [mm]	150/930	150/930	150/930	160/930	160/930	180/930	180/930	180/1025	200/1085	200/1085	200/1085
Burner opening [h x w]	[mm]	170x165	170x165	170x165	170x165	170x165	210x165	210x165	210x165	210x165	210x165	210x165
Upper boiler door opening [h x w]	[mm]	321x273	321x273	321x273	371x273	421x273	471x273	471x273	471x273	471/275	521/275	521/275
Lower boiler door opening [h x w]	[mm]	321x322	321x322	321x322	371x322	421x322	471x322	471x322	471x322	471/422	521/422	521/422
Chimney underpressure	[Pa]	15	16	18	19	20	21	23	25	26	29	31
Main/Return flow	[R]	5/4"	5/4"	5/4"	5/4"	5/4"	5/4"	5/4"	5/4"	6/4"	2"	2"
Filling/draining	[R]	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1"	1"	1"
Flue gas temperature (fuel oil)	[°C]	170	170	170	170	170	170	180	180	190	200	200
Flue gas temperature (wood)	[°C]	190	190	190	190	190	190	220	220	230	240	240
Max. operating temperature	[°C]	90	90	90	90	90	90	90	90	90	90	90
Max. operating overpressure	[bar]	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5
Boiler depth A	[mm]	985	985	1020	1020	1020	1020	1142	1142	1250	1250	1350
Boiler height B	[mm]	1255	1255	1255	1255	1255	1255	1255	1355	1430	1430	1430
Boiler body width C	[mm]	420	420	420	470	520	570	570	570	570	620	620
Total boiler width D	[mm]	470	470	470	520	570	620	620	620	640	690	690
Boiler base depth E	[mm]	565	565	600	600	600	600	725	725	815	815	915
Return flow connection height F	[mm]	485	485	485	485	485	485	485	485	630	630	630
Max. log length	[mm]	500	500	500	500	500	500	500	500	500	500	500
Energy efficiency class		A	A	A	A	A	A	A	A	A	A	A

\* The inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube

## EKO-CKB P



### Combined hot water boiler with DHW tank

Steel hot water boilers EKO-CKB P with a nominal heat output of 20 to 50 kW are designed for heating with solid fuel, pellets or fuel oil.

They are members of the EKO-CK P family of boilers, and their special feature is the built-in stainless-steel domestic hot water tank immersed in boiler water. This makes the boiler extremely interesting, as it ensures constant heating of domestic hot water in the tank without additional investment.

They are recognizable by the successful combination of modern technologies and quality building materials with ease of installation and use.

A range of proven technical solutions makes these boilers safe and reliable in operation. The possibility of easy installation of equipment on pellets or fuel oil is a special value of these boilers.

They are made in accordance with the European standard EN 303-5.



CHOPPED WOOD, UP TO  
0,5m



WOOD BRIQUETTES



CHARCOAL



WOOD PELLETS



FUEL OIL

WITH ADDITIONAL EQUIPMENT



## Characteristics of EKO-CKB P boilers

- Hot water boiler for central heating designed for heating with several types of fuel (solid, pellets or liquid), with a nominal heat output of 20 to 50 kW.
- The domestic hot water tank is made of high-quality stainless steel, which guarantees high hygienic conditions, and the immersion of the tank in the boiler water enables rapid heating of the entire amount of domestic hot water.
- The built-in domestic hot water tank in the boiler doesn't require a special circ. pump, which would otherwise be required if the tank was located outside the boiler
- Adequately dimensioned combustion chamber with triple pass flue gas flow ensure a high degree of efficiency of the boiler, which makes it "economical".
- The boiler combustion chamber is made of high quality 5 mm boiler sheet metal.
- The large door and the combustion chamber of the boiler enable firing with large solid fuel and easy cleaning and maintenance. Easy to change the opening direction of the upper and lower doors.
- Possibility of installing a therm. protection installation on the factory-prepared openings.
- The boilers are factory equipped with a thermostat that controls the pump.
- A separate boiler body, separate casing with thermal insulation is supplied, which enables easy transport and installation and reduces the risk of damage.
- The basic delivery of the boiler includes a boiler thermometer and cleaning accessories and ashtray.
- In case of burning wood pellets, the Cm Pelet-set Touch includes a set for installing pellet burner on the lower boiler door, turbulators, pellet burner, pellet tank, pellet conveyor and boiler controller.
- In the case of heating with fuel oil, a set for the installation of an oil burner and turbulators are required (the number depends on the power of the boiler).
- The basic boiler controller of the fuel oil burner is additionally supplied and is placed in the factory-prepared place on the upper cover of the boiler casing.
- The boiler has been tested and certified according to the European standard EN 303-5 and EN 304 and manufactured in accordance with the standard ISO 9001 and ISO 14001.



Boiler cross section



Thermometer



Lower boiler door with possibility of changing the opening direction



Cleaning accessories

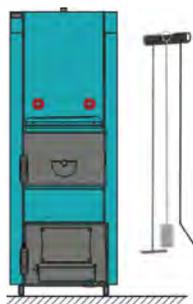


Boiler delivery



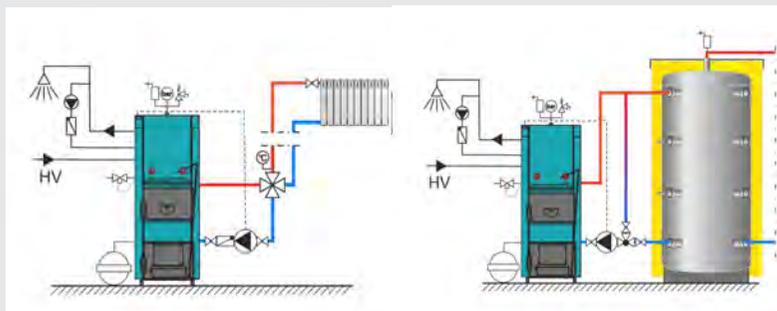
Thermostat connector for pump, connections for DHW, thermal protection and main flow of the boiler

## Delivery, obligatory and additional equipment:



### Delivery

- Boiler body with boiler doors
- Exterior casing with insulation and pump thermostat, set [screws, dowels, plug, rosettes], cleaning accessories [scraper, poker, brush, accessory holder]



### Solid fuel firing, without CAS buffer tank

- Draft regulator, manual 4-way mixing valve

### Closed heating system

- Thermal valve, safety airvent group (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel

### Solid fuel firing, with CAS buffer tank

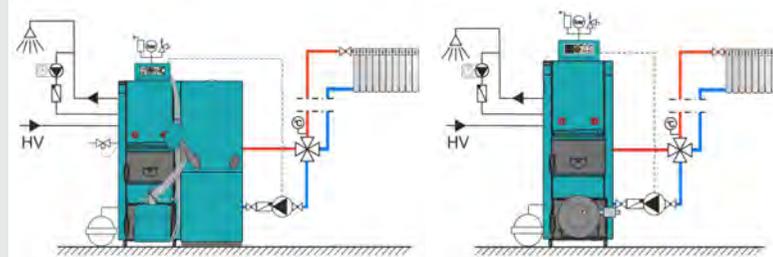
- Draft regulator, buffer tank CAS (min. 30lit/kW), 3-way thermostatic valve LTC, VTC ... (60°C)

### Closed heating system

- Thermal valve, safety airvent group, (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel



### Wood pellet firing

- Cm Pelet-set Touch
- Manual 4-way mixing valve or buffer tank CAS (min. 10lit/kW) and LTC, VTC ... (60°C)

### Closed heating system

- Safety airvent group and expansion vessel

### Open heating system

- Open expansion vessel

### Fuel oil firing

- Boiler controller EKO-CK/CKB
- Fuel oil burner installation set with turbulators
- Fuel oil burner
- Manual 4-way mixing valve

### Closed heating system

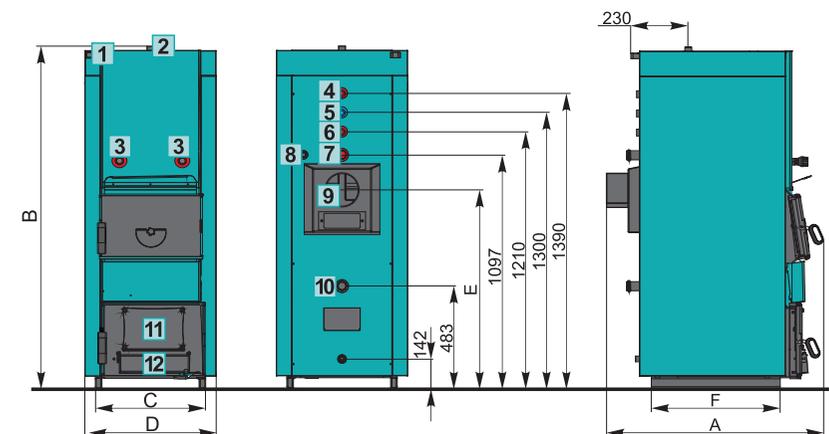
- Safety airvent group and expansion vessel

### Open heating system

- Open expansion vessel

## Basic dimensions

EKO - CKB P		20	25	30	35	40	50
Rated heat output	[kW]	15-20	20-25	25-30	30-35	35-40	40-50
DHW tank water content	[l]	65	72	80	80	80	100
Boiler water content	[l]	81	87	90	98	106	118
Boiler mass	[kg]	271	281	303	322	343	375
Flue gas tube diameter*	∅ [mm]	150	150	160	160	180	180
Burner opening (h x w)	[mm]	170x165	170x165	170x165	170x165	210x165	210x165
Upper boiler door opening (h x w)	[mm]	321x273	321x273	371x273	421x273	471x273	471x273
Lower boiler door opening (h x w)	[mm]	321x322	321x322	371x322	421x322	471x322	471x322
Chimney underpressure	[Pa]	16	18	19	20	21	23
Flue gas temperature (fuel oil)	[°C]	170	170	170	170	170	180
Flue gas temperature (wood)	[°C]	190	190	190	190	190	220
Max. operating temperature	[°C]	90	90	90	90	90	90
Main/Return flow	[R]	5/4"	5/4"	5/4"	5/4"	5/4"	54"
Filling/drainng	[R]	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
DHW connections	[R]	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Max. operating overpressure	[bar]	2,5	2,5	2,5	2,5	2,5	2,5
Boiler body width C	[mm]	420	420	470	520	570	570
Boiler base depth F	[mm]	565	600	600	600	600	725
Total boiler depth A	[mm]	983	1020	1020	1020	1020	1140
Total boiler width D	[mm]	515	515	565	615	665	665
Total boiler height B	[mm]	1610	1610	1610	1610	1610	1610
Flue gas tube height E	[mm]	930	930	930	930	925	925
Max. log length	[mm]	500	500	500	500	500	500
Energy efficiency class		A	A	A	A	A	A



- |   |                             |    |  |
|---|-----------------------------|----|--|
| 1 | Thermometer                 | 7  | Main flow  |
| 2 | Safety / airvent line Otvor | 8  | Thermal protection sensor mounting hole (1/2" female thread) |
| 3 | Draft regulator openings    | 9  | Flue gas tube  |
| 4 | Hot DHW                     | 10 | Return flow  |
| 5 | DHW circulation             | 11 | Pellet/fuel oil burner installation opening                  |
| 6 | Cold DHW                    | 12 | Primary air flap   |

\* the inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube

## EKO-CKS



### Hot water boiler fired with solid fuel

Steel hot water boilers **EKO-CKS** with a nominal heat output of 150 to 380 kW are intended for installation in open central heating systems and are designed for firing with solid fuel.

They are intended for heating medium to large buildings. They can be made for direct connection to the chimney (natural draft of flue gases with the chimney) or for connection to the chimney via cyclone with fan (only EKO-CKS 250, 300, 380).

They are recognizable by the successful combination of modern technologies and quality building materials with ease of installation and supervision. A range of proven technical solutions makes these boilers safe and reliable in operation.



CHOPPED WOOD, UP TO  
1,3m



WOOD BRIQUETTES



CHARCOAL



## Characteristics of EKO-CKS boilers

- Hot water steel boiler for central heating, power 150-380 kW fired with solid fuel (wood logs, wood briquettes, charcoal, ...).
- Adequately dimensioned combustion chamber with triple pass flue gas flow ensure a high degree of efficiency of the boiler, which makes it "economical".
- The large door and the combustion chamber of the boiler enable heating with large solid fuel and easy cleaning and maintenance.
- The spacious upper boiler door allows easy and quick cleaning of the boiler from the front.
- A separate boiler body, separate casing with thermal insulation is supplied, which enables easy transport and reduces the risk of damage.
- The advantage of these boilers is the possibility of installing the boiler casing after connecting the boiler to the installation.
- These boilers are installed only on **open** central heating systems.
- Possibility of installing cyclone with fan for flue gas extraction.
- The boiler is manufactured in accordance with ISO 9001 and ISO 14001.



Boiler cross section



Thermometer, draft regulator connection



Upper and lower boiler door



Connections



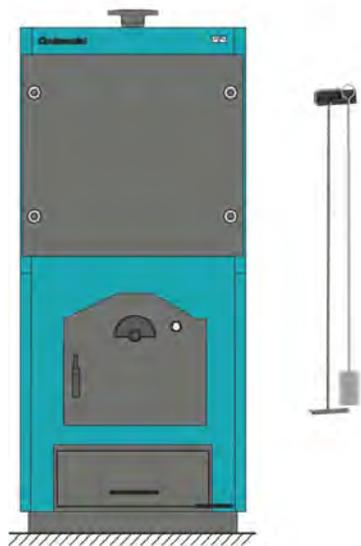
Boiler delivery



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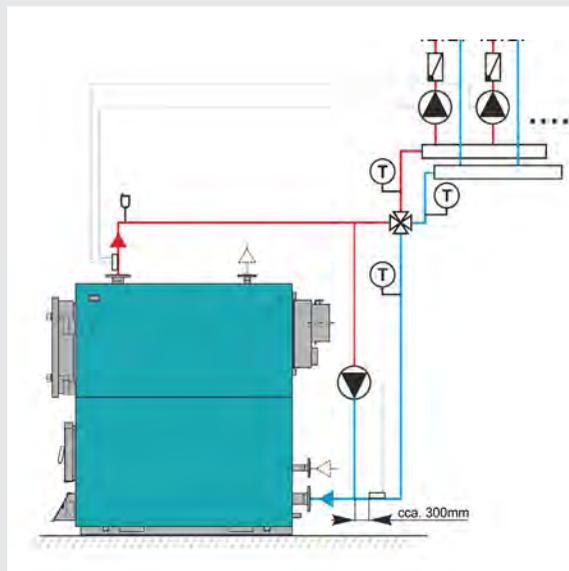
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## Delivery, obligatory and additional equipment:



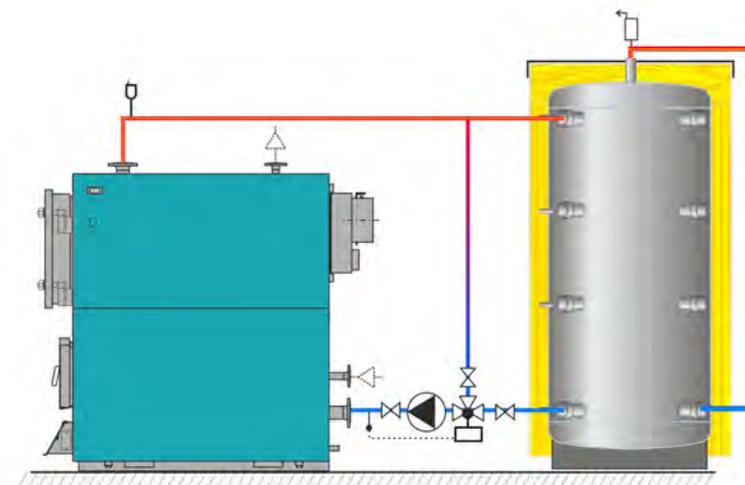
### Delivery

- Boiler body with boiler door
- Exterior casing with insulation, thermometer, draft regulator, cleaning accessories (scraper, brush, accessory holder)



### Connection to the heating system

- Bypass pump and pump thermostat (0-65°C)
- Ručni 4putni miješajući ventil
- Otvorena ekspanzijska posuda



### Connection to heating system with buffer tank CAS (recommendation)

- Boiler pump
- 3-way motorized mixing valve with regulator (as ESBE CRA)
- CAS buffer tank (min. 30 lit/kW)
- Open expansion vessel

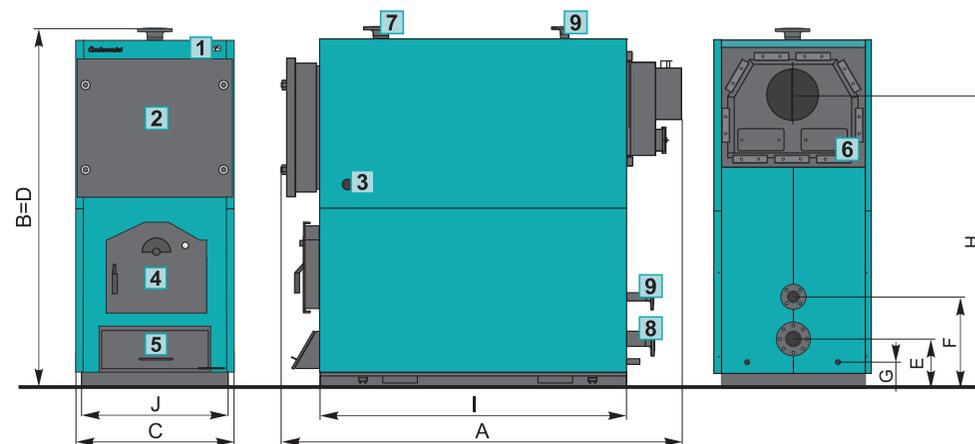
### Possible accessories

- Cyclone with fan and controller

## Basic dimensions

EKO-CKS		150	200	250	300	380
Rated heat output	(kW)	110-150	150-200	200-250	250-300	300-380
Boiler water content	(l)	380	520	790	963	1155
Total boiler mass	(kg)	812	1027	1476	1757	1986
Flue gas tube diameter*	Ø (mm)	250	300	300	300	300
Flue gas tube height H	(mm)	1285	1300	1705	1705	1710
Chimney underpressure	(Pa)	34	38	42	45	50
Main/Return flow	(R)/(DN)	2"	2"	80	80	80
Filling/draining	(G)	1"	1"	1"	1"	1"
Safety line	(R)/(DN)	6/4"	6/4"	40	40	40
Max. operating temperature	(°C)	100	100	100	100	100
Max. operating overpressure	(bar)	4	4	4	4	4
Total boiler depth A	(mm)	1590	1980	2000	2350	2350
Total boiler height B	(mm)	1600	1600	2100	2100	2100
Total boiler width C	(mm)	815	815	920	920	1065
Main flow height D	(mm)	1600	1600	2100	2100	2100
Return flow height E	(mm)	250	250	250	250	250
Safety line return height F	(mm)	500	500	500	500	500
Filling/draining height G	(mm)	155	155	155	155	155
Dimensions I/J	(mm)	990x745	1390x745	1390/850	1740/850	1740/995
Comb. chamber opening	(mm)	450x385	450x385	500x590	500x590	600x585
Max. log length	(mm)	600	1000	1000	1350	1350

\* the inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube



- 1 Thermometer
- 2 Upper door
- 3 Draft regulator installation opening
- 4 Lower door
- 5 Primary air flap / cleaning opening
- 6 Flue chamber cleaning opening
- 7 Main flow
- 8 Return flow
- 9 Open expansion vessel connections

## EKO-CKS 500



### Hot water boiler fired with solid fuel

Steel hot water boilers **EKO-CKS 500** with a nominal heat output of 500 kW are intended for installation in open central heating systems and are designed for firing with solid fuel.

They are made for connection to the chimney via a cyclone with a fan. The operation of the boiler (fan) is controlled by the boiler control unit.

They are recognizable by the successful combination of modern technologies and quality building materials with ease of installation and supervision.

A range of proven technical solutions makes these boilers safe and reliable in operation.



CHOPPED WOOD, UP TO  
1,5m



WOOD BRIQUETTES



CHARCOAL



## Characteristics of EKO-CKS 500 boilers

- Hot-water steel boilers for central heating, nominal heat output 500 kW.
- They are designed for burning solid fuel (wood, wood briquettes, charcoal, ...).
- They are intended for installation in open central heating systems.
- Adequately dimensioned combustion chamber with triple pass flue gas flow ensure a high degree of efficiency of the boiler, which makes it "economical".
- The large door and the combustion chamber of the boiler enable heating with large solid fuel and easy cleaning and maintenance.
- The maximum operating overpressure of the boiler is 4 bar, which allows installation in larger heating systems.
- They are made for connection to the chimney only with cyclone with fan.
- The boiler comes with a cyclone CC 500, a flue gas fan and boiler controller.
- The cyclone is intended to separate particles from flue gases.
- The fan is used to draw fresh air into the boiler combustion chamber, extract flue gases from the boiler and expel them out through the chimney.
- The operation of the plant is controlled by boiler controller. Using the pump thermostat, it starts the heating pump above 75°C in the boiler, controls the operation of the boiler bypass pump (0-60°C) and the operation of the fan, has a built-in safety thermostat and a fan contactor.
- The spacious upper boiler door allows easy and quick cleaning of the boiler from the front.
- A separate boiler body, separate casing with controller, thermal insulation and a cyclone with a fan are supplied, which enables easy transport and reduces the risk of damage.
- The boiler is manufactured in accordance with ISO 9001 and ISO 14001.



Lower boiler door,  
Primary air flap



Boiler controller



Exhaust fan



Cyclone



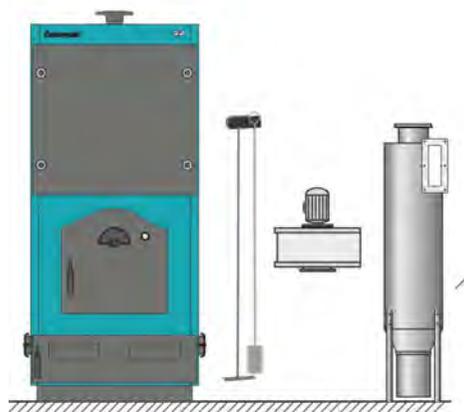
Boiler delivery



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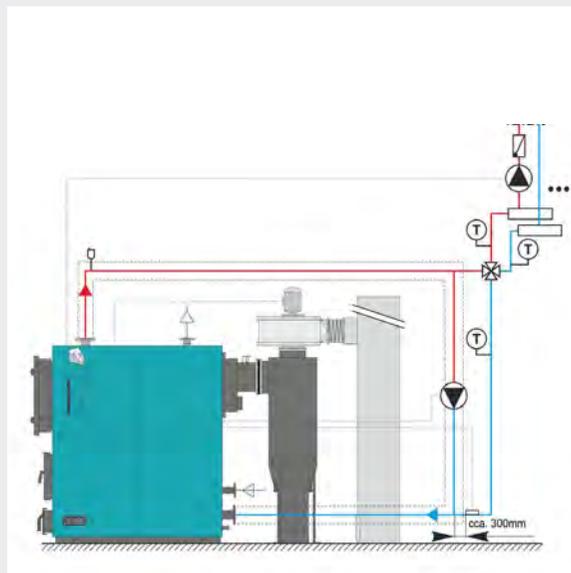
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## Delivery, obligatory and additional equipment:



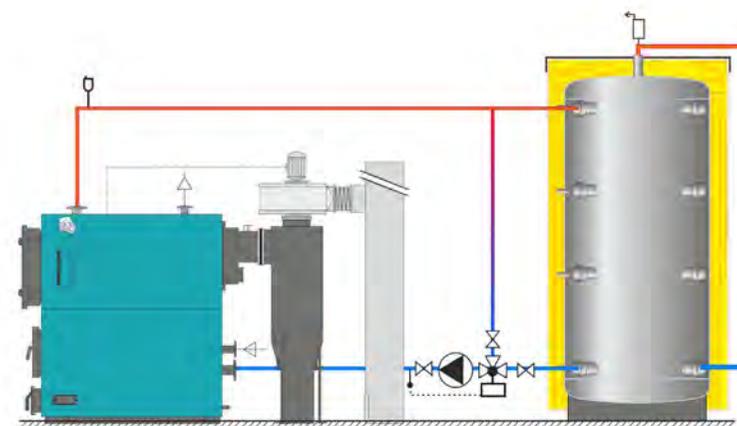
### Delivery

- Boiler body with boiler doors
- Exterior casing with insulation, thermometer, cleaning accessories (scraper, brush, accessory holder)
- Cyclone CC for removing dust particles
- Flue gas fan
- Boiler controller



### Connection to the heating system

- Bypass pump and pump thermostat (0-65°C)
- Manual 4-way mixing valve
- Open expansion vessel



### Connection to heating system with buffer tank CAS (recommendation)

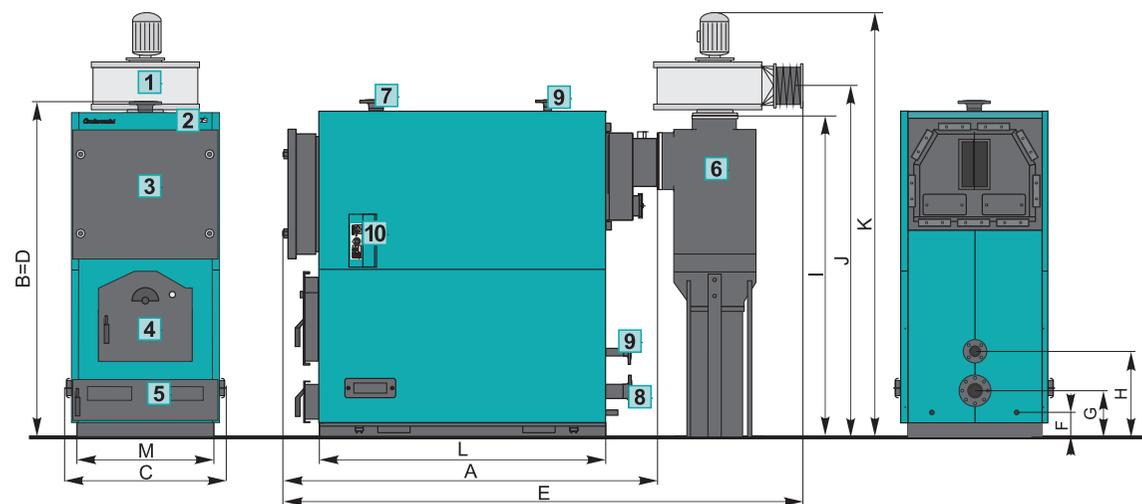
- Boiler pump
- 3-way motorized mixing valve with regulator (as ESBE CRA)
- CAS buffer tank (min. 30 lit/kW)
- Open expansion vessel

### Possible accessories

- Cyclone with fan and controller

## Basic dimensions

EKO-CKS 500		500
Rated heat output	(kW)	380 - 500
Boiler water content	(l)	1700
Total boiler mass	(kg)	2920
Cyclone mass	(kg)	165
Fan mass	(kg)	44
Flue gas tube diameter (on the fan)	Ø (mm)	202
Flue gas tube height J	(mm)	2505
Main/Return flow	(DN)	100
Filling/draining	(G)	6/4"
Safety line	(DN)	50
Max. operating temperature	(°C)	100
Max. operating overpressure	(bar)	4
Total boiler dimensions AxBxC	(mm)	2550 x 2540 x 1315
Total length E	(mm)	3400
Total height K	(mm)	2860
Cyclone height I	(mm)	2360
Main flow height D	(mm)	2540
Return flow height G	(mm)	670
Safety line return height H	(mm)	920
Filling/draining height F	(mm)	600
Dimensions L/M	(mm)	2000/1245
Combustion chamber opening dimension	(mm)	615 x 700
Max. log length	(mm)	1500



- 1 Exhaust fan
- 2 Thermometer
- 3 Upper door
- 4 Lower door
- 5 Primary air flap/cleaning opening
- 6 Cyclone
- 7 Main flow
- 8 Return flow
- 9 Open expansion vessel connections
- 10 Boiler controller

## CYCLONE CC



### Cyclone for solid fuel boilers

**Cyclone CC with fan and boiler controller** are designed for installation on solid fuel boilers EKO-CKS from 250 to 380 kW prepared for their installation..

They are intended for the extraction of flue gases and the separation of solid particles from the flue gases. The operation of the boiler (fan) and the bypass pump and the heating pump are controlled by the boiler controller.

The installation of cyclone CC, fan and boiler controller reduces the required chimney height, unlike when the boiler is connected directly to the chimney.

They are made of high quality materials and protected with primer color.

Possibility of ordering CC cyclone with thermal insulation.

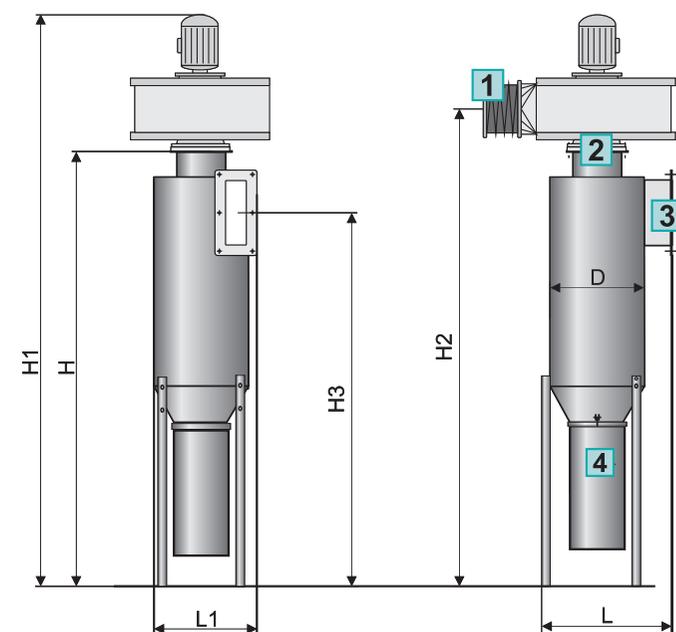


## Characteristics of CYCLONE CC

- The cyclone is intended for the separation and collection of particles from flue gases.
- The fan is used for the extraction of flue gases (drawing fresh air into the boiler combustion chamber, extracting flue gases from the boiler and expelling them through the chimney into the environment).
- The operation of the boiler and cyclone fan is controlled by boiler controller. Using the pump thermostat, it starts the heating pump above 75 °C in the boiler, controls the operation of the boiler bypass pump (0-60 °C) and the operation of the fan, has a built-in safety thermostat and a fan contactor.
- They reduce the required chimney height, unlike when the boiler is connected directly to the chimney.
- They are delivered exclusively for EKO-CKS boilers from 250 to 380 kW prepared for their installation.

## Basic dimensions

CYCLONE TYPE FOR BOILER TYPE		CC 250 EKO-CKS 250	CC 300-380 EKO-CKS 300/380
Cyclone height H	(mm)	1988	1940
Total cyclone and fan height H1	(mm)	2440	2515
Height of flue connection H2	(mm)	2060	2090
Height of connection to boiler H3	(mm)	1705	1705
Total cyclone depth L	(mm)	612	718
Total cyclone width L1	(mm)	498	607
Flue connection dimensions AxB	(mm)	160 x 160	Ø 202
Cyclone diameter D	(mm)	Ø 426	Ø 526
Cyclone mass	(kg)	88	114
Fan weight	(kg)	35	44
Fan power	(W)	550	1100
Electricity connection	(V/Hz)	400/50	400/50



- 1 Chimney connection
- 2 Fan connection
- 3 Boiler connection
- 4 Flue gas particle box

## OPC



### Open expansion vessels OPC

Open expansion vessels **OPC** are intended for installation in open central heating systems.

They are made of welded construction steel and protected with primer color.

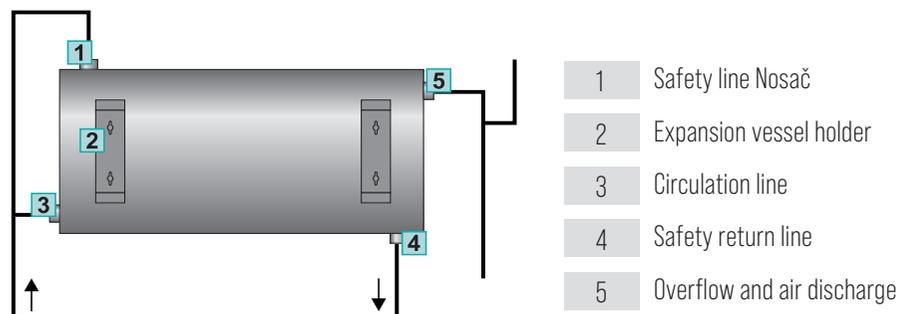
They are prepared for installation on a vertical surface (wall, bracket ...) in a **horizontal or vertical** position.

They are factory delivered uninsulated.



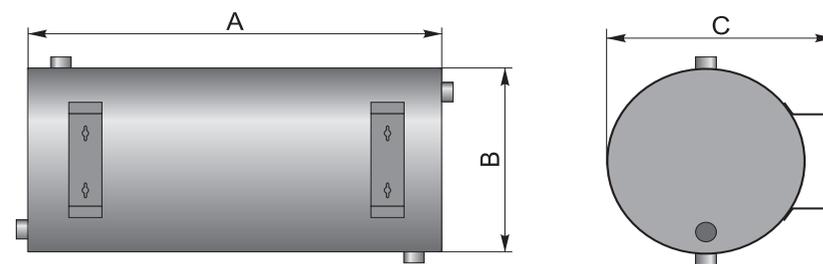
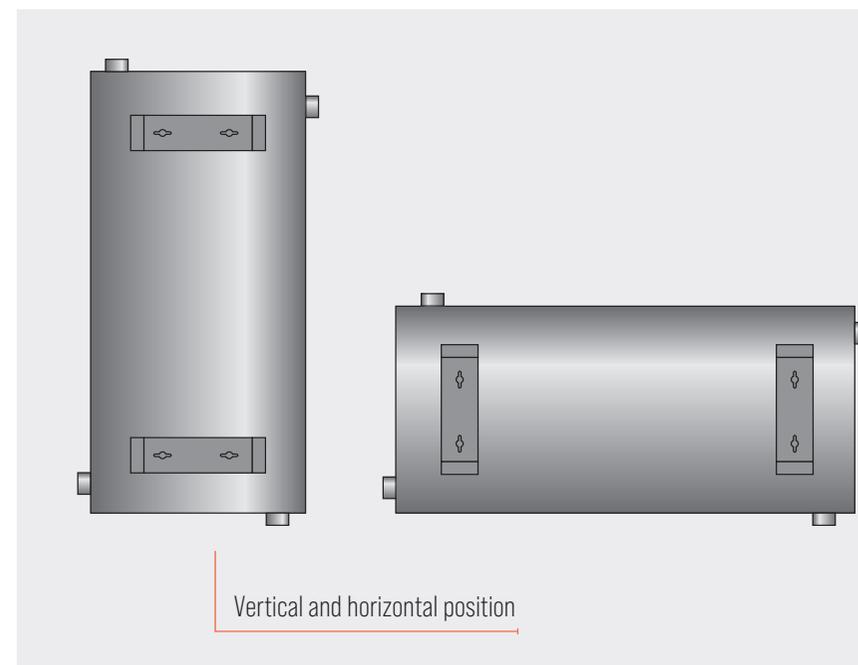
## Characteristics of OPC expansion vessels

- Volumes of open expansion vessels: 30, 50, 100, 200 lit.
- Material: construction steel HRN EN S235JRG2.
- Max. operating overpressure – it is installed as the highest point of the open central heating system, open to the surrounding air.
- Prepared connections for installation.
- Standard delivery does not include insulation.
- They are made in accordance with ISO 9001 and ISO 14001.



OPC		30	50	100	200
Volumen	[lit.]	30	50	100	200
Vessel length A	[mm]	500	750	835	1150
Vessel diameter B	Ø [mm]	300	300	400	480
Total width C	[mm]	350	350	455	535
Connections	[R]	1"	1"	5/4"	6/4"
Mass	[kg]	13	18	26	42

## Basic dimensions



# CentroPlus and CentroPlus-B



## Two combustion chamber boilers

**CentroPlus** and **CentroPlus-B** steel hot water boilers with nominal heat output of 25, 35 and 49 kW have two separate combustion chambers in common boiler water. The left combustion chamber is used for burning solid fuel, and the right for burning pellets or liquid fuel. The possibility of combining solid fuel heating and automatic switching on of oil or pellet burners at the moment when solid fuel does not meet the need for heat, makes this boiler especially interesting.

A special feature of **CentroPlus-B** boilers is the built-in stainless steel tank for domestic hot water immersed in boiler water, which makes it extremely interesting, because it ensures constant heating of hot water in the tank without additional investment. The successful combination of modern technologies and quality construction materials with proven technical solutions give the boilers safety and reliability in operation with ease of installation and use. They are made in accordance with the European standard EN 304 and EN 303-5.



CHOPPED WOOD, UP TO  
0,5m



WOOD BRIQUETTES



CHARCOAL



WOOD PELLETS



FUEL OIL

WITH ADDITIONAL EQUIPMENT



## Characteristics of CentroPlus and CentroPlus-B boilers

- CentroPlus hot water boiler intended for central heating, fired with solid fuel, solid and liquid fuels and solid fuels and pellets, with a rated heat output of 25, 35 and 49 kW.
- Possibility of alternating use of both combustion chambers.
- Only one flue connection.
- Possibility of installing a thermal protection on the factory-prepared openings.
- A separate boiler body, separate casing with thermal insulation and separate oil or (Cm Pellet-set Touch) burner are supplied which allows easy transport and installation and reduces risk from damage.
- The delivery of the boiler includes a thermometer, cleaning accessories, ashtrays and a draft regulator.
- The CentroPlus-B boiler (25, 35 and 49 kW) has a built-in stainless steel hot water tank that does not require a special circulation pump, which would otherwise be needed if the tank is outside the boiler.
- The boiler has been tested and certified according to the European standard EN 303-5 and EN 304 and manufactured in accordance with the standard ISO 9001 and ISO 14001.

### Solid fuel combustion chamber

- Adequately dimensioned combustion chamber with triple pass flue gas flow ensure a high degree of efficiency of the boiler, which makes it "economical".
- The large door and the combustion chamber of the boiler allow heating with large solid fuel and easily cleaning and maintenance.

### Liquid fuel / pellet furnace

- Properly dimensioned combustion chamber with turbulators ensures a high degree of boiler efficiency, which makes it "economical".
- Lot of water in the boiler reduces the number of starts and prolongs the life of the burner and saves energy.
- The right boiler door is prepared for the installation of a pellet/oil burner.



Thermometer, draft regulator connector



Boiler connections



Cable holders



Cleaning accessories



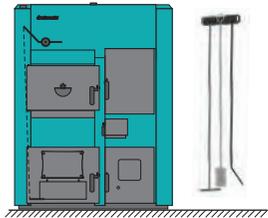
Boiler delivery  
CentroPlus



Boiler delivery  
CentroPlus-B

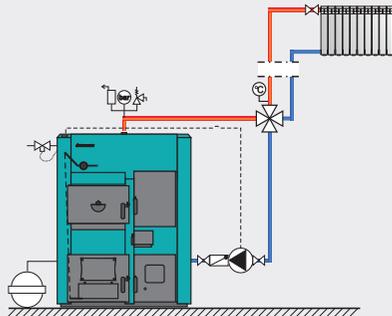


## Delivery and obligatory additional equipment:



### Delivery

- Boiler body with boiler doors
- Exterior casing with insulation and pump thermostat, draft regulator, set (screws, dowels, plug, rosettes), cleaning accessories (scraper, poker, brush, accessory holder)



### Solid fuel firing, without CAS buffer tank

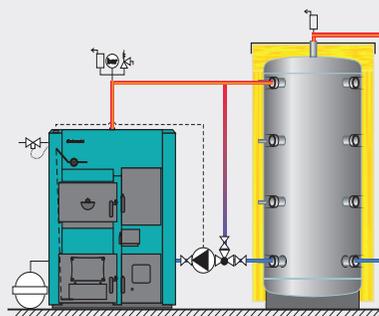
- Manual 4-way mixing valve

### Closed heating system

- Thermal valve, thermal exchanger (only 49kW), safety airvent group (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel



### Solid fuel firing, with CAS buffer tank

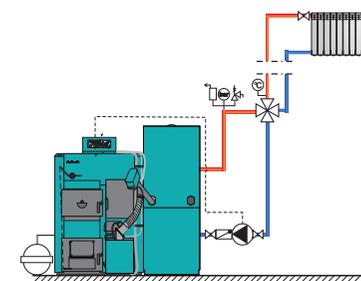
- Buffer tank CAS (30lit/kW), 3-way thermostatic valve LTC, VTC ... (60;)

### Closed heating system

- Thermal valve, thermal exchanger (only 49 kW), safety airvent group (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel



### Wood pellet firing

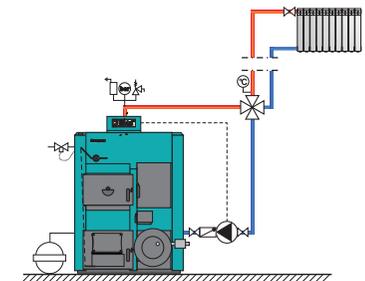
- Cm Pelet-set Touch (25 / 35kW) with fan flap
- Manual 4-way mixing valve or buffer tank CAS (30lit/kW) and LTC, VTC ... (60 °C)

### Closed heating system

- Safety airvent and expansion vessel

### Open heating system

- Open expansion vessel



### Fuel oil firing only

- Boiler controller EKO-CK/CKB
- Fuel oil burner; manual 4-way mixing valve or buffer tank CAS and LTC, VTC ... (60 °C)

### Closed heating system

- Safety airvent group and expansion vessel

### Open heating system

- Open expansion vessel

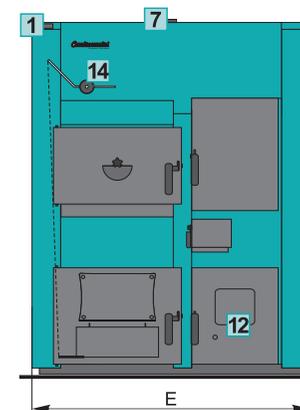
## Basic dimensions

1	Thermometer	6	Cold DHW	10	Filling/draining
2	Pump thermostat connector	7	Main flow	11	Ash box, right side
3	Safety line	8	Thermal protection sensor mounting hole	12	Pellet/fuel oil burner installation door
4	Hot DHW	9	Return flow	13	Flue gas tube
5	DHW recirculation			14	Draft regulator

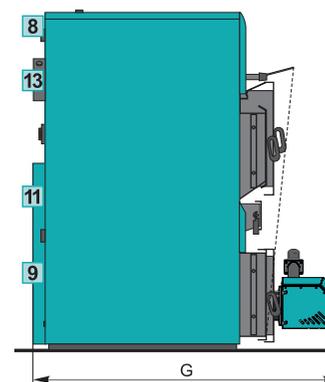
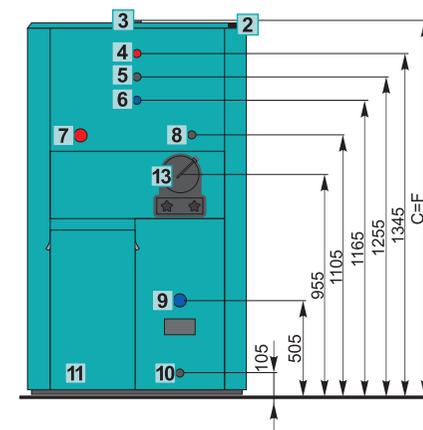
CENTROPLUS		25	35	50
Rated heat output	[kW]	25	35	49
Boiler water content	[l]	175	190	243
DHW tank water content	[l]	-	-	-
Boiler mass	[kg]	464	522	650
Flue gas tube diameter*/height	∅ [mm]	150/955	160/955	180/955
Chimney underpressure	[Pa]	17	19	22
Main/Return flow	[R]	5/4"	5/4"	5/4"
Safety line	[R]	3/4"	3/4"	3/4"
Filling/Draining	[R]	1/2"	1/2"	1/2"
Cold/hot DHW connection	[R]	-	-	-
Recirculation connection	[R]	-	-	-
Max. operating temperature	[°C]	90	90	90
Max. operating overpressure	[bar]	2,5	2,5	2,5
Boiler body dimensions AxBxC	[mm]	1065x820x1260	1065x890x1260	1140x1040x1260
Total boiler dimensions DxExF	[mm]	1065x915x1260	1065x1015x1260	1140x1145x1260
Boiler base depth	[mm]	635	635	710
Total depth with pellet burner G	[mm]	1350	1350	1420
Energy efficiency class		A	A	-

CENTROPLUS-B		25	35	50
Rated heat output	[kW]	25	35	49
Boiler water content	[l]	192	192	243
DHW tank water content	[l]	80	80	100
Boiler mass	[kg]	512	522	650
Flue gas tube diameter*/height	∅ [mm]	150/955	160/955	180/955
Chimney underpressure	[Pa]	17	19	22
Main/Return flow	[R]	5/4"	5/4"	5/4"
Safety line	[R]	3/4"	3/4"	3/4"
Filling/Draining	[R]	1/2"	1/2"	1/2"
Cold/hot DHW connection	[R]	3/4"	3/4"	3/4"
Recirculation connection	[R]	3/4"	3/4"	3/4"
Max. operating temperature	[°C]	90	90	90
Max. operating overpressure	[bar]	2,5	2,5	2,5
Boiler body dimensions AxBxC	[mm]	1070x820x1560	1065x890x1560	1140x1040x1560
Total boiler dimensions DxExF	[mm]	1065x915x1560	1065x1015x1560	1140x1145x1560
Boiler base depth	[mm]	635	635	710
Total depth with pellet burner G	[mm]	1350	1350	1420
Energy efficiency class		A	A	-

CentroPlus



CentroPlus-B



\* the inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube

46

47



CentroPlus and CentroPlus-B boilers

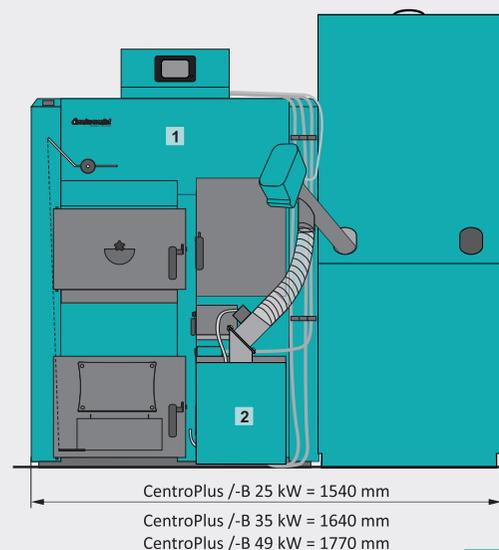
## FOR SOLID FUEL AND PELLET FIRING

CentroPlus and CentroPlus-B steel hot water boilers can be fired with pellets and solid fuel. For this type of heating, it is necessary to install a **Cm Pelet-set Touch with a fan flap**, a manual 4-way mixing valve or a buffer tank on the boiler.

In addition to firing only with pellets or only with solid fuel, a combination of firing with solid fuel and semi-automatic switching on of pellet burner is possible at a time when solid fuel does not meet the need for heat. The operation of this "mini" plant is controlled by digital controller in combination with a draft regulator when using solid fuel. The pellet tank is an integral part of the plant and is filled from the top (pellet tank volume 0.37 m<sup>3</sup> or 0.8 m<sup>3</sup>). When burning wood pellets, the savings in fuel are up to 40% compared to the heating system with fuel oil. It is also possible to install an oil burner and boiler controller EKO-CK/CKB in the oil/solid fuel version on the boiler.

CentroPlus and CentroPlus-B

## SOLID FUEL / PELLETS



## Basic parts

- |   |   |   |                               |
|---|---|---|-------------------------------|
| 1 | CentroPlus / -B boiler                      | 3 | Pellet controller CPREG Touch |
| 2 | Cm Pelet-set Touch with fan flap:           |   |                               |
|   | - pellet burner                             |   |                               |
|   | - fan flap                                  |   |                               |
|   | - pellet controller                         |   |                               |
|   | - pellet tank (0.37 or 0.8 m <sup>3</sup> ) |   |                               |
|   | - pellet transporter                        |   |                               |



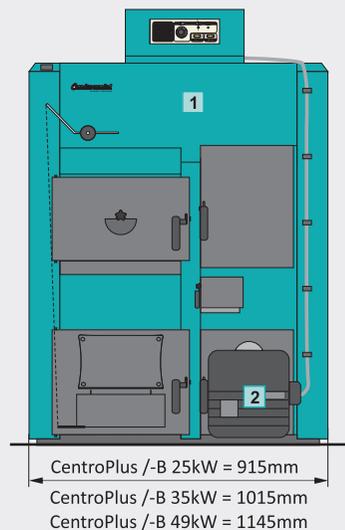
CentroPlus and CentroPlus-B boilers

## FOR SOLID AND LIQUID FUEL FIRING

CentroPlus and CentroPlus-B steel hot water boilers can be fired with solid and liquid fuel. For this type of firing, it is necessary to install an oil burner and boiler controller EKO-CK/CKB on the boiler. In addition to firing only **with liquid fuel or only solid fuel**, a combination of firing with solid fuel and semi-automatic switching on of the oil burner at the moment when the solid fuel does not meet the need for heat is also possible. The operation of this "mini" plant is controlled by boiler controller in combination with a draft regulator when using solid fuel. It is also possible to retrofit the Cm Pelet-set Touch to the boiler with a fan flap in the pellet/solid fuel version.

CentroPlus and CentroPlus-B

## SOLID FUEL / FUEL OIL



## Basic parts

- 1 CentroPlus /-B boiler
- 2 Oil burner
- 3 EKO-CK/CKB controller



## BioTec-C



### Wood gasification hot water boiler

**BioTec-C** steel hot water boilers with a nominal heat output of 25 to 45 kW are designed for wood firing. They are intended for heating from the smallest to medium-sized buildings. By the principle of wood gasification (pyrolysis), the fuel burns thoroughly. The spacious combustion chamber allows fuel firing up to 550 mm in length. The duration of one charge is at least 4 hours at rated heat output or can be for the whole day if the need for heating is reduced.

The boiler has the possibility of maintaining the glow for up to 8 hours, so it is unnecessary to manually ignite the boiler within that period if you want to continue heating. The operation of the boiler is controlled by the factory-installed controller by means of the boiler and the flue gas temperature sensors and by changing the speed of the pressure fan at the flue gas outlet from the boiler.

The boiler is installed on a central heating installation indirectly via a three-way thermostatic valve or a three-way mixing valve with actuator and a buffer tank CAS. The boiler has been tested and certified according to EN 303-5 and meets class 5.

It is manufactured in accordance with ISO 9001 and ISO 14001 and meets the requirements for ECO design (Commission Regulation (EU) 2015/1189).



CHOPPED WOOD, UP TO  
0,5m

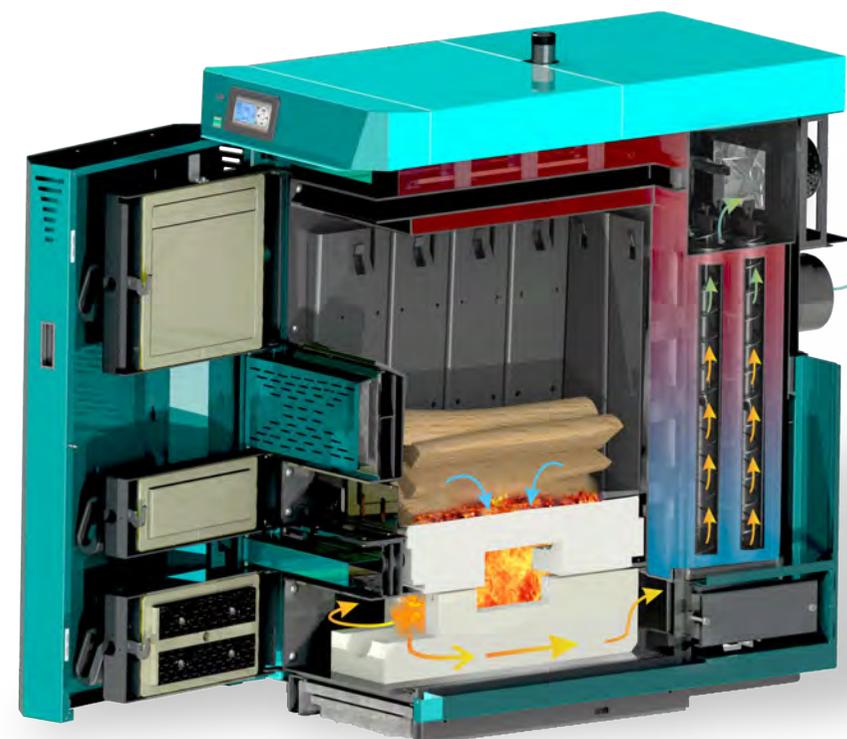


WOOD BRIQUETTES



## Characteristics of BioTec-C boilers

- Boiler class 5.
- Meets the requirements for ECO design (COMMISSION REGULATION (EU) 2015/1189).
- Hot water boiler for central heating intended for firing wood logs with a moisture content below 25% (air drying for at least 1 year).
- A modern boiler in which the principle of wood gasification (pyrolysis) thoroughly burns fuel, thus reducing the need for cleaning to a minimum (depending on the quality of wood and the load of the boiler).
- Design solutions for combustion gases and their additional combustion ensure a high level of boiler efficiency, which makes it extremely economical.
- It is environmentally friendly because it achieves low levels of harmful ingredients in the flue gases.
- Three doors and a boiler combustion chamber enable heating with large logs and, above all, easy cleaning and maintenance.
- It is intended for installation in open or closed central heating systems exclusively via buffer tanks (CAS), volume min. 50lit/kW and 3-way thermal valve at 60°C or 3-way mixing valve with actuator.
- Delivered factory prewired with built-in boiler controller that controls the boiler.
- The factory-fitted controller with display and 4 buttons controls the boiler by means of a boiler sensor and a flue gas temperature sensor and by changing the speed of the pressure fan at the flue gas outlet of the boiler.
- In addition to controlling the operation of the boiler, boiler pump and return protection (via 3-way mixing valve with actuator and return sensor), the controller controls the filling of the buffer tank and can control the heating of DHW tank (domestic hot water) (sensor + pump).
- Easy transport and leveling with 4 adjustable boiler legs.
- The boiler has been tested and certified according to EN 303-5 and meets class 5 and is manufactured in accordance with ISO 9001 and ISO 14001.

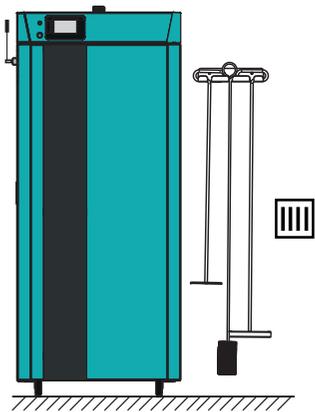


Boiler cross section



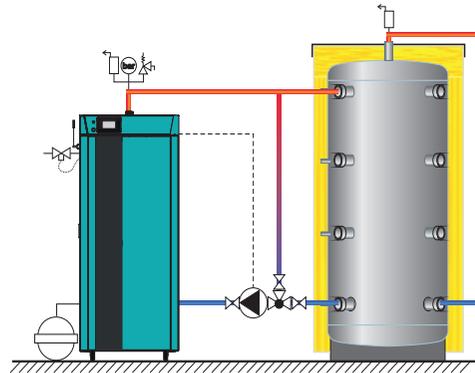
Digital controller

## Delivery, obligatory and optional accessories



### Delivery

- Boiler with casing, prewired with 4 additional sensors and cleaning accessories (2x scraper + brush + cleaning accessories holder) on a wooden pallet.



### Obligatory: Buffer tank connection

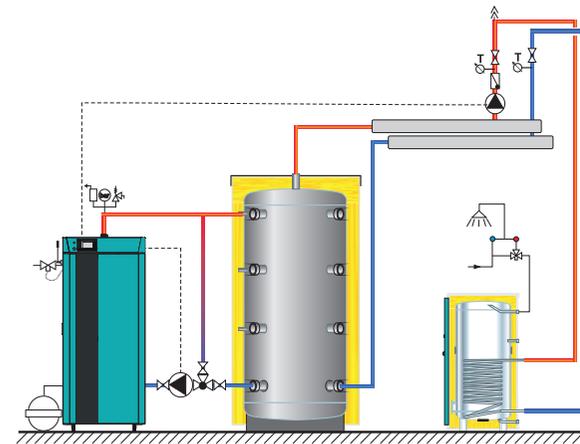
- Buffer tank CAS (min. 50lit/kW)
- 3-way thermostatic valve LTC, VTC ... (60°C) or 3-way mixing valve with actuator

### Closed heating system

- Thermal valve, safety airvent group (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel



### Connection to the DHW system

- Buffer tank CAS (min. 50lit/kW)
- 3-way thermostatic valve LTC, VTC ... (60°C) or 3-way mixing valve with actuator
- DHW tank (TB, STB)

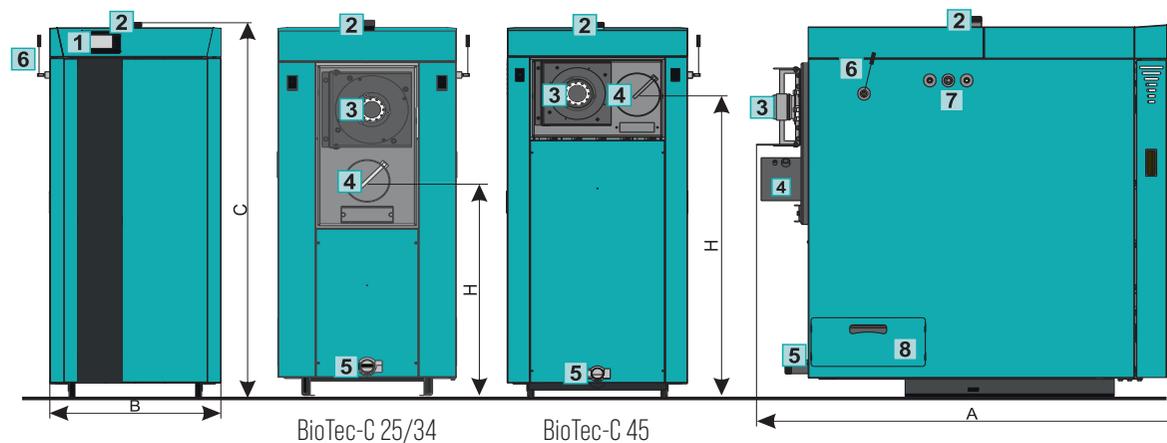
### Closed heating system

- Thermal valve, safety airvent group (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel

## Basic dimensions



BioTec-C		25	34	45
Nominal heat output	[kW]	25	34	45
Flue gas tube diameter*/ height H **	∅ [mm]	150* / (755+30)**	160* / (755+30)**	180* / (1260+30)**
Main flow	(R)	6/4"	6/4"	6/4"
Return flow	(R)	6/4"	6/4"	6/4"
Filling/Draining	(R)	3/4"	3/4"	3/4"
Flue gas temperature	[°C]	130	130	130
Max. operating temperature	[°C]	90	90	90
Max. operating overpressure	[bar]	2,5	2,5	2,5
Total boiler depth (A)	[mm]	1400	1370	1385
Total boiler height** (C)	[mm]	(1330+30)**	(1370+30)**	(1565+30)**
Total boiler width (B)	[mm]	585	700	700
Log length	[mm]	450-550	450-550	450-550
Volume of wood firebox	[lit.]	90	144	176
Boiler water content	[lit.]	115	130	150
Total boiler mass	[kg]	517	604	675
Energy efficiency class		A+	A+	A+

- 1 Boiler controller
- 2 Main flow
- 3 Fan with motor
- 4 Flue gas tube
- 5 Return flow
- 6 Flue pipe cleaning lever
- 7 Place for installation of thermal valve
- 8 Side cleaning opening of flue lower chamber

\* inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube

\*\* possible adjustment + 5 / -15mm



## BioTec-L

### Wood gasification hot water boiler

Steel hot water boilers **BioTec-L** with a nominal heat output of 25 up to 45 kW are designed for wood firing. They are intended for heating from the smallest to medium-sized buildings.

By the principle of wood gasification (pyrolysis), the fuel burns thoroughly. Spacious combustion chamber allows fuel firing up to 550 mm in length. The duration of one charge is at least 4 hours at rated heat output or can be for the whole day if the need for heating is reduced.

The boiler has the possibility of maintaining the glow for up to 8 hours, so it is unnecessary to manually ignite the boiler within that period if you want to continue heating. The operation of the boiler is controlled by a factory-installed controller by means of boiler sensor, lambda probe, combustion chamber temperature sensor, primary and secondary air intake motors and by changing the speed of the pressure fan at the flue gas outlet from the boiler.

The boiler is installed on a central heating installation indirectly via a three-way thermostatic valve or a three-way mixing valve with actuator and a buffer tank CAS. The boiler has been tested and certified according to EN 303-5 and meets class 5.

It is manufactured in accordance with ISO 9001 and ISO 14001 and meets the requirements for ECO design (Commission Regulation (EU) 2015/1189).



CHOPPED WOOD, UP TO  
0,5m



WOOD BRIQUETTES



## Characteristics of BioTec-L boilers

- Boiler class 5.
- Meets the requirements for ECO design (COMMISSION REGULATION (EU) 2015/1189).
- Hot water boiler for central heating intended for firing wood logs with a moisture content below 25% (air drying for at least 1 year).
- A modern boiler in which the principle of wood gasification (pyrolysis) thoroughly burns fuel, thus reducing the need for cleaning to a minimum (depending on the quality of wood and the load of the boiler).
- Design solutions for combustion gases and their additional combustion ensure a high level of boiler efficiency, which makes it extremely economical.
- It is environmentally friendly because it achieves low levels of harmful ingredients in the flue gases.
- Three large doors and a boiler firebox enable heating with large logs and, above all, easy cleaning and maintenance.
- It is intended for installation in open or closed central heating systems exclusively via buffer tanks (CAS), volume min. 50lit/kW and 3-way thermal valve at 60°C or 3-way mixing valve with actuator.
- Delivered factory prewired with built-in boiler controller that controls the boiler.
- The factory-fitted touch screen controller controls the boiler by means of a lambda probe, boiler combustion temperature sensor, boiler sensor, primary and secondary air intake motor control and by changing the speed of the pressure fan at the flue gas outlet of the boiler. The controller can also control 1 heating circuit with mixing valve and DHW circuit.
- Possible upgrade with web monitoring and management, and heating modules for controlling up to max. 8 heating circuits via mixing valves according to outdoor or room temperature (accessories).
- The boiler has been tested and certified according to EN 303-5 and meets class 5 and is manufactured in accordance with ISO 9001 and ISO 14001.



Boiler cross section



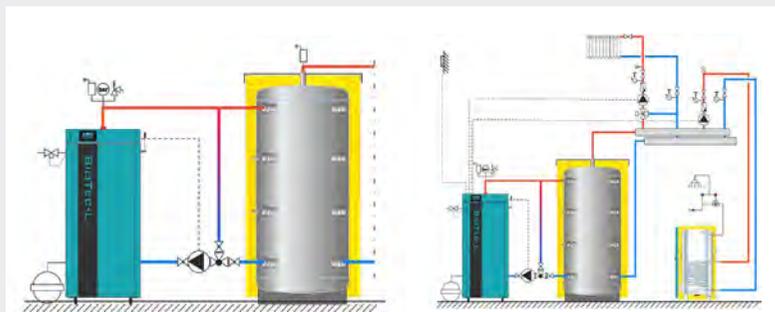
Multifunctional controller with a touch screen

## Delivery, obligatory and optional accessories



### Delivery

- Boiler with casing, prewired, with 4 additional sensors, outdoor temperature sensor, room corrector CSK and cleaning accessories (2x scraper, brush, cleaning accessory holder)



### Obligatory: Buffer tank connection

- Buffer tank CAS (min. 50lt/kW)
- 3-way thermostatic valve LTC, VTC ... (60°C); or a 3-way mixing valve with actuator

### Closed heating system

- Thermal valve, safety airvent group (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel

### Connection to a system with one mixing heating circuit and DHW tank

- Buffer tank CAS
- 3-way thermostatic valve LTC, VTC ... (60°C)
- 3-way mixing valve with actuator

### Closed heating system

- Thermal valve, safety airvent group (2.5 bar) and expansion vessel

### Open heating system

- Open expansion vessel



### CM-GSM module for alarm notification via mobile network // CAL // CM-WiFi box

- Boiler status notification via mobile network via SMS or call (errors, warnings ...)
- Boiler condition inquiry - operating phase, temp. boiler, via SMS in the selected language

### CAL alarm set (speaker/lamp)

- Boiler error or warning signaling module with sound or light

### CM WiFi-box

- Provides web portal monitoring and boiler management

### CM2K control module for 2 heating circuits // CSK // CSK-Touch

- Control up to 2 heating circuits according to outdoor temp. (Control up to 2 mixing valves and up to 2 heating or DHW or recirculation pumps).
- Up to 4 CM2K modules can be connected (up to 8 heating circuits)

- Up to 2 room correctors CSK / CSK-Touch per module can be connected

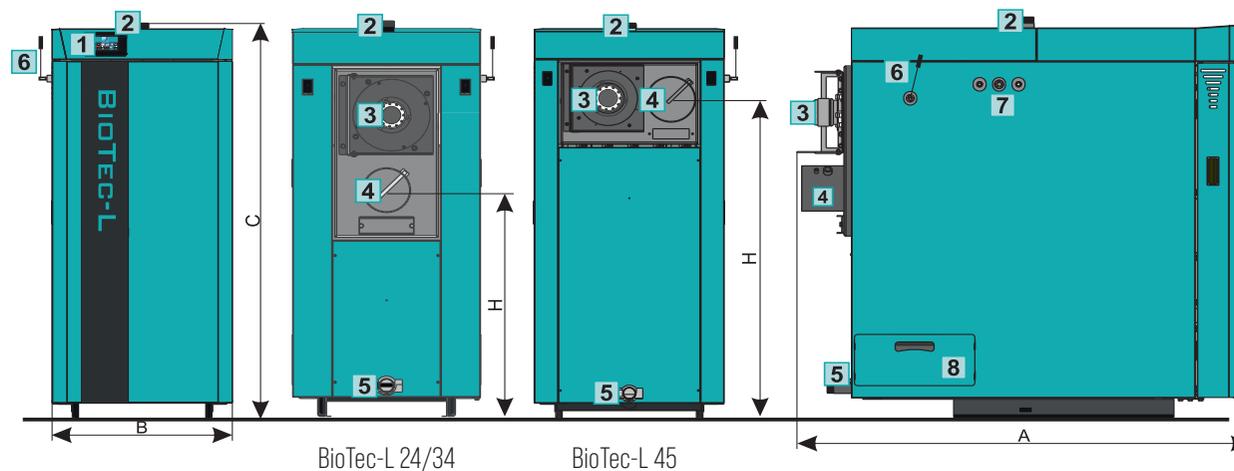
### CSK

- Room corrector

### CSK-Touch

- Room corrector with touch screen

## Basic dimensions



- 1 Boiler controller
- 2 Main flow
- 3 Fan with motor
- 4 Flue gas tube
- 5 Return flow
- 6 Flue pipe cleaning lever
- 7 Place for installation of thermal valve
- 8 Side cleaning opening of flue chamber

BIOTEC-L		25	34	45
Nominal heat output	[kW]	25	34	45
Flue gas tube diameter*/ height H **	∅ (mm)	150* / (755+30)**	160* / (755+30)**	180* / (1260+30)**
Main flow	(R)	6/4"	6/4"	6/4"
Return flow	(R)	6/4"	6/4"	6/4"
Filling/Draining	(R)	3/4"	3/4"	3/4"
Flue gas temperature	[°C]	130	130	130
Max. operating temperature	[°C]	90	90	90
Max. operating overpressure	[bar]	2,5	2,5	2,5
Total boiler depth (A)	(mm)	1400	1370	1385
Total boiler height** (C)	(mm)	(1330+30)**	(1370+30)**	(1565+30)**
Total boiler width (B)	(mm)	585	700	700
Log length	(mm)	450-550	450-550	450-550
Volume of wood firebox	(lit.)	90	144	176
Boiler water content	(lit.)	115	130	150
Total boiler mass	(kg)	519	606	677
Energy efficiency class		A+	A+	A+

\* Inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube

\*\* Possible adjustment + 5 / -15mm

## BioTec Plus



### Two combustion chamber hot water boiler – wood gasification/pellet

Steel, two combustion chamber hot water boiler **BioTec Plus** is intended for firing wood logs and pellets. In the pellet combustion chamber is a factory-installed pellet burner with the function of automatic cleaning of the grate and firing pellets, and in the second combustion chamber the logs are burned by the principle of pyrolysis (wood gasification).

Multifunctional digital boiler controller using lambda probe and modulating underpressure fan optimizes combustion in both combustion chambers thus raising the efficiency of the boiler.

The pellet tank is an integral part of the boiler on which it is possible to install automatic vacuum pellet suction system.

Next to the boiler is obligatory to install an buffer tank (CAS). Boiler controller can be extended with a control module CM2K (control 2 heating circuits according to outdoor temperature, max.4xCM2K), CM-WiFi box for connecting the boiler to the web portal, vacuum suction system, CM-GSM ...



CHOPPED WOOD, UP TO  
0,5m



WOOD BRIQUETTES

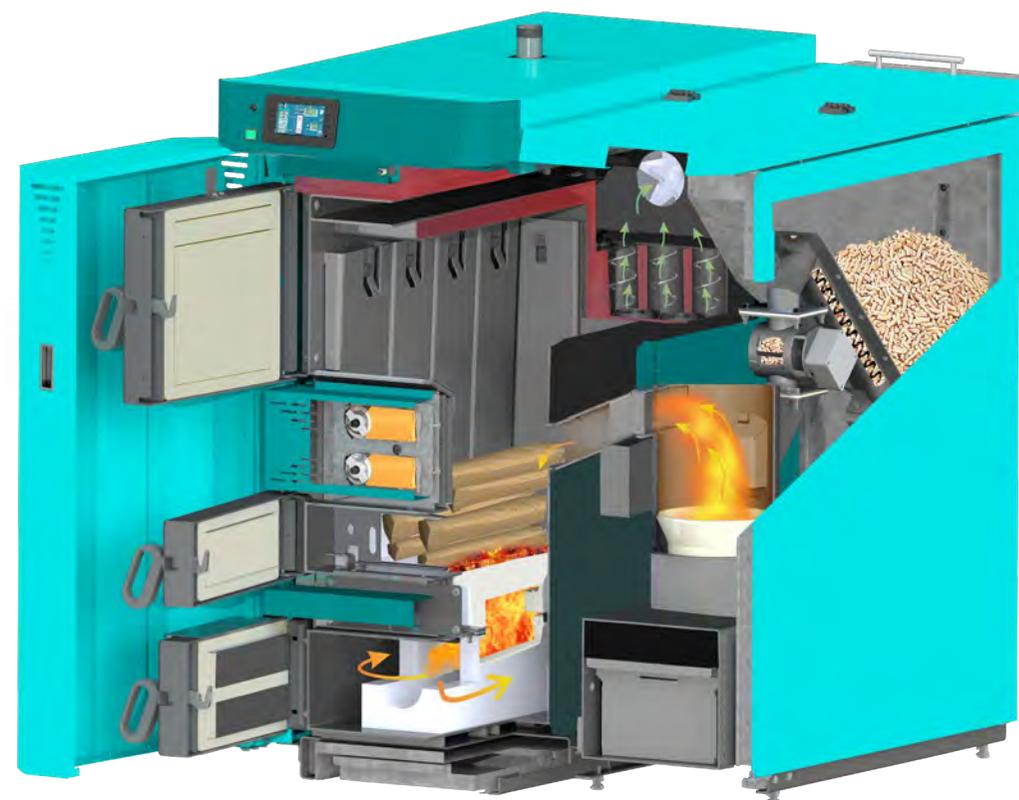


WOOD PELLETS



## Characteristics of BioTec Plus boilers

- Boiler class 5, ecodesign.
- Two combustion chamber hot water boiler on wood logs and wood pellets, power 25, 35 and 45 kW.
- Compact boiler with high efficiency and low maintenance needs (with standard automatic cleaning of the pellet grate, it is possible to additionally order automatic cleaning of flue passages).
- The factory-installed controller controls the boiler by means of a lambda probe, boiler sensor, boiler pyrolytic combustion chamber temperature sensor and flue gas temperature sensor by means of a modulating flue gas fan.
- The controller can also control 1 heating circuit with mixing valve and DHW circuit.
- Modulating boiler operation (30 -100% power).
- Fuel level sensor in the pellet tank.
- Multifunctional digital controller with color touch screen runs the wood gasification (pyrolytic) process of combustion of the boiler with logs and can automatically ignite the pellet side of the boiler when there is no more wood in the boiler.
- Designed for installation in open or closed heating systems exclusively via buffer tank (CAS), volume min. 50lit/kW.
- The boiler has been tested and certified according to EN303-5 and meets Class 5 and is manufactured in accordance with ISO 9001 and ISO 14001.

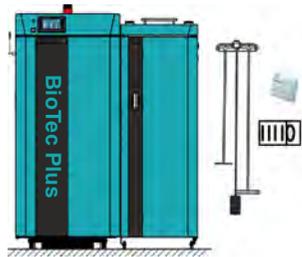


Boiler cross section

Multifunctional controller  
with a touch screen

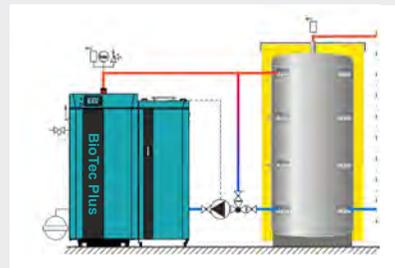


## Delivery, obligatory and optional accessories



### Delivery

- Boiler with casing on 2 wooden pallets (left side of the boiler on one pallet, right side of the boiler on the other pallet), prewired, with 4 additional sensors, outdoor temperature sensor, room corrector CSK and cleaning accessories (2x scraper, brush, accessory holder for cleaning).



### Obligatory: Buffer tank connection

- Buffer tank CAS (min. 50lit/kW)
- 3-way thermostatic valve LTC, VTC ... (60°C) or 3 way valve with actuator

### Closed heating system

- Thermal valve, safety airvent group (2.5 bar) and expansion vessel;

### Open heating system

- Open expansion vessel



### CM-GSM module for alarm notification via mobile network // CAL // CM-WiFi box

- Boiler status notification via mobile network via SMS or call (errors, warnings ...)
- Boiler condition inquiry - operating phase, temp. boiler, via SMS in the selected language

### CAL alarm set (speaker/lamp)

- Boiler error or warning signaling module with sound or light

### Cm WiFi-box

- Provides web portal monitoring and boiler management

### Autom. cleaning of flue passage pipes

- Boiler controller controls the cleaning of the flue passage pipes in the boiler



### CM2K control module for 2 heating circuits // CSK // CSK-Touch

- Control up to 2 heating circuits according to outdoor temp. (Control up to 2 mixing valves and up to 2 heating or DHW or recirculation pumps).
- Up to 4 CM2K modules can be connected (up to 8 heating circuits)
- Up to 2 room correctors CSK / CSK-Touch per module can be connected CSK

### CSK

- Room corrector

### CSK-Touch

- Room corrector with touch screen



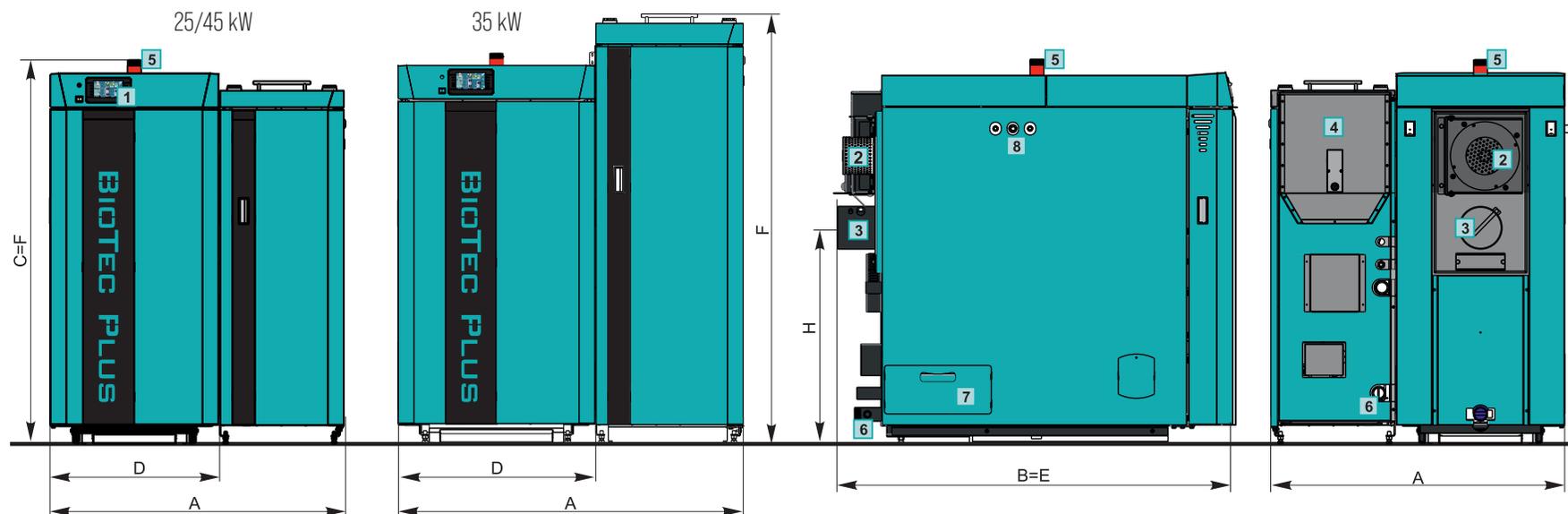
### Pellet vacuum suction system

- Vacuum suction system with mole from the pellet storage
- Vacuum suction system from a large pellet tank (Centropelet box)
- Vacuum suction system by conveyor from the pellet storage
- Max. 10m long flex. pipes (in one direction) from pellet storage
- For DINplus or ENplus A1 pellets only

### CVDOP

- Cyclone for pellet vacuum suction system to remove dust from pellets

## Basic dimensions



BIOTEC Plus		25	35	45
Nominal heat output - wood	[kW]	25	35	45
Nominal heat output - pellets	[kW]	25	35	45
Boiler width A	[mm]	1025	1230	1230
Boiler depth B	[mm]	1385	1445	1385
Boiler height C	[mm]	1350	1395	1590
Width for entering the boiler room D	[mm]	610	720	720
Depth for entering the boiler room E	[mm]	1385	1445	1405
Height for entering the boiler room F	[mm]	1350	1520	1590
Pellet tank volume	[lit.]	80	148	148
Main flow/Return flow	[G]	6/4"	6/4"	6/4"
Flue gas tube diameter*/Height H	Ø/mm	150/765	160/765	180/1265
Energy efficiency class		A+	A+	A+

- 1 Digital controller
- 2 Fan with motor
- 3 Flue gas tube connection
- 4 Pellet tank
- 5 Main flow
- 6 Return flow
- 7 Side cleaning opening of flue chamber
- 8 Place for installation of thermal protection

\* inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube

## 3-way thermostatic valve ESBE VTC 512, 531

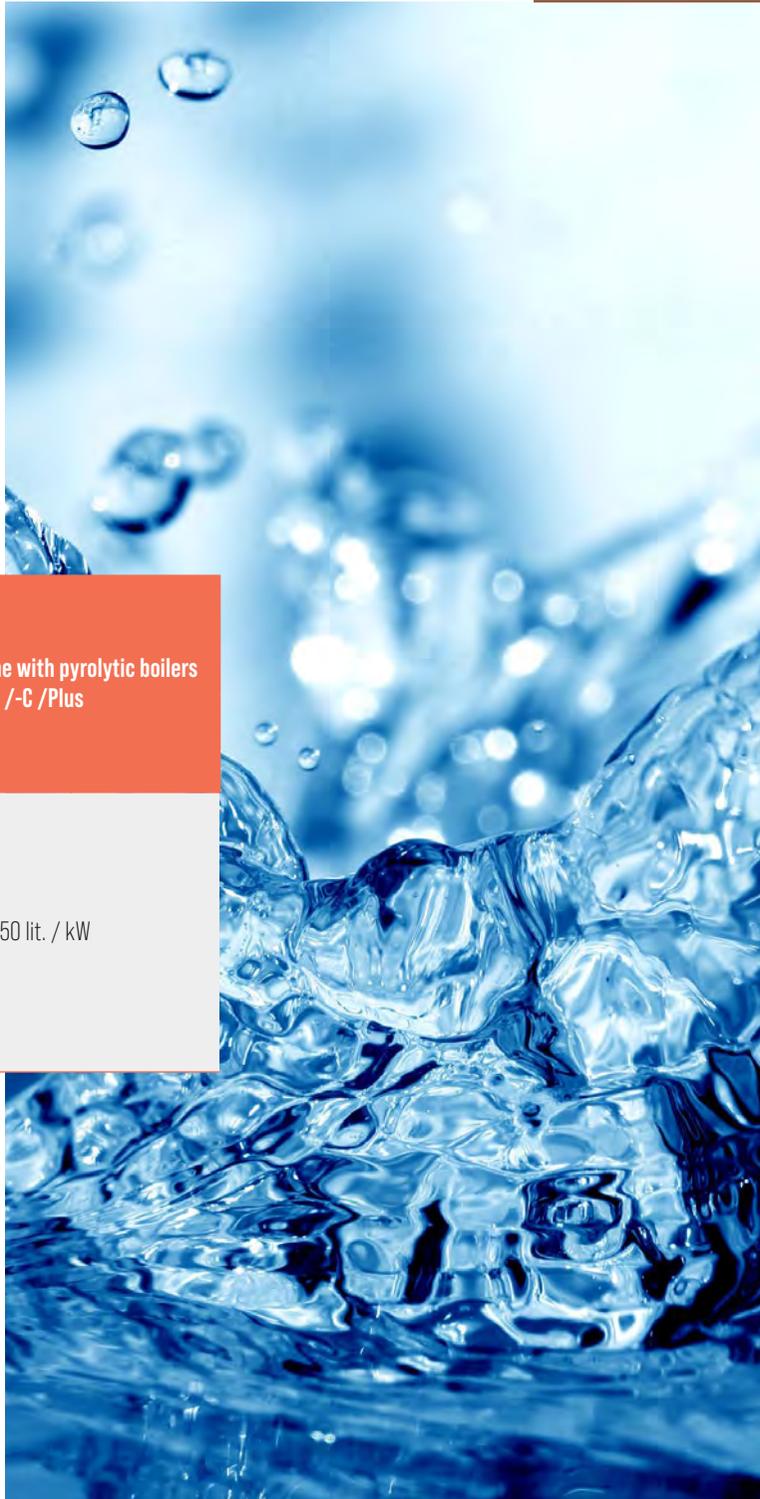
### For installation in central heating systems, boiler + CAS

Three-way thermostatic valves ESBE VTC 512 and 531 are intended for installation in central heating systems with solid fuel boilers (BioTec-L / -C, BioTec Plus, EKO-CK P, EKO-CKB P, CentroPlus, - / B ...) and buffer tanks CAS, all for the purpose of protecting boilers from condensation of water vapor from flue gases. Valves ESBE VTC 512 and 531 enable quick achievement and maintenance of the operating temperature of the boiler by changing the ratio of the opening of the return flow from the installation of central heating and short-circuit line from the boiler. A circulation pump must also be installed in heating systems where ESBE VTC 512 and 531 are installed.



ESBE VTC 531

ESBE VTC 512



## ESBE VTC 512 and 531 valve characteristics

- ESBE VTC 512 is a 3-way thermal valve with external threaded connections.
- ESBE VTC 531 is a 3-way thermal valve with 3 shut-off valves with internal thread, pump connection, 3 thermometers and insulation.
- They are installed in heating systems with solid fuel boilers with buffer tanks CAS.
- Maintaining the temperature in the boiler min. 60°C which protects the boiler from condensation.
- The built-in thermostat starts releasing water from the return flow of the installation when the boiler reaches temp. 60°C.
- At a boiler temperature below 60°C, the circulation pump returns water from the main flow to the return flow via a short circuit circuit through the VTC valve.
- The circulation pump must be selected according to the size of the boiler, i.e. from the table with recommended pumps.

Boiler heat output kW	VTC 512 connection (external thread)	VTC 531 connection (internal thread)	Circulation pump type		Buffer tank CAS volume with pyrolytic boilers BioTec-L /-C /Plus
			Grundfos	Wilo	
14 - 25	5/4"	5/4"	Alpha1 32-40	Yonos PICO 30/1-4	Minimum 50 lit. / kW
26 - 40	5/4"	5/4"	Alpha1 32-60	Yonos PICO 30/1-6	
41 - 50	5/4"	5/4"	Alpha1 32-80	Yonos PICO 30/1-8	
51 - 60	5/4"	5/4"	Magna1 32-40	Yonos PICO 30/1-8	
61 - 70	6/4"	6/4"	Magna1 32-40	Yonos PICO 30/1-8	

## 3-way thermostatic valve ESBE LTC 261, 271 Actuator with controller ESBE CRA 111, 121

### For installation in central heating systems, boiler + buffer

3-way thermostatic valves (groups) **ESBE LTC 261 and 271** are intended for installation in central heating systems with solid fuel boilers (BioTec-L / -C, BioTec-Plus, EKO-CK P, EKO-CKB P, CentroPlus, - / B) and buffer tanks CAS, all for the purpose of protection of boilers from condensation of water vapor from flue gases.

**ESBE LTC 261 and 271** enable quick achievement and maintenance of the boiler operating temperature by changing the openness ratio of the return flow from the central heating and short-circuit installation with the boiler, maintaining the boiler return line always above 60°C. They have a built-in circulation pump, thermostatic valve (60°C), shut-off valves, thermometers and insulation.

**ESBE CRA 111/121** is a actuator with a controller for maintaining a constant return temperature (must be set on 60°C), intended for installation on 3-way mixing valves from DN50 to DN150. They are intended for installation with boilers of higher power (from 71-580 kW) when the boiler controller does not protect the return flow.



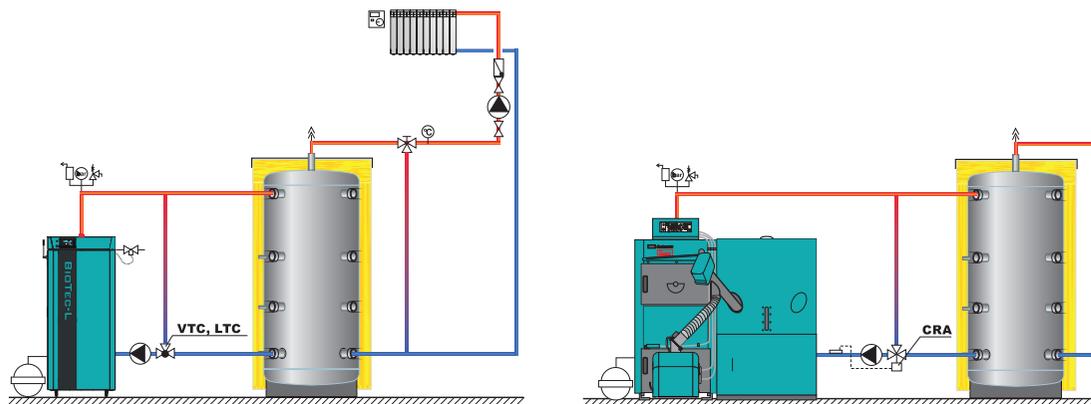
ESBE LTC 271



ESBE CRA 111

## Characteristics of ESBE LTC 261, 271 / ESBE CRA 111,121

- They are installed in heating systems with solid fuel / pellet / wood chip boilers with buffer tanks CAS.
- Maintaining the temperature in the boiler min. 60°C (ESBE LTC 261, 271 / CRA 111/121 set to 60°C) for protecting the boiler from condensation.
- At a boiler temperature below 60°C, the circulation pump returns water from the flow to the return via a short circuit through the group / valve.
- The LTC 261 and 271 groups are equipped with a circulation pump, three shut-off valves and control thermometers, one on each line.
- Actuators CRA 111/121 must be set on 60°C, installed on 3-way mixing valves and a circulating pump of adequate size is required.
- CRA 111 is intended for 3-way mixing valves up to DN50. Supplied with transformer (230V) and temperature sensor.
- CRA 121 is intended for 3-way mixing valves from DN65 to DN150. Supplied with detachable controller with display, transformer (230V) and temperature sensor.



Recommended volumes of buffer tanks CAS	
With wood pellet boilers	min.10 lit/kW
With wood chip boilers	min.12 lit/kW
With solid fuel boilers	min.30 lit/kW
With wood gasification (pyrolytic) boilers	min.50 lit/kW

### Proposal for selection of LTC groups and CRA actuators for 3-way mixing valves:

Boiler heat output	LTC 261 connection (internal thread)	LTC 271 connection (internal thread)	VTC 512 / VTC 531	CRA111 connection + 3-way valve + pump	CRA121 connection+ 3-way valve + pump
14 - 40	5/4"	--	--	--	--
41 - 50	--	6/4"	--	--	--
51 - 70	--	--	vidi str. 48	--	--
71 - 110	--	--	--	DN50	--
111-580	--	--	--	--	DN65-DN150



## CentroPelet Z6 / Z12 / ZR12

### Pellet stove (hot air heating)

**CentroPelet Z** pellet stoves are hot air stoves fired with wood pellets intended for heating the room with hot air with the help built-in fan.

They are steel construction, modern design, with high efficiency.

They are factory delivered with digital controller which is used to manage the operation of the stove. Remote control is standard delivered with **CentroPelet Z12 and ZR12**.

Their great advantage is easy to use and maintain as well installation (no need for radiators, pipes...).



WOOD PELLETS



CentroPelet Z12



CentroPelet Z6

CentroPelet ZR12

## Characteristics of CentroPelet Z / ZR pellet stoves

- Pellet stove for hot air heating by blowing warm air into the room.
- Available in three colors: white, gray, red.
- Pellet stove is supplied with pellets using a screw conveyor and ignites them using an electric heater.
- Automatic switching on/off of the stove is possible.
- The economy mode function allows automatic power reduction when the room temperature approaches the set temperature.
- Possibility to set timers (only with the remote control supplied with the Z12 and ZR12 models).
- In addition, a Wi-Fi module can be ordered, with which it is possible to monitor temp. and control the operation of the stove by a mobile app.
- Integrated pellet tank.



Stove controller



Remote control (only  
Z12 and ZR12)



Combustion chamber grate

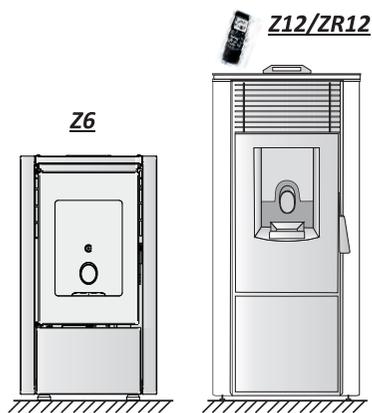
### Available colors



66

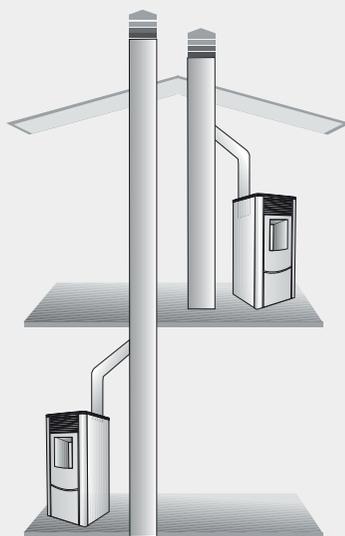
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## Delivery and obligatory accessories



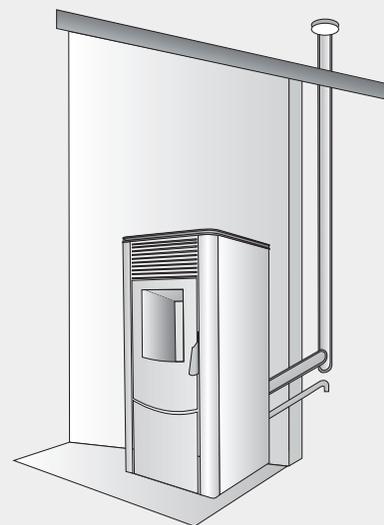
### Delivery

- Pellet stove with controller
- Remote control (Z12 and ZR12 only)



### Flue gas exhaust

- One stove on one chimney



### Flue gas exhaust

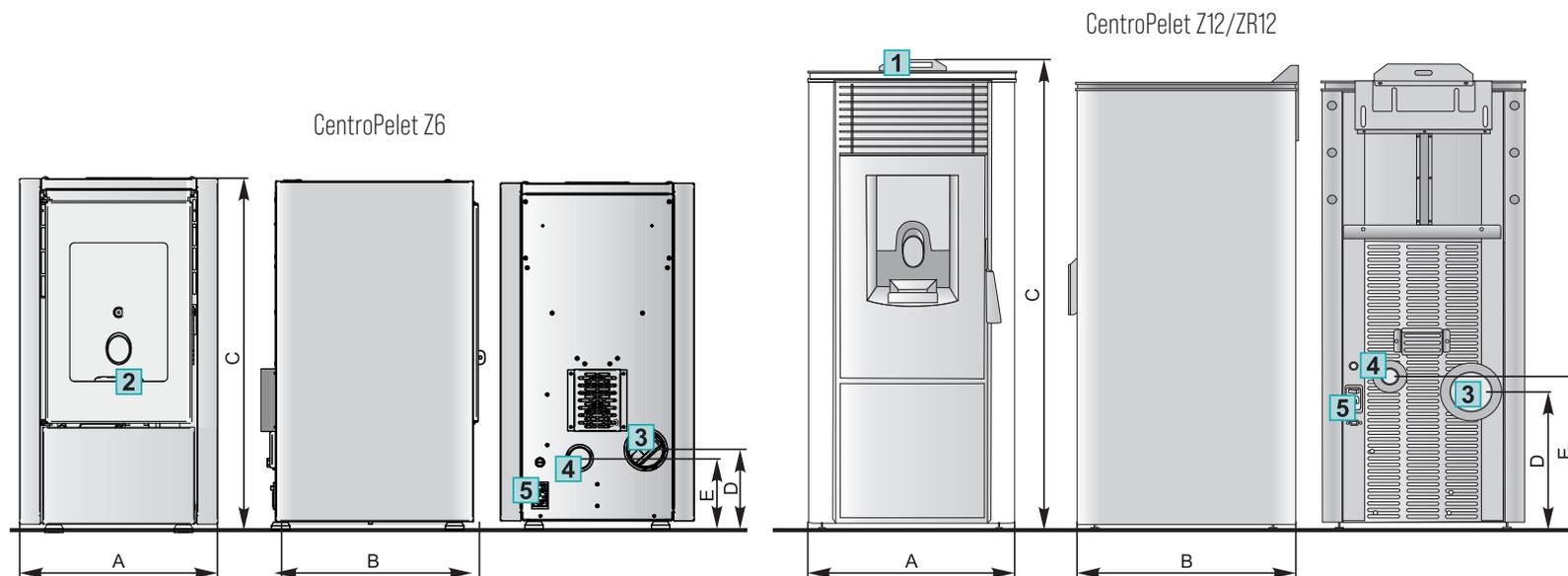
- External flue pipes that must be connected according to local regulations



### Additional equipment

- Chimney flue connection set (flue gas tube 1m, flue gas tube 0,5m, T-piece cover, T-piece, Silicone rosette, Elbow 90°)

## Basic dimensions



CentroPelet		Z6	Z12	ZR12
Heat output	[kW]	2,5 - 5,53	2,64 - 9,05	2,64 - 9,05
Pellet consumption	[kg/h]	0,57 - 1,34	0,6 - 2,6	0,6 - 2,6
Efficiency	[%]	93,34 - 90	92,70 - 89,53	92,70 - 89,53
Flue gas tube diameter	Ø [mm]	80	80	80
Pellet tank volume	[lit kg]	17 11	20 13	20 13
Autonomy	[h]	8 - 19	6,5 - 22	6,5 - 22
Power consumption at nominal heat output	[W]	100 - 300	100 - 300	100 - 300
Noise level (min-max)	[dB]	39 - 52	39 - 52	39 - 52
Mass	[kg]	45	91	91
Width A	[mm]	430	495	495
Depth B	[mm]	430	490	490
Height C	[mm]	765	1000	1000
Dimension D	[mm]	177	260	260
Dimension E	[mm]	158	300	300

- 1 Controller
- 2 Burning chamber grate
- 3 Flue gas outlet connection
- 4 Fresh air supply connection
- 5 Main switch

## CentroPelet ZS



### Pellet room stove (hot air heating)

CentroPelet ZS are hot air pellet stoves intended for heating the room/s with air with the help of a built-in fan.

They are steel construction, high efficiency, and due to their modern design do not take up much space in the room.

They are delivered with a remote control and digital controller through which the operation of the stove can be controlled and a weekly program can be selected.

They have the possibility of duct distribution of hot air to other rooms (2 ducts).



WOOD PELLETS



## Characteristics of CentroPelet ZS pellet stoves

- Pellet stove for hot air heating by blowing warm air into the room.
- Possibility of duct distribution of hot air to other rooms. The two outlets at the back of the stove can be connected to other rooms with air ducts. The total maximum length of the air ducts is 4m.
- It is possible to manually regulate how much air will be distributed in the room and how much through the ducts.
- Available in three colors: white, gray, red.
- The stove is supplied with pellets using a screw conveyor and ignites them using an electric heater.
- Automatic switching on/off of the stove is possible.
- The economy mode function allows automatic power reduction when the room temperature approaches the set point.
- Possibility to set timers with the help of a remote control..
- Integrated pellet tank.



Stove controller



Remote control



Grate



Flue passage  
cleaning lever



Burning chamber grate

### Available colors



Air duct connection for  
hot air distribution



70

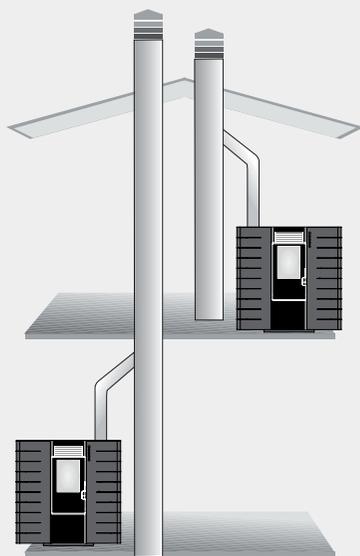
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## Delivery and obligatory accessories



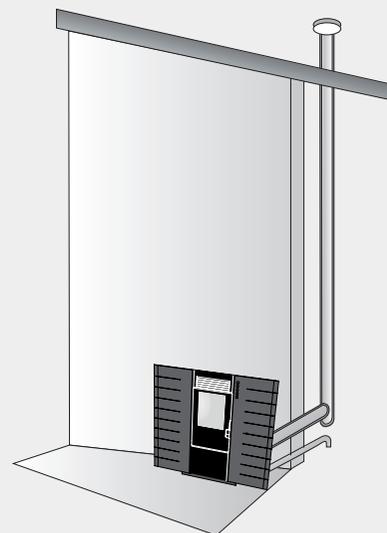
### Delivery

- Pellet stove with in ardboard packaging
- Remote control



### Flue gas exhaust

- One stove on one chimney



### Flue gas exhaust

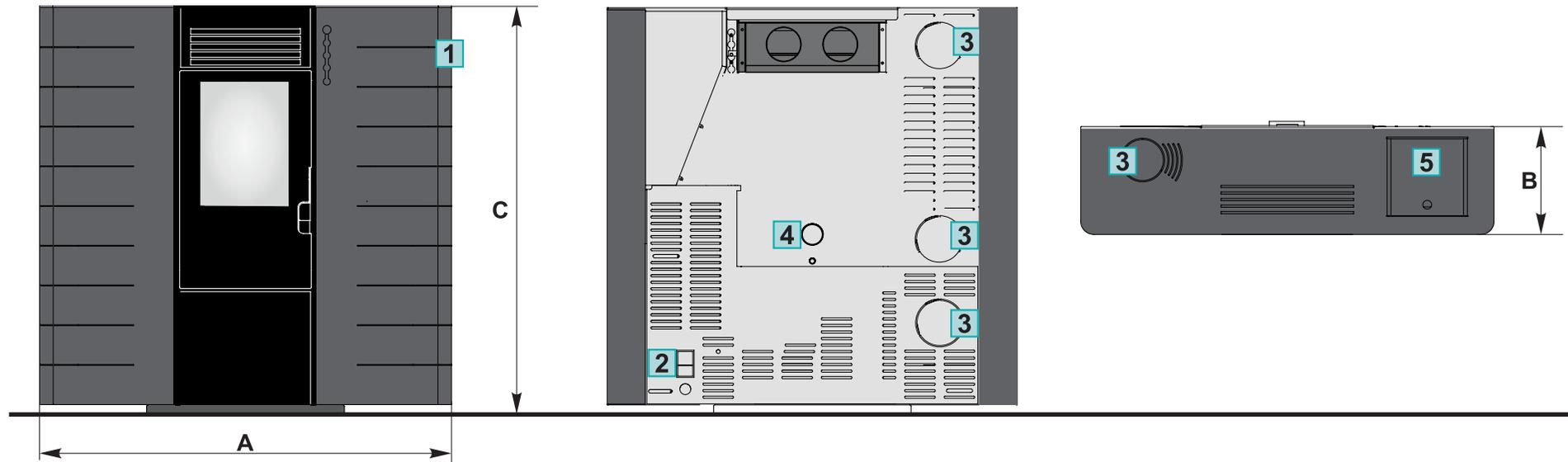
- External flue pipes that must be connected according to local regulations



### Additional equipment

- Chimney flue connection set (flue gas tube 1m, flue gas tube 0,5m, T-piece cover, T-piece, Silicone rosette, Elbow 90°)

## Basic dimensions



CentroPelet		ZS10
Heat output	[kW]	2,92 - 9,01
Pellet consumption	[kg/h]	0,62 - 1,98
Efficiency	[%]	95,93 - 92,66
Flue gas tube diameter	Ø [mm]	80
Pellet tank volume	[kg]	12
Autonomy	[h]	11-24
Power consumption at nominal heat output	[W]	100
Noise level [min-max]	[dB]	35-55
Mass	[kg]	100
Dimensions [A/B/C]	mm	935x280x935

- 1 Controller
- 2 Main switch
- 3 Flue gas outlet connection
- 4 Fresh air supply connection
- 5 Pellet tank

## CentroPelet ZV



### Pellet stove (hot air and central heating)

CentroPelet ZV hot water stoves are fired with wood pellets and are intended for space heating with the hot air and water via radiator central heating.

They are steel construction, modern design and high efficiency. They have a built-in circulation pump, safety valve, pressure switch, expansion vessel and automatic air vent pot.

Supplied as standard with remote control and digital controller through which the operation of the stove can be controlled and selected weekly program.



WOOD PELLETS



ZV 16

ZV 32

ZV 20/24

## Characteristics of CentroPelet ZV pellet stoves

- Pellet stove for air + water heating by blowing warm air into the room and connecting to radiators.
- Available in three colors: white, gray, red.
- Pellet stove is supplied with pellets using a screw conveyor and ignites them using an electric heater.
- Automatic switching on/off of the stove is possible.
- The economy mode function allows automatic power reduction when the room temperature approaches the set temperature.
- Possibility to adjust the speed of the fan to blow hot air into the room.
- Possibility to set timers.
- They are delivered as standard with a built-in circulation pump, safety valve, pressure switch, expansion vessel and automatic airvent pot.
- Integrated pellet tank.



Stove controller



Remote control



Grate



Expansion vessel, flue gas fan



Burning chamber

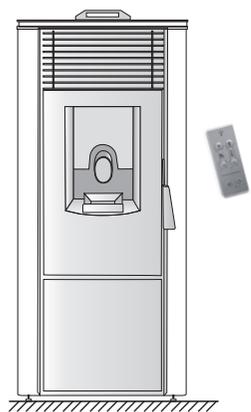
### Available colors



74

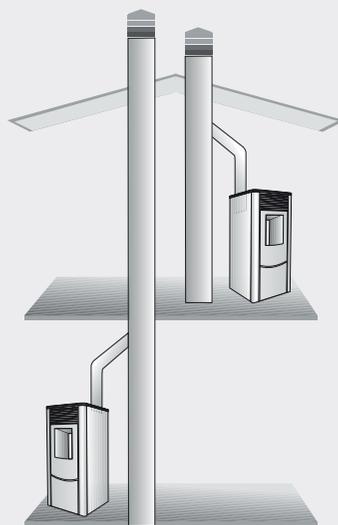
75

## Delivery and obligatory accessories



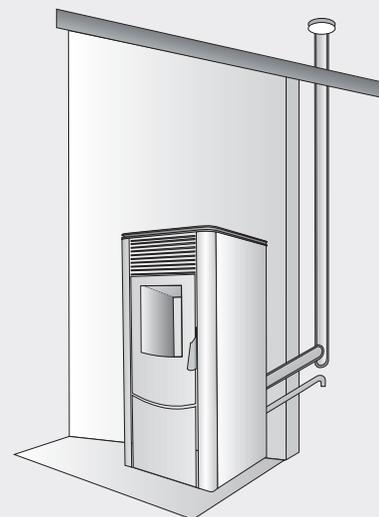
### Delivery

- Pellet stove with controller, in cardboard packaging
- Remote control



### Flue gas exhaust

- One stove on one chimney



### Flue gas exhaust

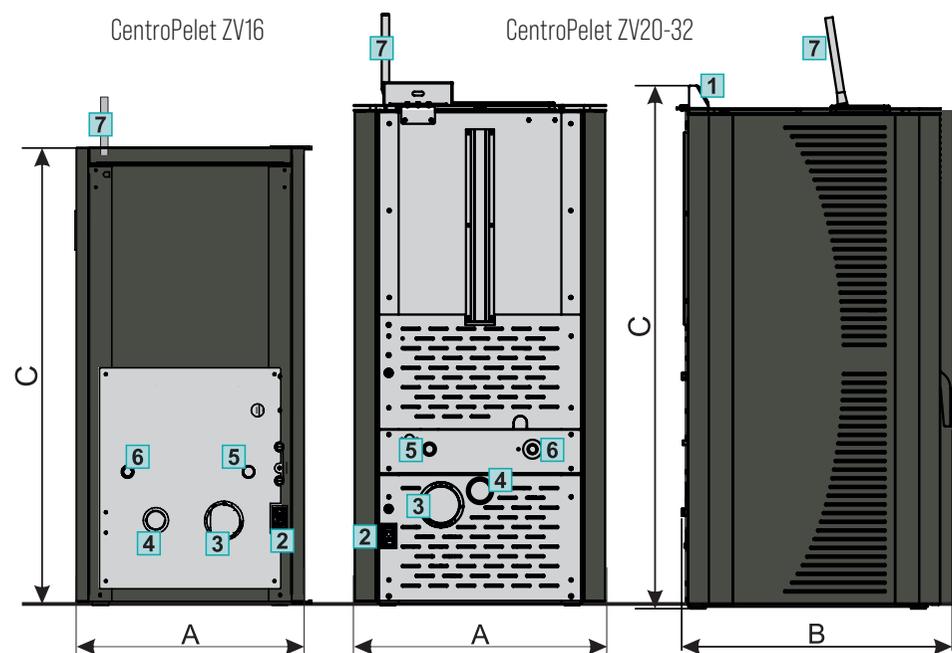
- External flue pipes that must be connected according to local regulations



### Additional equipment

- Chimney flue connection set:
  - Ø 80 - za ZV16-24
  - Ø 100 - za ZV32
- Flue pipe 1m, flue pipe 0,5m, cover T-piece, T-piece, silicone rosette, elbow 90°, flue pipe 0,25m, elbow 45°

## Basic dimensions



CentroPelet		ZV16	ZV20	ZV24	ZV32
Total heat output	[kW]	4,00 - 17,1	5,08 - 18,22	5,08 - 21,96	8,57 - 30,48
Heat output on the water side	[kW]	3,10 - 13,40	4,20 - 13,98	4,2 - 17,86	6,51 - 24,38
Heat output on surrounding area	[kW]	0,90 - 3,70	0,88 - 4,24	0,88 - 4,1	2,06 - 6,05
Pellet consumption	[kg/h]	0,84 - 3,71	1,11 - 4,02	1,11 - 4,89	1,82 - 6,6
Efficiency	[%]	97,5 - 95	96,71 - 95,74	96,71 - 94,98	95,79 - 94,03
Flue gas tube diameter	Ø [mm]	80	80	80	100
Pellet tank volume	[kg]	30	42	42	57
Air supply connection	Ø [mm]	50	50	50	60
Stove water content	[lit]	31	50	50	60
Autonomy	[h]	8,5 - 29	10,5 - 39	9 - 39	8,5 - 31
Power consumption	[W]	110 - 320	140-350	140 - 350	140-350
Noise level [min-max]	[dB]	31-48	31-48	31-48	31-48
Dimensions [A / B / C]	[mm]	520/630/1115	615/675/1270	615/675/1270	672/722/1384
Mass	[kg]	160	230	230	280

- 1 Controller
- 2 Glavni prekidač
- 3 Flue gas outlet connection
- 4 Fresh air supply connection
- 5 Main flow
- 6 Return flow
- 7 Flue passage cleaning lever

## CentroPelet ZVB



### Compact hot water pellet boiler

CentroPelet ZVB compact hot water boilers are fired with wood pellets. They are intended for hot water heating from the smallest to medium-sized buildings. They are steel constructions, modern design and high efficiency.

A burner for burning wood pellets is installed in the boiler with automatic ignition function and digital boiler controller which operates with flue gas fan according to the flue and boiler water temperature.

Supplied with built-in pump, safety valve, air vent, pressure switch and expansion vessel.

The pellet tank is an integral part of the boiler.



WOOD PELLETS



## Characteristics of CentroPelet ZVB boilers

- CentroPelet ZVB hot water boiler for central heating with built-in pellet burner, nominal power 14-29 kW.
- The CentroPelet is supplied with pellets using a screw conveyor and ignites them using an electric heater.
- Automatic switching on/off of the boiler is possible.
- High boiler efficiency.
- Low emissions of harmful compounds in flue gases.
- Possibility to set timers.
- The compact design allows the boiler to be placed in small boiler rooms.
- Factory-installed circulation pump, safety valve, pressure switch, expansion vessel and automatic air vent.
- Integrated pellet tank.



Boiler controller (can be installed on the left or right side of the boiler)



Mechanism for turbulator cleaning, boiler controller



Burning chamber



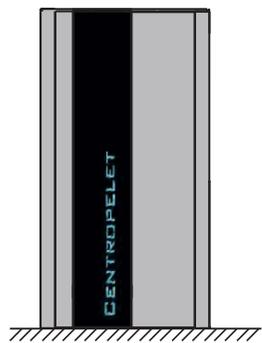
Pellet tank



Boiler cross section

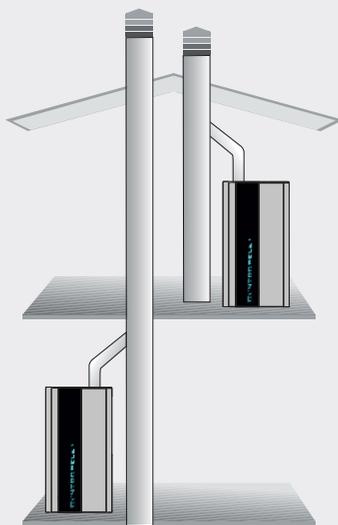


## Delivery, obligatory and optional accessories



### Delivery

- Boiler with controller in cardboard packaging



### Flue gas exhaust

- One boiler on one chimney



### Flue gas exhaust

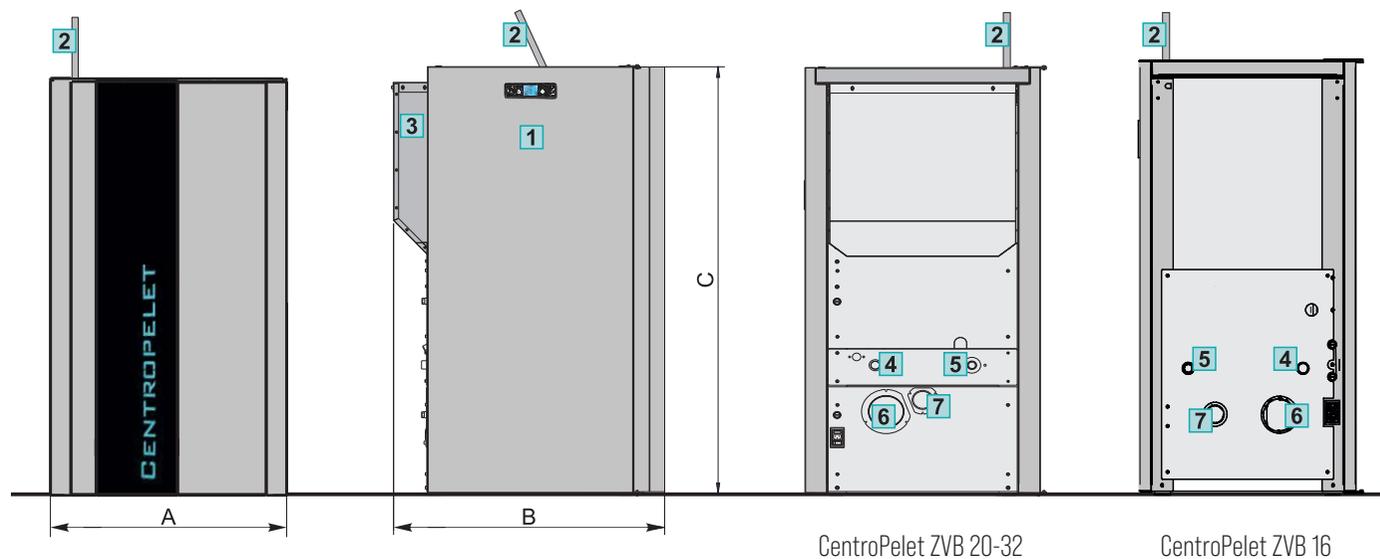
- External flue pipes that must be connected according to local regulations



### Additional equipment

- Chimney flue connection set:
  - Ø 80 - za ZVB16-24
  - Ø 100 - za ZVB32
- Flue pipe 1m, flue pipe 0,5m, T-piece cover, T-piece, silicone rosette, elbow 90°, flue pipe 0,25m, elbow 45°
- Automatic cleaning of the grate, automatic ash extraction - **Only by special order of the boiler**
- Automatic refilling of pellets from a larger tank

## Basic dimensions



CentroPelet ZVB		16	20	24	32
Heat output range	[kW]	4,29 - 14,4	5,21 - 17,51	5,21 - 21,51	6,34 - 29,14
Pellet consumption	[kg/h]	1,02 - 3,37	1,2 - 3,88	1,2 - 4,85	1,43 - 6,48
Efficiency	[%]	89,11 - 87,87	88,82 - 92,13	88,82 - 90,39	90,65 - 91,64
Flue gas tube diameter	Ø [mm]	80	80	80	100
Pellet tank volume	[kg]	30	65	65	85
Boiler water content	[lit.]	31	50	50	60
Autonomy	[h]	29,5 - 9	54 - 16,5	54 - 13,5	38,5 - 12,5
Power consumption	[W]	140 - 350	100 - 300	100 - 300	100 - 300
Dimensions [A / B / C]	[mm]	562x700x1081	610x785x1240	610x785x1240	670x870x1360
Boiler mass	[kg]	180	250	250	305
Energy efficiency class		A+	A+	A+	A+

- 1 Controller
- 2 Flue passage cleaning mechanism
- 3 Pellet tank
- 4 Main flow
- 5 Return flow
- 6 Flue gas outlet connection
- 7 Fresh air supply connection



## Centropelet ZVBS

### Hot water boilers

**CentroPelet ZVBS** hot water boilers are fired with wood pellets. They are intended for hot water heating from the smallest to medium-sized buildings.

They are steel construction, modern design and high efficiency. The boilers are equipped with a burner for burning wood pellets with the function of automatic ignition and digital boiler control that operates with flue gas fan according to the flue and boiler water temperature.

The pellet tank is an integral part of the boiler.



WOOD PELLETS



## Characteristics of CentroPelet ZVBS boilers

- **CentroPelet ZVBS** hot water boiler for central heating with built-in pellet burner, nominal power **25 and 35 kW**.
- The boiler is supplied with pellets using a screw conveyor and ignites them using an electric heater.
- Automatic switching on/off of the boiler is possible.
- High boiler efficiency.
- Low emissions of harmful compounds in flue gases.
- Manual cleaning of the heat exchanger with the lever without opening the boiler.
- Possibility to set timers.
- The compact design allows the boiler to be placed in small boiler rooms.
- Integrated pellet tank.



Boiler controller (can be installed on the left or right side of the boiler)



Ashtray



Cleaning handle



Pellet tank



Burning chamber grate



Burning chamber grate



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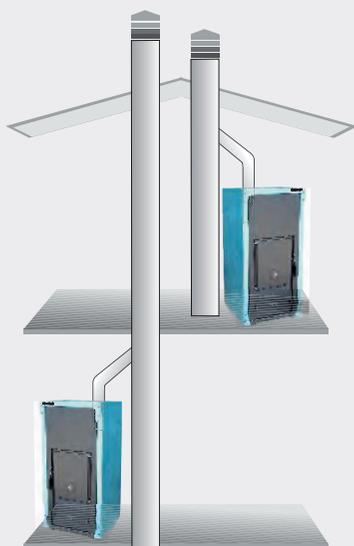
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## Delivery and accessories



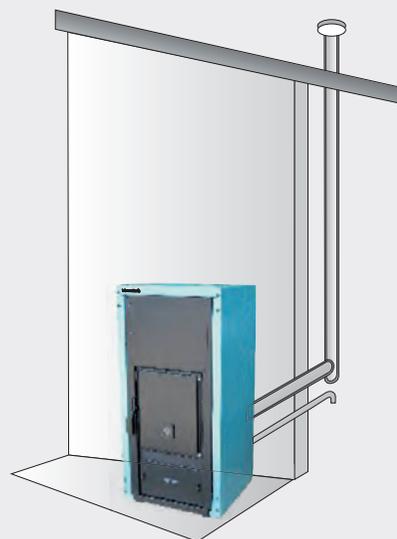
### Delivery

- Boiler with controller, in cardboard packaging



### Flue gas exhaust

- One boiler on one chimney



### Flue gas exhaust

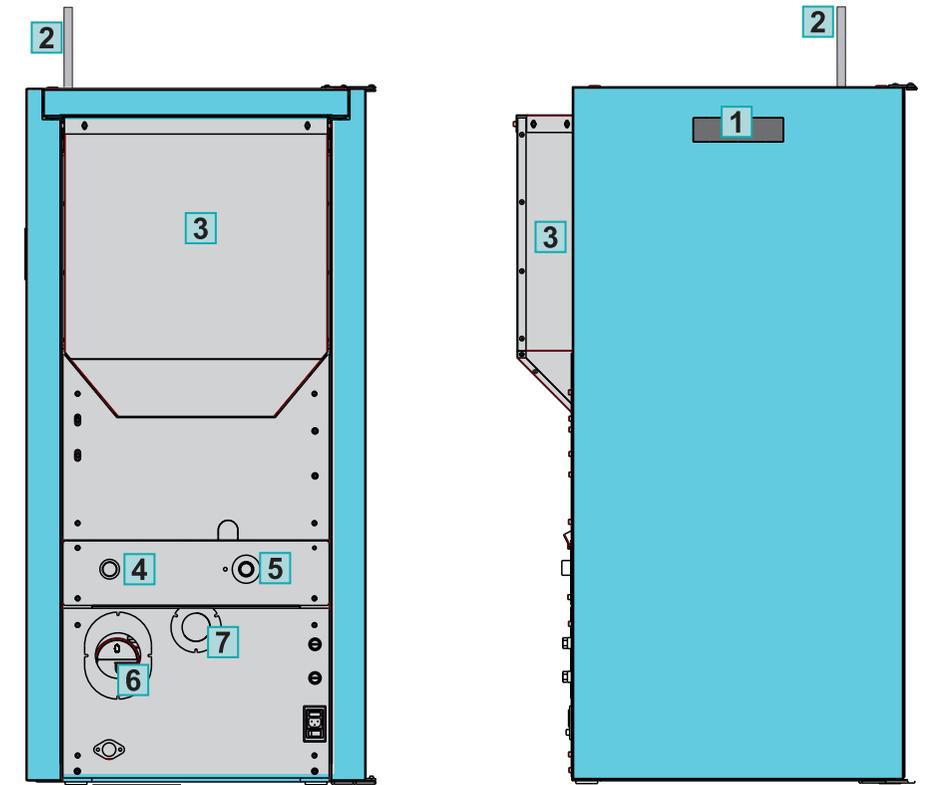
- External flue pipes that must be connected according to local regulations



### Additional equipment

- Flue set for chimney connection
  - Ø80 - for ZVBS 25
  - Ø100 - for ZVBS 35
- Flue pipe 1m, flue pipe 0.5m, T-piece cover, T-piece, silicone rosette, elbow 90°, flue pipe 0.25m, elbow 45°)

## Basic dimensions



CentroPelet ZVBS		25	35
Heat output range	kW	5,21 - 25	6,34 - 35
Pellet consumption	kg/h	1,2 - 4,85	1,43 - 6,48
Efficiency	%	88,82 - 90,39	90,65 - 91,64
Flue gas tube diameter	Ømm	80	100
Pellet tank volume	kg	70	90
Boiler water content	lit.	50	60
Autonomy	h	54 - 13,5	38,5 - 12,5
Power consumption	W	100 - 300	100 - 300
Dimensions [w / d / h]	mm	610x885x1240	670x970x1360
Boiler mass	kg	250	305
Energy efficiency class		A+	A+

- 1 Controller
- 2 Flue passage cleaning mechanism
- 3 Pellet tank
- 4 Main flow
- 5 Return flow
- 6 Flue gas outlet connection
- 7 Fresh air supply connection



# PelTec

## Pellet hot water boiler

The PelTec steel hot water boiler is intended for wood pellets firing. The boiler has a built-in burner for burning wood pellets with the function of automatic ignition and self-cleaning of the grate and flue passages, which enables reliable operation with pellets of poorer quality.

The function of automatic cleaning of flue pipes ensures uniform heat exchange and a high and uniform degree of boiler efficiency. The multifunctional digital boiler controller with touch screen in the basic version also offers the possibility of modulating boiler operation and control of the pellet level in the tank.

Integrated boiler return flow protection ensures flawless operation of the boiler even at lower return temperatures. It is possible to install a lambda probe in the boiler for additional optimization of the combustion process.

The pellet tank is an integral part of the boiler. The boiler is delivered in parts for easier installation in boiler room.



WOOD PELLETS



PelTec 12



PelTec 24-48



PelTec 18



## Characteristics of PelTec boilers

- Boiler class 5, ecodesign.
- PelTec, central heating hot water boiler with built-in pellet burner, power 12, 18, 24, 36 and 48 kW.
- High boiler efficiency and low maintenance needs.
- Low emissions of harmful compounds in flue gases.
- Modulating boiler operation (30% -100%).
- Automatic cleaning of burner grate and flue passages.
- Flue gas temperature sensor and pellet level sensor in the pellet tank.
- Integrated return flow protection with 4-way mixing valve with actuator for direct heating systems and via buffer tank (in systems with several heating circuits, a hydraulic crossover or buffer tank required).
- The multifunctional digital controller with color touch screen controls the operation of the boiler and can control up to 2 pumps (e.g. one direct heating circuit and a domestic hot water circuit ...).
- Emptying the ash boxes after consuming 2-3 pellet tanks (400-600kg).
- Additional equipment: Lambda probe set, CM2K module for control 2 (max. 8) heating circuits according to outdoor temperature, room corrector CSK / CSK-Touch with CM2K module, CM-WiFi box for monitoring and control the boiler via Internet, Vacuum suction system, CMNET cascade manager, CM-GSM boiler status alarm, CAL sound or light warning or error signal ...
- By installing a lambda probe set, the PelTec boiler becomes PelTec-lambda.
- The boilers are tested and certified according to EN303-5 and meet class 5 and are manufactured in accordance with ISO 9001 and ISO 14001.

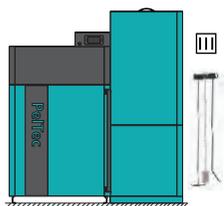


Boiler cross section

Multifunctional controller with a touch screen

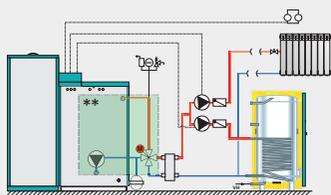


## Delivery, obligatory and optional accessories



### Delivery

- Boiler with casing with 3 additional sensors, pump group with pump and mixing valve with actuator, flue gas fan, grate cleaning mechanism, cleaning accessories (scraper, brush, poker, accessory holder)
- Pellet tank in cardboard packaging + pellet transporter



### Connection to a system with one heating circuit and domestic hot water (DHW)

- DHW tank (TB, SF/E, STB, DSFF/E)
- Room thermostat
- Heating and DHW pumps

### Closed heating system

- Safety airvent group (2,5 bar) and expansion vessel;

### Open heating system

- Open expansion vessel

\* One of the 15 possible connection diagrams is shown

\*\* Pump group (integral part of the boiler delivery)



### GSM module for alarm notification via mobile network // CAL // CMNET // CM WiFi-box

- Boiler status notification via mobile network via SMS or call (errors, warnings ...)
- Boiler condition inquiry - operating phase, temp. boiler, via SMS in the selected language
- Boiler start/stop via SMS

### CAL alarm set (speaker/lamp)

- Boiler error or warning signaling module with sound or light

### CMNET

- Cascade module for control up to 8 boilers in cascade

### CM WiFi-box

- Provides web portal monitoring and boiler management



### CM2K control module for 2 heating circuits/ CSK / CSK-Touch

- Control up to 2 heating circuits according to outdoor temp. (control up to 2 mixing valves and up to 2 heating or DHW or recirculation pumps).
- Up to 4 CM2K modules can be connected (up to 8 heating circuits)
- Up to 2 room correctors CSK / CSK-Touch per module can be connected

### CSK

- Room corrector

### CSK-Touch

- Room corrector with touch screen



### Pellet vacuum suction system CVT

- Vacuum suction system with mole from the pellet storage
- Vacuum suction system from a large pellet tank (Centropelet box)
- Vacuum suction system by conveyor from the pellet storage
- Max. 10m long flex. pipes (in one direction) from pellet storage
- For DINplus or ENplus A1 pellets only

### CVDOP

- Cyclone for pellet vacuum suction system to remove dust from pellets

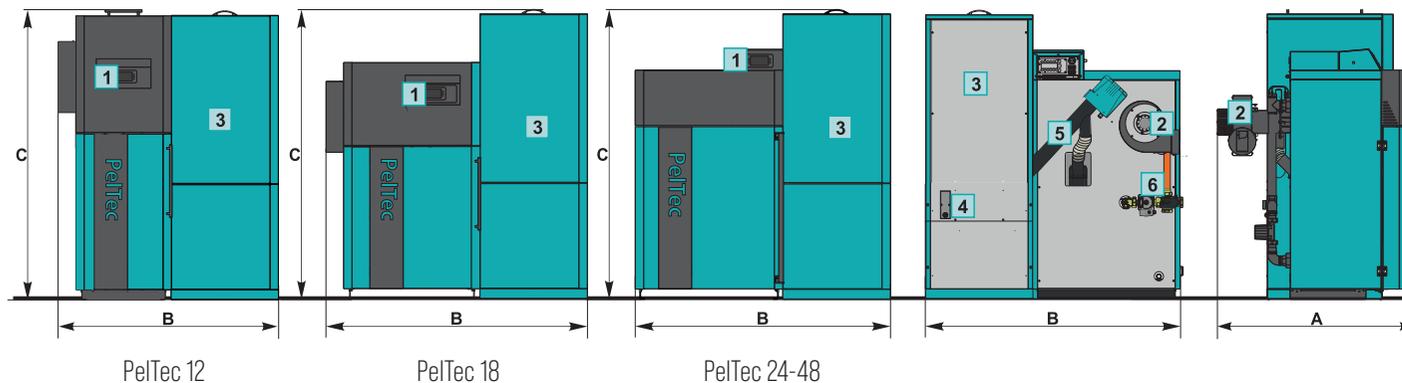
### Pellet tank extension

- Increase the volume of pellet tank by +77kg
- Extension height h=300mm

### Refilling tank with transporter

- Refill the tank with a screw transporter from larger tank CPSP-BP 800

## Basic dimensions



PelTec		12	18	24	36	48
Heat output	[kW]	12	18	24	36	48
Heat output range	[kW]	3,6-12	5,4-18	7,2-24	10,8-36	14,4-48
Flue gas tube - outer diameter *	∅ [mm]	130	130	130	150	150
Main flow / Return flow	[R]	1"	1"	5/4"	5/4"	5/4"
Filling / Draining	[R]	1/2"	1/2"	1/2"	1/2"	1/2"
Max. operating temperature	[°C]	90	90	90	90	90
Boiler water content	[lit.]	78	76	100	108	135
Max. operating overpressure	[bar]	2,5	2,5	2,5	2,5	2,5
Pellet tank volume	[lit.]	340	340	340	340	340
Total depth (A)	[mm.]	1105	1105	1080	1160	1175
Total width (B)	[mm.]	1200	1420	1420	1485	1485
Total height (C)	[mm.]	1560	1560	1560	1560	1560
Depth for entering the boiler room	[mm.]	760	760	760	840	840
Width for entering the boiler room	[mm.]	650	880	855	945	945
Height for entering the boiler room	[mm.]	1560	1275	1340	1340	1490
Boiler mass	[kg]	328	349	402	455	478
Energy efficiency class		A+	A+	A+	A+	A+

\* The inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube



# PelTec Hermetic

## Pellet hot water boiler

The PelTec Hermetic steel hot water boiler is intended for wood pellets firing. The boiler has a built-in burner for burning wood pellets with the function of automatic ignition and self-cleaning of the grate and flue passages, while factory-installed lambda probe optimizes combustion, which enables reliable operation with pellets of poorer quality.

The function of automatic cleaning of flue pipes ensures uniform heat exchange and a high and uniform degree boiler efficiency. An outside air supply can be connected to the boiler for combustion thus ensuring the smooth operation of the boiler regardless of conditions in the boiler room.

Multifunctional digital boiler controller with touch screen in the basic version also offers the possibility of modulating boiler operation and pellet level control in the tank. Integrated boiler return flow protection ensures flawless boiler operation even at lower return temperatures. Pellet tank is integral part of the boiler. The boiler is delivered with casing while the pellet tank is in parts for easier entry into the boiler room.



WOOD PELLETS



PelTec Hermetic 12



PelTec Hermetic 24



PelTec Hermetic 18



## Characteristics of PelTec Hermetic boilers

- Boiler class 5, ecodesign.
- PelTec Hermetic wood pellet hot water boiler with built-in lambda probe and fresh air supply for combustion, power 12, 18 and 24.
- Low emissions of harmful compounds in flue gases.
- Modulating boiler operation (30% -100%).
- Automatic cleaning of burner grate and flue passages.
- Flue gas temperature sensor and pellet level sensor in the pellet tank.
- Integrated burn back protection in the pellet tank via rotary valve and return flow protection with 4-way mixing valve with actuator for direct heating systems and via buffer tank (in systems with multiple heating circuits a hydraulic crossover or buffer tank required).
- The multifunctional digital controller with color touch screen controls the operation of the boiler and can control up to 2 pumps (e.g. one direct heating circuit and a domestic hot water circuit ...).
- Emptying the ash box after consuming 2-3 pellet tanks (400-600kg).
- Additional equipment: CM2K module for control 2 (max. 8) heating circuits according to outdoor temperature, room corrector GSK / CSK-Touch with CM2K module, CM-WiFi box for monitoring operation and control boiler via Internet, Vacuum suction system, CMNET cascade manager, CM-GSM boiler status alarm, CAL sound or light warning or error signal ...
- The boilers have been tested and certified according to EN303-5 and meet class 5 and are manufactured in accordance with ISO 9001 and ISO14001.

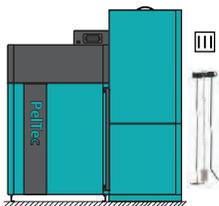


Boiler cross section

Multifunctional controller with a touch screen

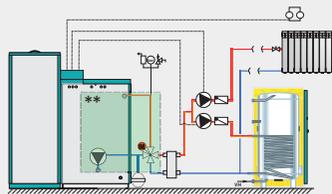


## Delivery, obligatory and optional accessories



### Delivery

- Boiler with casing with 3 additional sensors, pump group with pump and mixing valve with actuator, flue gas fan, grate cleaning mechanism, cleaning accessories (scraper, brush, poker, accessory holder)
- Pellet tank in cardboard packaging + pellet transporter



### Connection to a system with one heating circuit and domestic hot water (DHW)

- DHW tank (TB, SF/E, STB, DSFF/E)
- Room thermostat
- Heating and DHW pumps

### Closed heating system

- Safety airvent group (2,5 bar) and expansion vessel;

### Open heating system

- Open expansion vessel

\* One of the 15 possible connection diagrams is shown

\*\* Pump group (integral part of the boiler delivery)



### GSM module for alarm notification via mobile network // CAL // CMNET // CM WiFi-box

- Boiler status notification via mobile network via SMS or call (errors, warnings ...)
- Boiler condition inquiry - operating phase, temp. boiler, via SMS in the selected language
- Boiler start/stop via SMS

### CAL alarm set (speaker/lamp)

- Boiler error or warning signaling module with sound or light

### CMNET

- Cascade module for control up to 8 boilers in cascade

### CM WiFi-box

- Provides web portal monitoring and boiler management



### CM2K control module for 2 heating circuits/ CSK / CSK-Touch

- Control up to 2 heating circuits according to outdoor temp. (control up to 2 mixing valves and up to 2 heating or DHW or recirculation pumps).
- Up to 4 CM2K modules can be connected (up to 8 heating circuits)
- Up to 2 room correctors CSK / CSK-Touch per module can be connected

### CSK

- Room corrector

### CSK-Touch

- Room corrector with touch screen



### Pellet vacuum suction system CVT

- Vacuum suction system with mole from the pellet storage
- Vacuum suction system from a large pellet tank (Centropelet box)
- Vacuum suction system by conveyor from the pellet storage
- Max. 10m long flex. pipes (in one direction) from pellet storage
- For DINplus or ENplus A1 pellets only

### CVDOP

- Cyclone for pellet vacuum suction system to remove dust from pellets

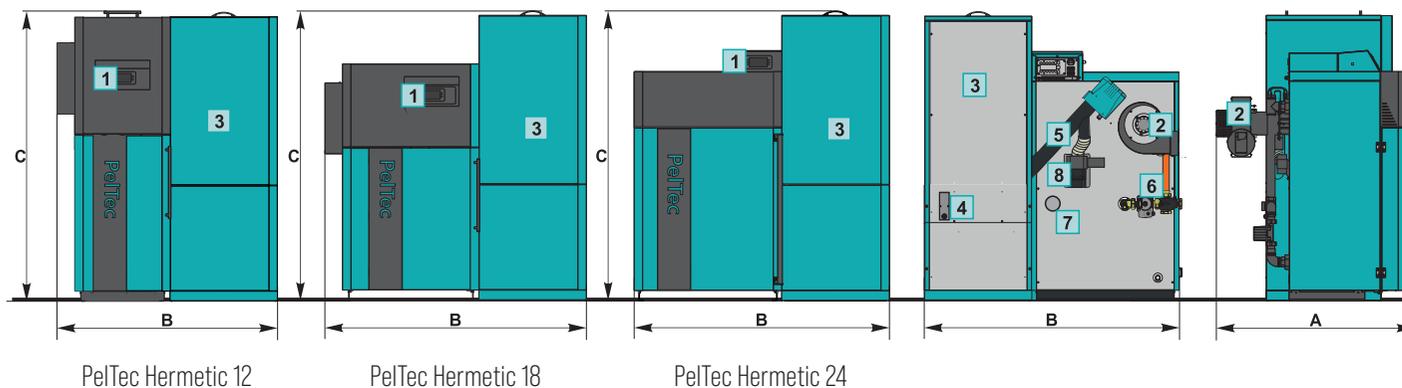
### Pellet tank extension

- Increase the volume of pellet tank by +77kg
- Extension height h=300mm

### Refilling tank with transporter

- Refill the tank with a screw transporter from larger tank CPSP-BP 800

## Basic dimensions



- 1 Boiler controller
- 2 Flue gas fan
- 3 Pellet tank
- 4 Pellet level sensor in the tank
- 5 Screw transporter
- 6 Pump group with pump and 4-way mixing valve with actuator
- 7 Fresh air connection
- 8 Rotary valve (RSE)

PelTec		12	18	24
Heat output	[kW]	12	18	24
Heat output range	[kW]	3,6-12	5,4-18	7,2-24
Flue gas tube - outer diameter *	∅ [mm]	130	130	130
Fresh air connection - outer diameter	∅ [mm]	80	80	80
Main flow / Return flow	[R]	5/4"	5/4"	5/4"
Filling / Draining	[R]	1/2"	1/2"	1/2"
Max. operating temperature	[°C]	90	90	90
Boiler water content	[lit.]	78	76	100
Max. operating overpressure	[bar]	2,5	2,5	2,5
Pellet tank volume	[lit.]	340	340	340
Total depth (A)	[mm]	1105	1105	1105
Total width (B)	[mm]	1200	1420	1400
Total height (C)	[mm]	1560	1560	1560
Depth for entering the boiler room	[mm]	760	760	760
Width for entering the boiler room	[mm]	650	880	855
Height for entering the boiler room	[mm]	1560	1275	1340
Boiler mass	[kg]	338	359	412
Energy efficiency class		A+	A+	A+

\* The inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube



## PelTec-Lambda 69/96

### Pellet hot water boiler

The PelTec-lambda 69/96 steel hot water boiler is intended for burning wood pellets. The boiler has a built-in burner for burning wood pellets with the function of automatic ignition and self-cleaning of the grate and flue passages, while factory-installed lambda probe optimizes combustion, which enables reliable operation even with pellets of poorer quality.

The function of automatic cleaning of flue pipes ensures uniform heat exchange and a high and uniform degree of boiler efficiency. The multifunctional digital boiler controller with touch screen in the basic version also offers the possibility of modulating boiler operation and control of the pellet level in the tank.

Integrated boiler return flow protection ensures flawless operation of the boiler even at lower return temperatures. The pellet tank is an integral part of the boiler. The boiler is delivered with casing while the pellet tank is in parts for easier entry into the boiler room.



WOOD PELLETS



## Characteristics of PelTec lambda 69/96 boilers

- Boiler class 5, ecodesign.
- Hot water boiler for central heating PelTec-lambda with built-in lambda probe power 69 and 96 kW.
- Low emissions of harmful compounds in flue gases.
- Modulating boiler operation (30% -100%).
- Automatic cleaning of burner grate and flue passages.
- Flue gas temperature sensor and pellet level sensor in the pellet tank.
- Integrated return flow protection with 4-way mixing valve with actuator, for direct heating systems and via buffer tank (hydraulic crossover or buffer tank required in multiple heating circuit).
- The multifunctional digital controller with color touch screen controls the operation of the boiler and can control up to 2 pumps (e.g. one direct heating circuit and a domestic hot water circuit ...).
- Additional equipment: automatic ash extraction in containers with a volume of 68 liters.
- Additional equipment: CM-WiFi box for monitoring the operation and control the boiler via Internet (mobile phone, computer, laptop ..), CM2K module for control 2 (max 8) heating circuits according to outdoor temp., room corrector CKS and CSK Touch, CM-GSM module, Vacuum suction system, boiler operation by external controller, CMNET cascade manager, RSE rotary valve for burn back protection.
- The boilers have been tested and certified according to EN303-5 and meet class 5 and are manufactured in accordance with ISO 9001 and ISO14001.

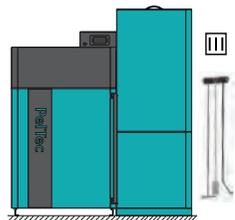


Boiler cross section

Multifunctional controller with a touch screen

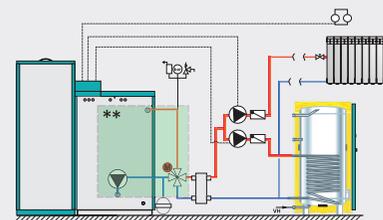


## Delivery, obligatory and optional accessories



### Delivery

- Boiler with casing and controller, prewired, with lambda probe and 3 additional sensors, pump group with pump and mixing valve with actuator, flue gas fan, grate cleaning mechanism, cleaning accessories (scraper, brush, poker, accessory holder)
- Pellet tank in cardboard packaging + pellet transporter



### Connection to a system with one heating circuit and domestic hot water (DHW)

- DHW tank (TB, SF/E, STB, DSFF/E)
- Room thermostat
- Heating and DHW pumps

### Closed heating system

- Safety airvent group (2.5 bar) and expansion vessel;

### Open heating system

- Open expansion vessel

\*One of the 15 possible connection diagrams is shown

\*\*Pump group (integral part of the boiler delivery)



### RSE

- Rotary valve for burn back protection

### CM WiFi-box

- Enables web portal monitoring and boiler management

### CM-GSM module for alarm notification via mobile network

- Boiler status notification via mobile network via SMS or call (errors, warnings) and on/off

### CAL alarm set (speaker/lamp)

- Boiler error or warning signaling module with sound or light

### CMNET

- Cascade manager for control up to 8 boilers in a cascade

### Extracting ashes into containers

- Automatic extraction of ash from the boiler in 2 containers with a volume of 68 liters



### CM2K modul za vođenje 2 kruga grijanja

- Omogućuje vođenje do 2 kruga grijanja prema vanjskoj temp. (vođenje do 2 miješajuća ventila i do 2 pumpe grijanja ili do 2 kruga recirkulacije ili PTV-a)
- Moguće spajanje do 4 modula CM2K (do 8 krugova grijanja)

### CSK

- Sobni korektor

### CSK - Touch

- Sobni korektor s ekranom osjetljivim na dodir
- Moguće osnovno upravljanje kotlom
- Bežična (s Cm-Wifi - boxom ili žična verzija)



### Pellet vacuum suction system CVT

- Vacuum suction system with mole from the storage
- Vacuum suction system from a large pellet tank (Centropelet box)
- Vacuum suction system by conveyor from the pellet storage
- Max. 10m long flex. pipes (in one direction) from pellet storage
- Only for DINplus or ENplus A1 pellets

### CVDOP

- Cyclone for pellet vacuum suction to remove dust from pellets

## Automatic ash extraction

- Significantly prolongs the autonomy of the boiler.
- Connection to existing controller.
- Two 68-liter containers with wheels for easy transport and a telescopically adjustable handle.
- Boiler accessories.

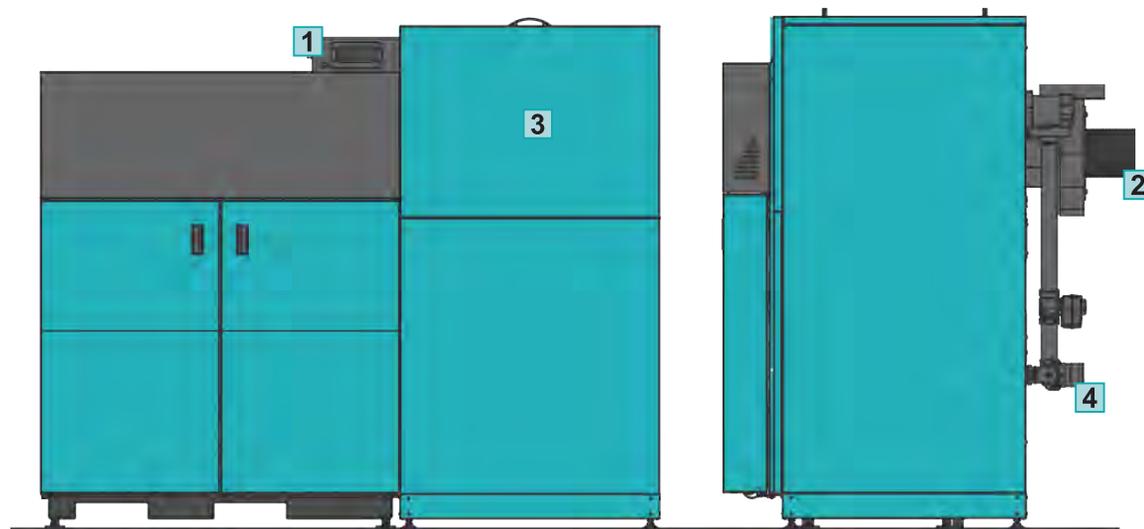


PelTec-Lambda 69/96 with built-in automatic ash extraction

## Basic dimensions

PelTec-Lambda		69	96
Heat output	(kW)	69	96
Heat output range	(kW)	20,7-69	28,8-96
Flue gas tube - outer diameter *	Ø (mm)	200	200
Main flow / Return flow	(R)	6/4"	6/4"
Filling / Draining	(R)	1/2"	1/2"
Max. operating temperature	(°C)	190	205
Boiler water content	(lit.)	90	90
Max. operating overpressure	(bar)	2,5	2,5
Pellet tank volume	(lit.)	530	530
Total depth (A)	(mm)	1240	1310
Total width (B)	(mm)	1940	1965
Total height (C)	(mm)	1560	1560
Depth for entering the boiler room	(mm)	815	885
Width for entering the boiler room	(mm)	1220	1245
Height for entering the boiler room	(mm)	1520	1520
Boiler mass	(kg)	730	830
Energy efficiency class		A+	A+

\* The inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube



1 Boiler controller

2 Flue gas fan

3 Pellet tank

4 Pump group with pump and 4-way mixing valve with actuator

## Cm Pelet set - Touch



### Pellet heating equipment

Central heating equipment **Cm Pelet-set - Touch** is intended for installation on new or previously installed hot water boilers EKO-CK P and EKO-CKB P rated heat output from 20 to 110 kW or EKO-CK and EKO-CKB rated heat output from 20 to 50 kW.

A special feature of the "Touch" model is the digital controller with a color touch screen. Cm Pelet-set Touch and hot water boiler form one functional unit, a "mini plant" designed for burning wood pellets. The automatic operation of these "mini plants" provides the user with enviable comfort and makes the plants suitable for a wide range of applications.

It is made in accordance with EN 303-5 and ISO 9001. From the point of view of functionality, these plants do not lag behind oil or gas heating systems. Pellets are renewable energy sources and are an environmentally friendly fuel.



WOOD PELLETS



## Characteristics of equipment Cm Pelet Set - Touch

- Prepared for installation on new or already installed hot water boilers EKO-CK P and EKO-CKB P with a rated heat output of 20 to 110 kW or EKO-CK and EKO-CKB with a rated heat output of 20 to 50 kW.
- With the hot water boiler, it forms one functional unit, a "mini plant" designed for burning pellets.
- The operation of the "mini plant" is controlled by a multifunctional digital controller with a color touch screen. The controller can control the boiler and max. 5 pumps and 2 actuators for mixing valves [e.g. boiler/buffer tank or hydraulic crossover or 4-way mixing valve with actuator/ DHW with or without recirculation/2 heating circuits with actuator operated via outdoor temperature or 2 direct heating circuits].
- The "mini plant" can be connected directly to the heating system via a 4-way mixing valve with s motornim pogonom ili preko hidrauličke skretnice (sa/bez osjetnika) ili preko akumulacijskog spremnika min. volumena 10lit/kW.
- The fan and electric heater located in the burner, controlled by controller, automatically ignite the pellets and maintain the flame.
- Cleaning, depending on the power of the boiler and the quality of the pellets, after one spent tank (200/400 kg) for five minutes.
- The pellet tank (volume 370/800 lit.) is an integral part of the plant and is filled as needed from above.
- Possibility of installing a fuel level sensor in the pellet tank.
- Possibility of upgrading the equipment with vacuum suction system for automatic supply of pellets from a larger tank to a distance of flexible pipe up to 10 meters and a lifting height of up to 4 meters, exclusively for ENplus A1 and DINplus pellets.
- Possibility of adding a flap to the burner fan to prevent air flow through the boiler at a time when the burner is not running.
- Possibility of upgrading air cleaning of burner, possibility of connecting several units in a cascade and possibility of installing additional modules for controlling up to 8 heating circuits with actuator via outdoor temperature and monitoring of boiler operation via CM-WiFi box.
- It is delivered in several parts, so it is easy to transport and bring into the space provided for installation.

Pellet controller  
CPREG-Touch



Pellet controller  
CPREG-Touch and  
pellet transporter CPPT



Pellet burner  
CPPL



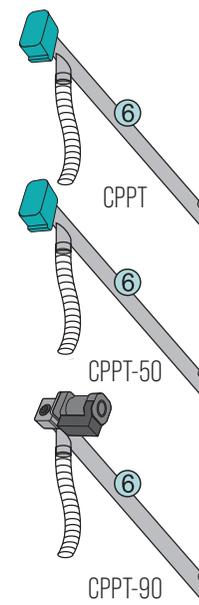
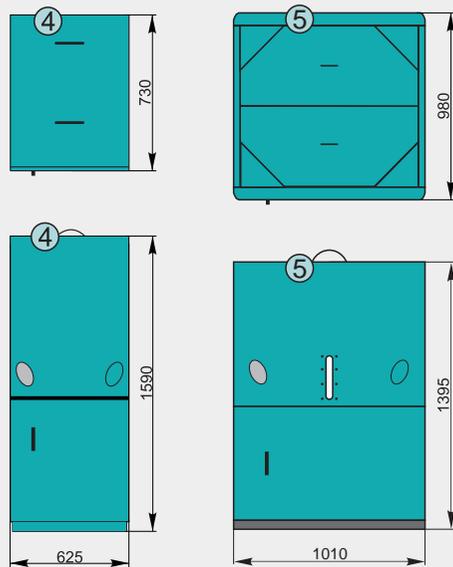
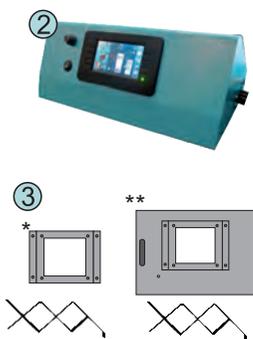
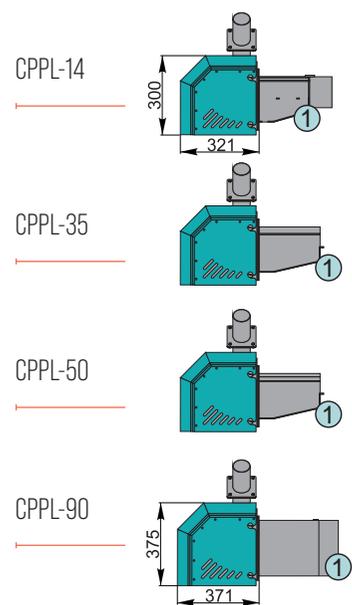
Pellet tank  
CPSP



Pellet tank cleaning  
openings



## Basic parts and accessories



### Basic parts

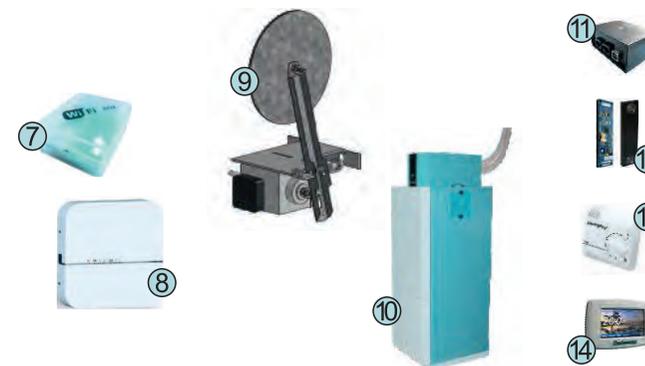
- 1 Pellet burner
- 2 Digital controller
- 3 Pellet burner installation set\* or lower boiler door for pellet burner\*\* with turbulators
- 4 Pellet tank CPSP
- 5 Pellet tank CPSP-800
- 6 Pellet transporter

\* New boiler models (pellet burner extension added to existing lower boiler doors)

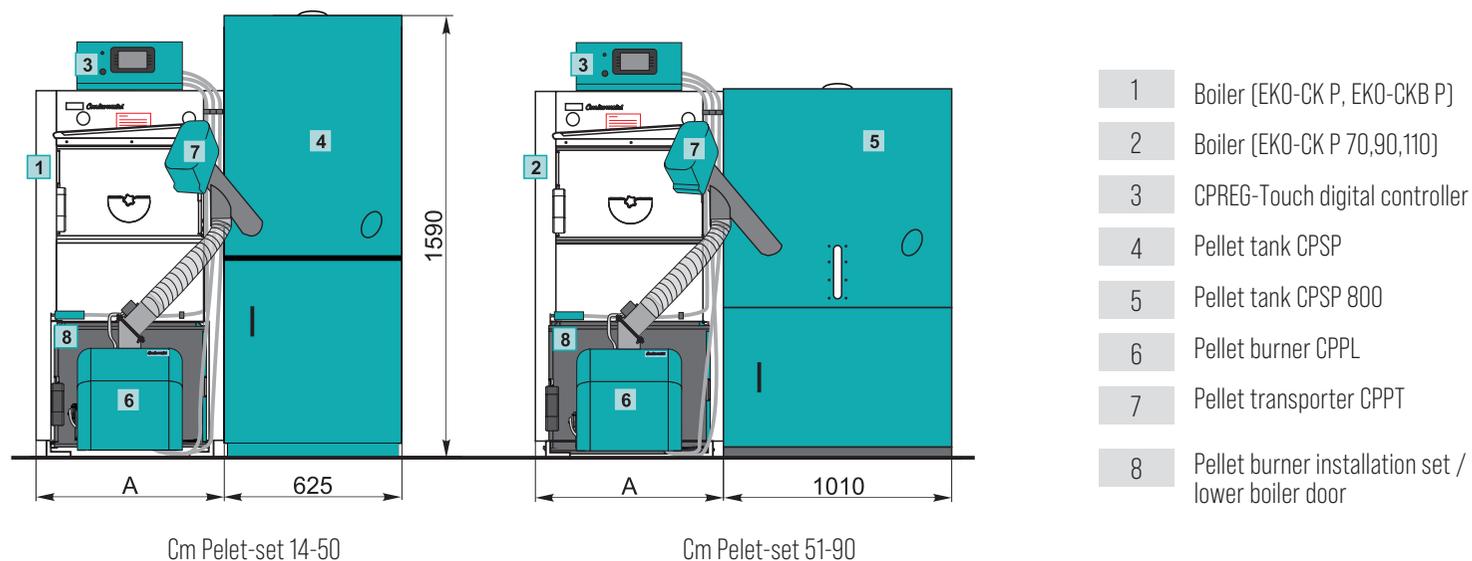
\*\* Old boiler models (lower boiler door is changed)

### Accessories

- 7 CM WiFi-box - allows internet monitoring and control of the boiler
- 8 CM2K module - allows control of up to 2 heating circuits according to outdoor temp.
- 9 Burner with fan flap  
[CPPL 14-50] /  
Burner air cleaning (using compressed air)
- 10 Vacuum pellet suction system CVT
- 11 CMNET - cascade manager (up to 8 boilers)
- 12 Pellet level sensor
- 13 CSK
- 14 CSK Touch



## Basic dimensions



Cm Pellet set - Touch		14	20	25	30	35	40	50	60	70	90
Burner type		CPPL-14	CPPL-35	CPPL-35	CPPL-35	CPPL-35	CPPL-50	CPPL-50	CPPL-90	CPPL-90	CPPL-90
Set heat output (Cm pellet-set Touch + boiler)	[kW]	14	20	25	30	35	40	50	60	70	90
Boiler type - EKO-CK/-B P		20	25	30	35	40	50	60	70	90	110
Pellet tank volume CPSP	[lit.]	370	370	370	370	370	370	370	-	-	
Pellet tank volume CPSP-800	[lit.]	800	800	800	800	800	800	800	800	800	800
Power connection	[V/Hz]	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50
Boiler width A	[mm]	470	470	470	520	570	620	620	620	640	690
Pellet burner installation set *	[mm]	14-25	14-25	14-25	30/35	30/35	40/50	40/50	-	-	-
Lower boiler door ** (old models only)	[mm]	CPDV 14-25	CPDV 14-25	CPDV 14-25	CPDV 30	CPDV 35	CPDV 40-50	CPDV 40-50	CPDV 60-70	CPDV 60-70	CPDV 90-1100



## EKO-CKS P UNIT

### Pellet hot water boiler

The hot water boiler for central heating **EKO-CKS P UNIT** is intended for burning wood pellets and consists of the boiler body EKO-CKS P in steel welded design and equipment for burning wood pellets Cm Pelet-set 200-600 kW.

The EKO-CKS P UNIT boiler needs to be upgraded with a pellet tank (e.g. CentroPelet box). EKO-CKS P UNIT 560 unit is delivered as standard with a cyclone and a fan.

The burner is equipped as standard with automatic air cleaning of the grate, while the boiler can be additionally equipped with equipment for automatic ash extraction and air cleaning of flue passages in the boiler.

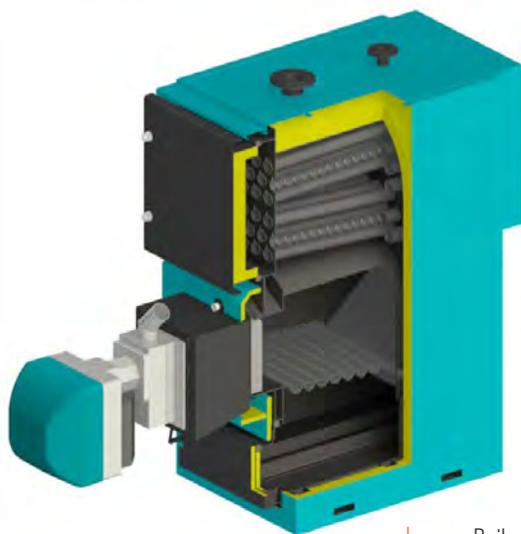
The operation of the burner (boiler), pellet transporter and additional equipment is controlled by digital controller, and all the listed parts together form one functional unit.



WOOD PELLETS

## Characteristics of boilers EKO-CKS P UNIT

- Boiler class 5, ecodesign.
- Steel hot water boiler with pellet burner of nominal heat output 140, 180, 230, 280, 320, 430, 499, 560 kW.
- The boiler must be connected to a storage tank (min. 10 lit/kW) or a hydraulic crossover..
- Multifunction digital controller with color touch screen.
- Additional equipment: air cleaning of flue passages, ash CM2K, CSK, extraction, cyclone with fan, CM2K, CSK, CSK-Touch, CAL, CM-GSM, CM-WiFi box monitoring system of boiler operation via PC, tablet or mobile phone, CMNET cascade manager, up to 8 boilers, rotary valve for burn back protection (RSE).
- Boiler is intended for installation in open and closed heating systems.
- Boiler is manufactured in accordance with the European standard EN 303-5 and in accordance with the standard ISO 9001 and ISO 14001.



Boiler cross section





	Basic delivery			Obligatory additional equipment	Additional equipment																								
	Cm Pelet-set	Boiler	Output range [kW]																										
EKO-CKS P UNIT 140	<b>Cm Pelet-set 200</b> - pellet burner CPPL-200 inv (with automatic cleaning) - expansion vessel 50 lit. - compressor	- boiler control - pellet screw conveyor CPPT-200 - electromagnetic valve - air feeding tube	EKO-CKS P 150	42-140	- automatic pneumatic cleaning system of heat exchanger flue pipes - automatic ash removal system from burner (by coil) - automatic ash removal system from flue gas chamber (by coil) - cyclone CCP 150/200, fan CVX 180																								
EKO-CKS P UNIT 180			EKO-CKS P 200			54-180	EKO-CKS P UNIT 230	<b>Cm Pelet-set 300</b> - pellet burner CPPL-300 inv (with automatic cleaning) - expansion vessel 50 lit. - air compressor	- boiler control - pellet screw conveyor CPPT-300/350 - electromagnetic valve - air feeding tube	EKO-CKS P 250	69-230	- automatic pneumatic cleaning system of heat exchanger flue pipes - automatic ash removal system from burner (by coil) - automatic ash removal system from flue gas chamber (by coil) - cyclone CCP 250/300, fan CVX 180	EKO-CKS P UNIT 280	EKO-CKS P 300	84-280	EKO-CKS P UNIT 320	<b>Cm Pelet-set 350</b> - pellet burner CPPL-350 inv (with automatic cleaning) - expansion vessel 50 lit. - air compressor	- boiler control - pellet screw conveyor CPPT-300/350 - electromagnetic valve - air feeding tube	EKO-CKS P 380	96 - 320	- pellet tank - boiler outlet protection with a motor operated 3-way mixing valve and boiler pump - accumulation tank (min 10 l/kW) or hydraulic crossover	EKO-CKS P UNIT 430	EKO-CKS P 500	129 - 430	EKO-CKS P UNIT 499	<b>Cm Pelet-set 600</b> - pellet burner CPPL-600 inv (with automatic cleaning) - 2 pcs of expan. vessel lit. 50 lit. - air compressor - boiler control - pellet screw conveyor CPPT-600	- 2 pcs of electromag.valve - air feeding tube - air feeding tube 1 - cyclone, fan CVX200	EKO-CKS P 550	149 - 499
EKO-CKS P UNIT 230	<b>Cm Pelet-set 300</b> - pellet burner CPPL-300 inv (with automatic cleaning) - expansion vessel 50 lit. - air compressor	- boiler control - pellet screw conveyor CPPT-300/350 - electromagnetic valve - air feeding tube	EKO-CKS P 250	69-230	- automatic pneumatic cleaning system of heat exchanger flue pipes - automatic ash removal system from burner (by coil) - automatic ash removal system from flue gas chamber (by coil) - cyclone CCP 250/300, fan CVX 180																								
EKO-CKS P UNIT 280			EKO-CKS P 300			84-280	EKO-CKS P UNIT 320	<b>Cm Pelet-set 350</b> - pellet burner CPPL-350 inv (with automatic cleaning) - expansion vessel 50 lit. - air compressor	- boiler control - pellet screw conveyor CPPT-300/350 - electromagnetic valve - air feeding tube	EKO-CKS P 380	96 - 320	- pellet tank - boiler outlet protection with a motor operated 3-way mixing valve and boiler pump - accumulation tank (min 10 l/kW) or hydraulic crossover	EKO-CKS P UNIT 430	EKO-CKS P 500	129 - 430	EKO-CKS P UNIT 499	<b>Cm Pelet-set 600</b> - pellet burner CPPL-600 inv (with automatic cleaning) - 2 pcs of expan. vessel lit. 50 lit. - air compressor - boiler control - pellet screw conveyor CPPT-600	- 2 pcs of electromag.valve - air feeding tube - air feeding tube 1 - cyclone, fan CVX200	EKO-CKS P 550	149 - 499	- automatic pneumatic cleaning system of heat exchanger flue pipes - automatic ash removal system from burner (by coil) - automatic ash removal system from flue gas chamber (by coil)	EKO-CKS P UNIT 560	EKO-CKS P 600	168 - 560					
EKO-CKS P UNIT 320	<b>Cm Pelet-set 350</b> - pellet burner CPPL-350 inv (with automatic cleaning) - expansion vessel 50 lit. - air compressor	- boiler control - pellet screw conveyor CPPT-300/350 - electromagnetic valve - air feeding tube	EKO-CKS P 380	96 - 320	- pellet tank - boiler outlet protection with a motor operated 3-way mixing valve and boiler pump - accumulation tank (min 10 l/kW) or hydraulic crossover																								
EKO-CKS P UNIT 430			EKO-CKS P 500			129 - 430																							
EKO-CKS P UNIT 499	<b>Cm Pelet-set 600</b> - pellet burner CPPL-600 inv (with automatic cleaning) - 2 pcs of expan. vessel lit. 50 lit. - air compressor - boiler control - pellet screw conveyor CPPT-600	- 2 pcs of electromag.valve - air feeding tube - air feeding tube 1 - cyclone, fan CVX200	EKO-CKS P 550	149 - 499	- automatic pneumatic cleaning system of heat exchanger flue pipes - automatic ash removal system from burner (by coil) - automatic ash removal system from flue gas chamber (by coil)																								
EKO-CKS P UNIT 560			EKO-CKS P 600			168 - 560																							

**Other additional equipment (all outputs):** - safety elements set of min/max pressure, cascade manager CMNET, communication module CM-GSM, alarm module CAL, CM2K module for steering 2 heating circuits using outdoor temperature (max. 4x CM2K), CSK/CSK-Touch room corrector (connecting to CM2K module), CM WiFi-box Enables web portal monitoring and boiler management

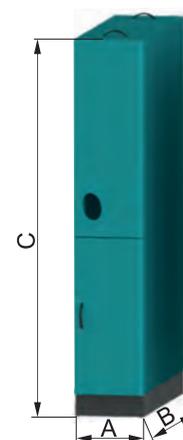
## Pellet tanks CPSP

CPSP pellet tanks are intended for storage of wood pellets (230, 370, 800 liters), and are installed in boiler rooms next to the boiler where it is possible to connect the tank and the pellet burner with a screw transporter. The tanks are made of powder coated sheet metal (CPSP-H of galvanized sheet metal).

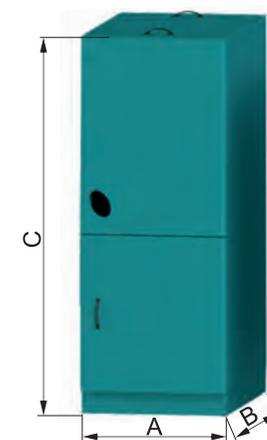
The screw transporter is placed in the tanks at an angle of 45°, while in the CPSP-800 can also be placed from the top, at an angle of 60°. It is also possible to place two screw transporters in one tank (except in CPSP-M and CPSP-H). They are intended for manual filling (with bags) or with additional equipment, automatic filling. Tanks are delivered disassembled into components, which allows easy transport and entry into the room.

Pellet tank	CPSP-M	CPSP	CPSP-H	CPSP-800
Volume (lit.)	230	370	370	800
Capacity (kg)	142	260	260	520
Width A (mm)	300	625	625	1010
Depth B (mm)	730	730	730	980
Height C (mm)	1585	1585	1585	1395
For Cm Pelet-set Touch 12-50 kW	Option	<b>Standard</b> (CPSP 14-50)	Option	Option (transporter angle 45°)
For Cm Pelet-set Touch 51-90 kW	x	Option (CPSP 70/90/110)	Option	<b>Standard</b> (transporter angle 45°)
For Cm Pelet-set Touch 91-560 kW	x	x	x	Option (+ set for boiler transporter EKO-CKS P UNIT)

CPSP-M



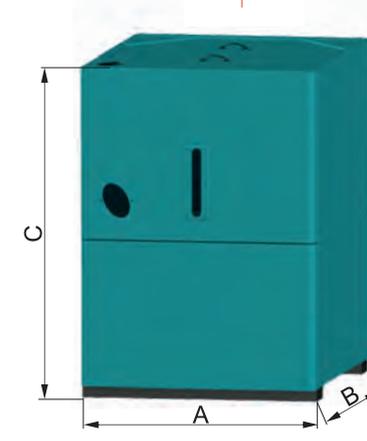
CPSP



CPSP-H



CPSP-800



## CentroPelet box pellet tanks

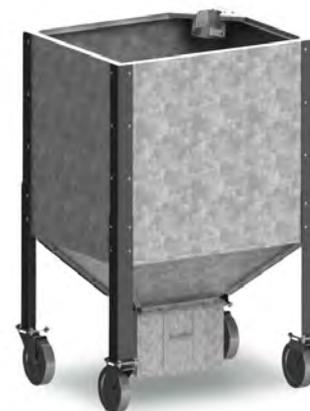
Pellet tanks **CentroPelet box** are intended for storage of larger quantities of wood pellets (0.8m<sup>3</sup>, 1.2m<sup>3</sup>, 2.7m<sup>3</sup>, 3.4m<sup>3</sup>, 4.0m<sup>3</sup>), and are installed in boiler rooms next to the boiler where it is possible to connect the tank and pellet burner with a screw transporter or as dislocated tanks from which small tanks are filled by means of screw transporters or vacuum suction systems. The tanks have galvanized sheet metal sides. A control glass opening is installed on the tank to determine the level of pellets in the tank.

The **CPSP-BP 800** tank is intended for installation next to PelTec and BioTec Plus boilers as an additional pellet tank. The delivery of this tank includes a CentroPelet box 800 tank, a screw transporter with a supply pipe and a pellet router pipe for installation on the boiler tank.

CentroPelet box		800	1500	2700	3400	4000
Volume	[m <sup>3</sup> ]	0,8	1,2	2,7	3,4	4,0
Capacity	[t]	0,53	0,78	1,75	2,2	2,6
Width = Depth A	[mm]	-	1180	1645	1645	1936
Width x Depth	[mm]	625x730	-	-	-	-
Height C	[mm]	1795	1795	2275	2715	2510

In the case of tanks 800, 1500, 2700, 3400 the screw transporter is placed in the holder at an angle of 45°, while in the case of tank 4000 the transporter can also be placed from top, at an angle of 60°. They are intended for manual filling (from bags or jumbo bags). Tanks are delivered disassembled into components, which allows easy transport and entry into the room.

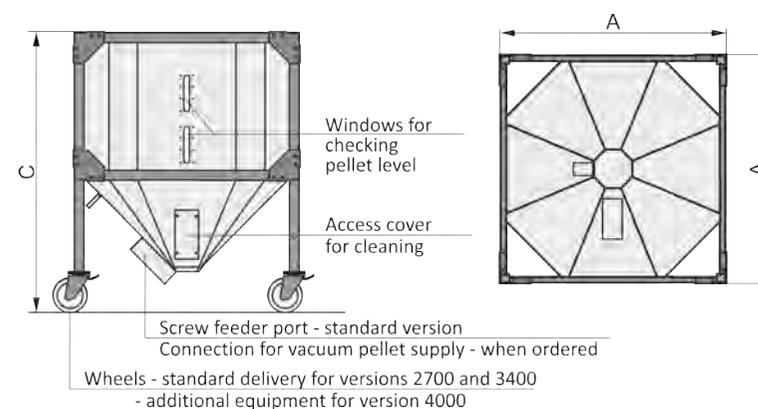
CentroPelet box 800



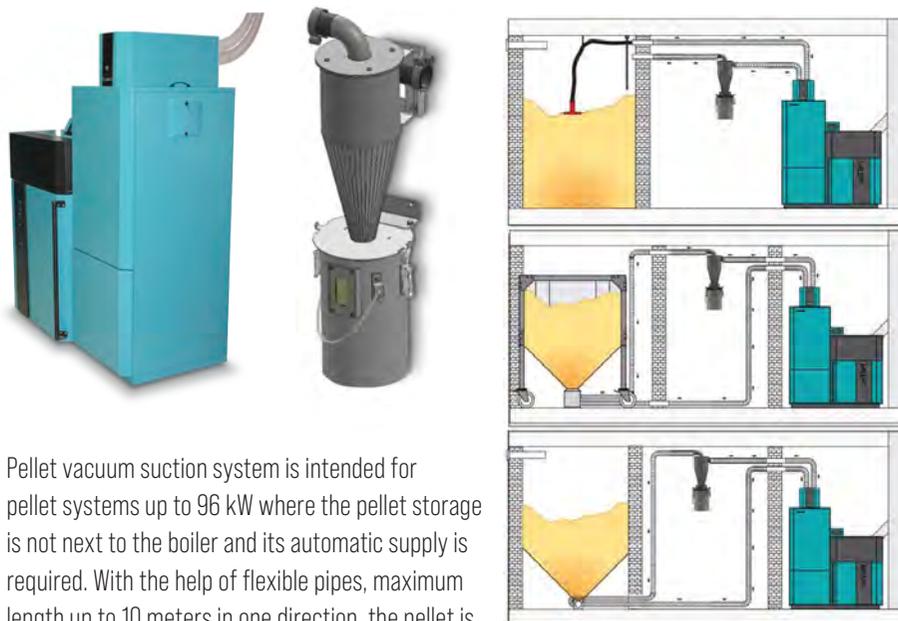
CentroPelet box 1500-4000



CentroPelet box 1500-4000



## Pellet vacuum suction system



Pellet vacuum suction system is intended for pellet systems up to 96 kW where the pellet storage is not next to the boiler and its automatic supply is required. With the help of flexible pipes, maximum length up to 10 meters in one direction, the pellet is transported from a larger storage to a tank next to the boiler to ensure a continuous supply of pellets to the boiler.

The suction system can be connected to three different types of pellet storage:

- pellet storage with Mole,
- large pellet tank CentroPelet box and
- pellet storage with screw conveyor.

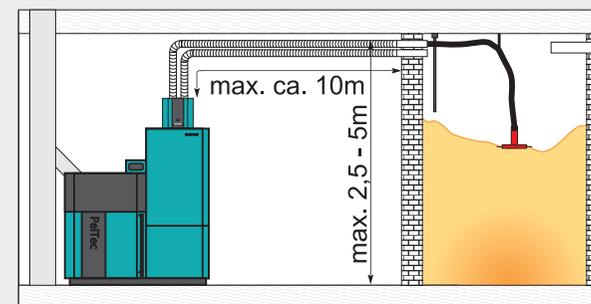
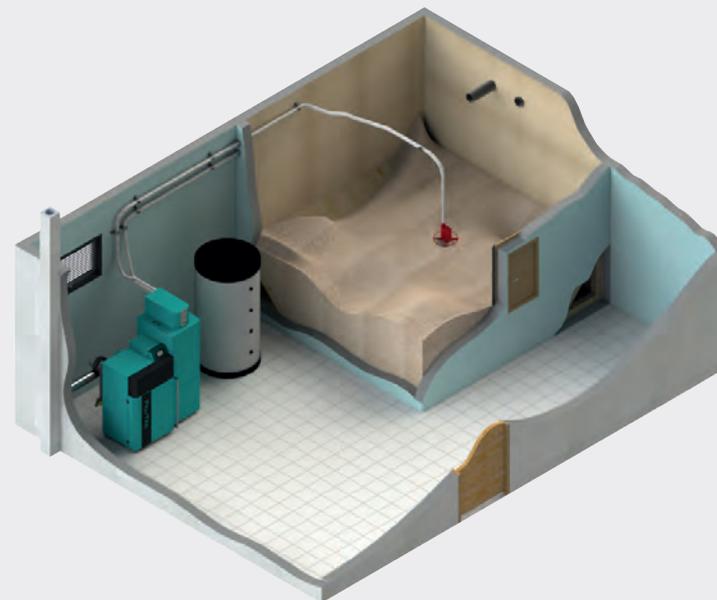
The system is tested for the supply of wood pellets with a diameter of 6 mm, produced according to DINplus or ENplusA1 standard, with a maximum dust content <math><0.7\%</math>.

### CVDOP

A vacuum suction system cyclone for dust removal is placed between the vacuum turbine and the larger storage as an accessory of the system.

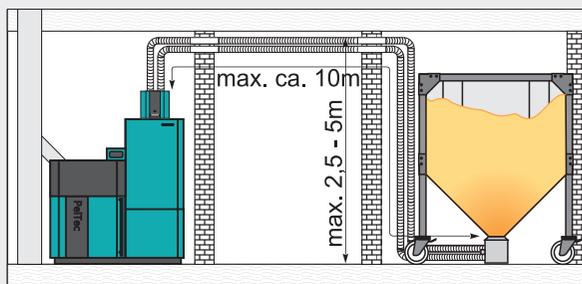
EXAMPLE

### Vacuum suction system with mole from pellet storage/room



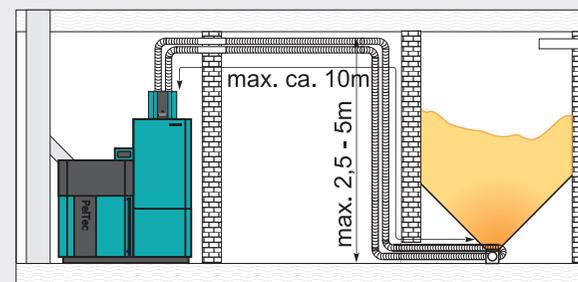
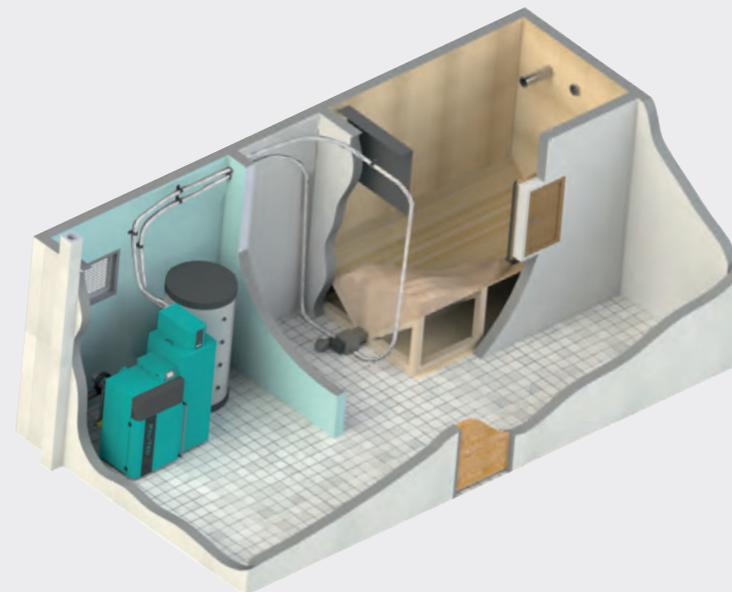
EXAMPLE

## Vacuum suction system from storage pellet tank CentroPelet box



EXAMPLE

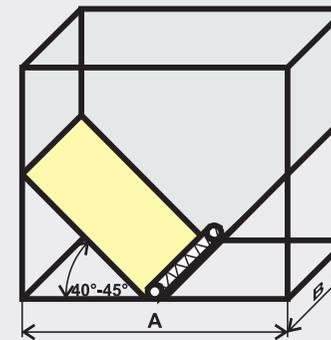
## Vacuum suction system with screw conveyor from pellet storage room



# Pellet supply from the room storage using a screw transporter

Filling a smaller pellet tank from a room storage with sloping sides can be done with a screw transporter. Sloping sides in the room storage should be made at an angle of  $40^\circ$  to  $45^\circ$  to the screw transporter.

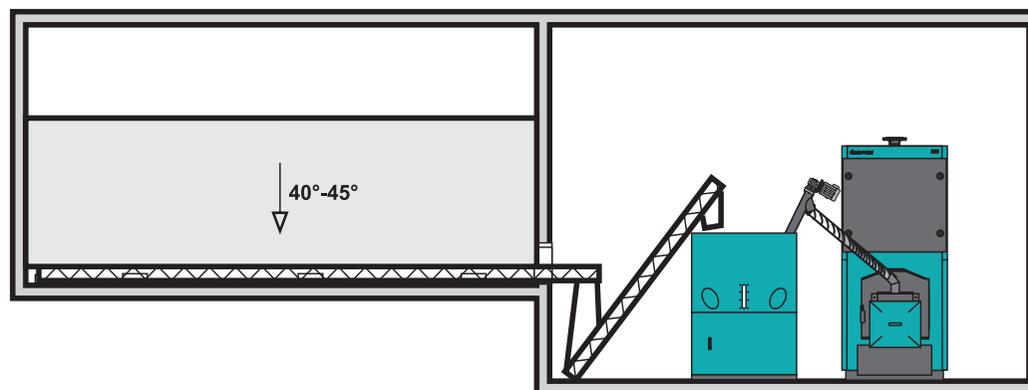
Recommended room storage dimensions are from 1.5 x 2.5 m up to 4 x 8 m while larger rooms must be adapted to these dimensions. This pellet transport is intended for higher power systems due to its robustness and reliability.



Recommended min. - max.  
room storage dimensions

**AxB = 4 x 8 m**

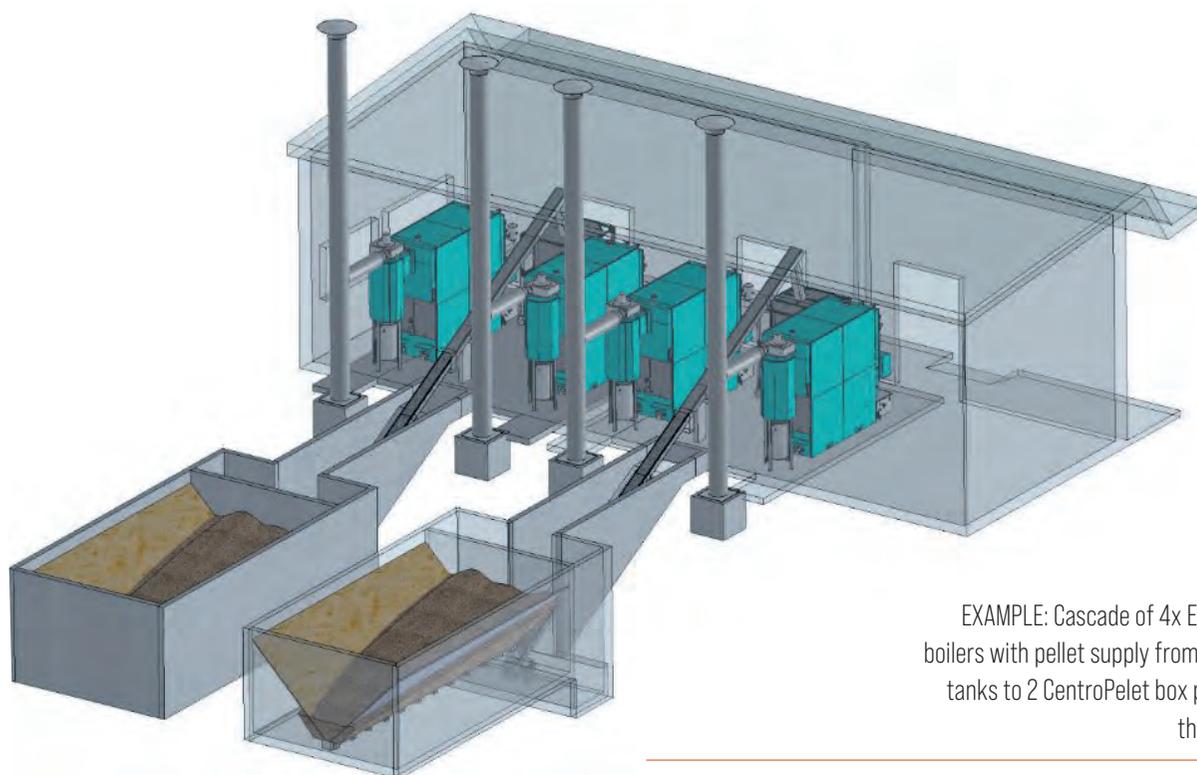




EXAMPLE: refilling the boiler EKO-CKS P Unit (140 - 560 kW), by supplying pellets from the room storage to the pellet tank CPSP-800 or CentroPelet box

Possibility of installing a cascade of 2 boilers on one pellet tank CPSP-800.

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EXAMPLE: Cascade of 4x EKO-CKS P Unit boilers with pellet supply from underground tanks to 2 CentroPelet box pellet tanks in the boiler room.

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## Pellet supply from an external waterproof silo

Filling a smaller tank from the outside can be done from an external silo with a screw transporter. The silo is made of very strong fiberglass which is used in the construction of boats and yachts.

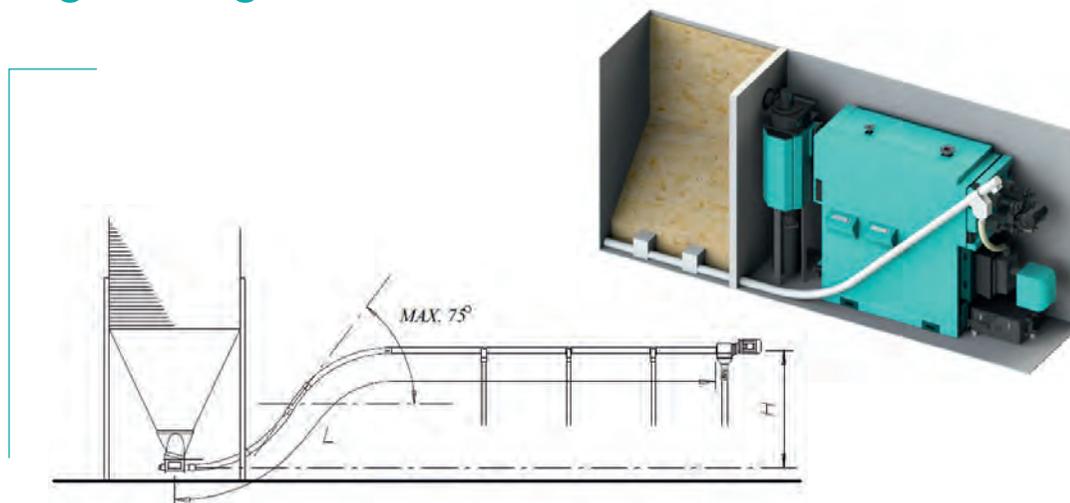
This pellet transport is intended for higher power systems due to its robustness and reliability. Silo capacities from 2.4 tons to 45 tons of pellets, height from 3.7 m to 13 m, diameter from 1.6 to 3 m.



## Pellet supply from the room storage using a flexible coil

Pellets from the pellet storage room can be brought to the boiler (pellet burner) with a flexible coil, up to 30 m distance and a height difference of 6 m. It is used only for the transport of wood pellets with a diameter of  $\varnothing$  6mm. The flexible steel coil is housed in a PVC pipe and driven by an electric motor.

The advantage of this supply system is that the transport of pellets can be carried out over relatively long distances directly to the burner, without the need for a smaller pellet tank, without requiring too much space, as rigid screw transporter need.





## BIO-SC



### Steel hot water boiler

The steel hot water boiler for central heating **BIO-SC** with a nominal heat output of 48 to 96 kW is designed for burning with wood chips.

The boiler is equipped with a burner for burning wood chips with the function of automatic ignition and self-cleaning of the grate and flue passages. Factory-installed back burn protection and thermal protection against boiler overheating are important safety elements of the boiler. Integrated low temperature protection of the boiler return flow ensures trouble-free operation of the boiler even at lower return temperatures.

The multifunctional digital boiler controller with touch screen controls the operation of the boiler via a built-in lambda probe and a modulating flue gas fan.

The controller can also control the heating system according to the selected scheme. The boiler needs to be upgraded with a wood chip transporter and mixer that can be located either in the storage room or in the wood chip tank.

A number of proven technical solutions makes these boilers safe and reliable in operation. The boiler has been tested and certified according to EN 303-5 and meets class 5. It is manufactured in accordance with ISO 9001 and ISO 14001.

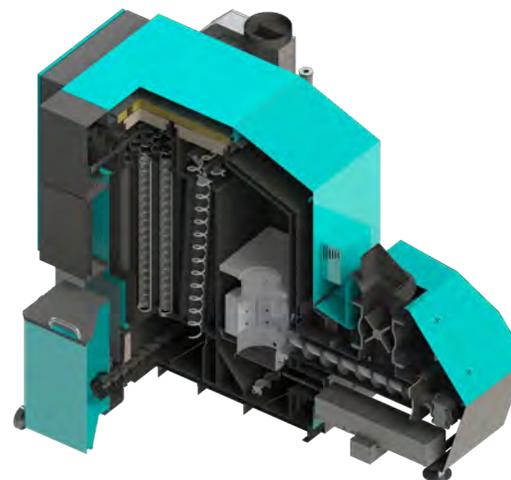


WOOD CHIPS



## Characteristics of BIO-SC boilers

- Boiler class 5, ecodesign.
- Hot water boiler for central heating fired with wood chips size P16A (G30), M35, power 48, 69 and 96 kW.
- Low emissions of harmful compounds in flue gases.
- Modulating boiler operation (30% -100%).
- Built-in lambda probe for combustion optimization.
- Automatic cleaning of the burner grate and flue passages and automatic removal of ash in containers with a volume of 68 liters.
- Integrated return flow protection with 4-way mixing valve with actuator, for direct heating systems and via buffer tank (hydraulic crossover or buffer tank required in bigger systems).
- Integrated back burn protection (RSE) and thermal protection of the boiler against overheating.
- The multifunctional digital controller with 7" color touch screen controls boiler operation, wood chip supply and heating system.
- Obligatory accessories is a mixer with a wood chip transporter or a tank with a wood chip mixer for indoor / outdoor installation.
- Required voltage 380/400 V.
- Additional equipment: CM-WiFi box for monitoring the operation and control of the boiler via the Internet (mobile phone, computer, laptop ..), CM2K module for control 2 (max 8) heating circuits according to outdoor temp., Room corrector CSK and CSK Touch, CM GSM module, boiler operation control by external controller.
- The boilers have been tested and certified according to EN303-5 and meet class 5 and are manufactured in accordance with ISO 9001 and ISO14001.



Boiler cross section



Digital boiler controller



Ability to rotate the screen



External ash containers



Electrical cabinet



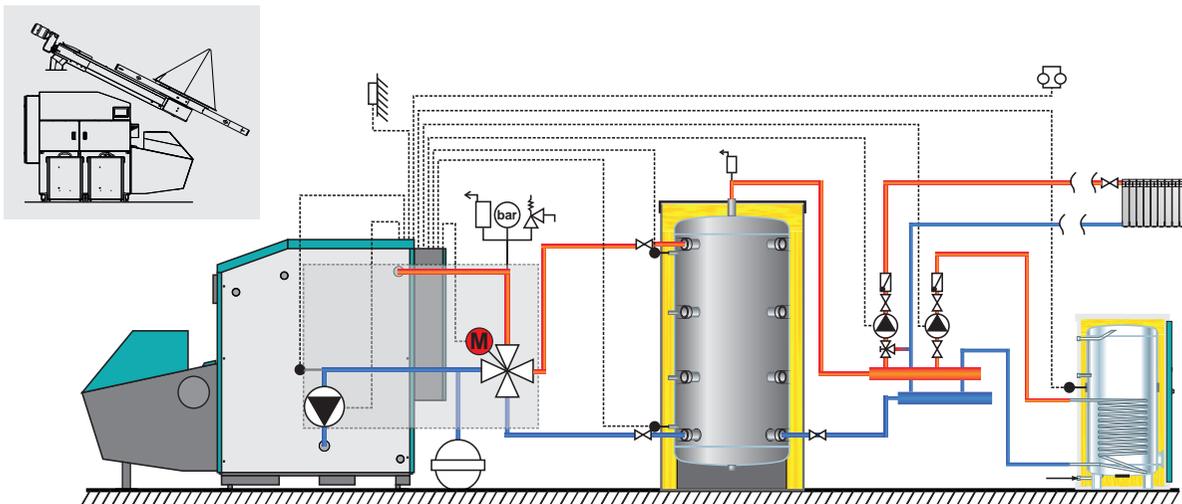
## Delivery and obligatory accessories

### Delivery in parts

- Boiler with controller and electrical cabinet, with casing on.
- Supply conveyor with RSE (back burn protection).
- Flue gas fan.
- Pump group.
- Grate cleaning mechanism.
- Ash containers.
- Electric motor for ash extraction.
- Cleaning accessories.

### Obligatory accessories

- Transporter with mixer / tank.



One of the possible 15 schemes of connection to the heating system and DHW with basic equipment

## Wood chip supply

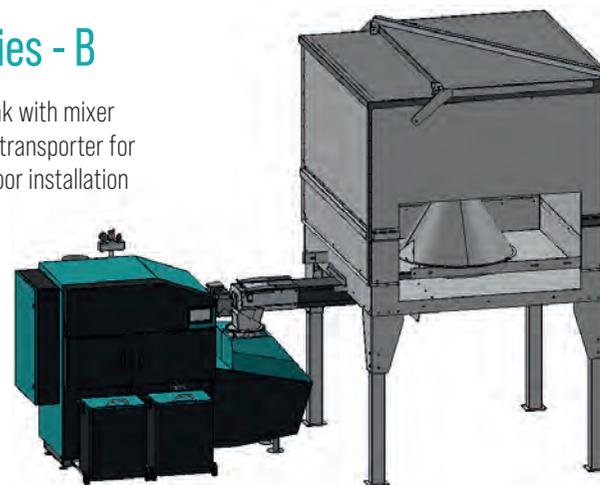
### Accessories - A

- Transporter with mixer for feeding wood chips from the room / storage

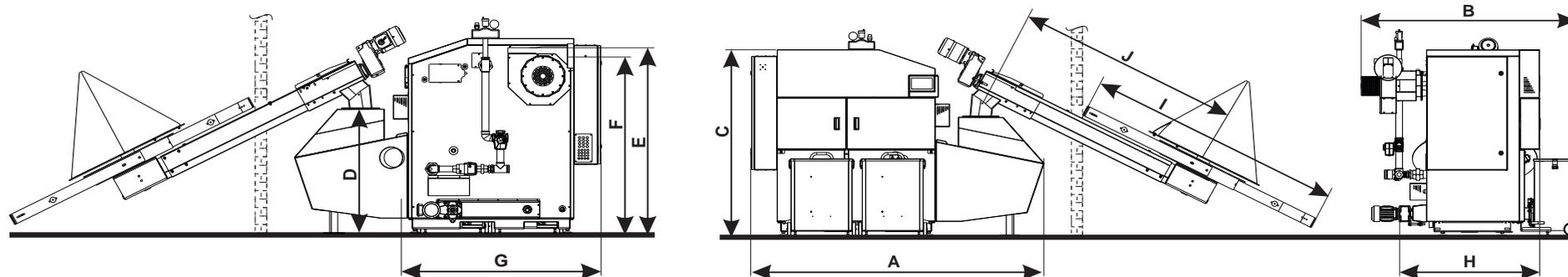


### Accessories - B

- Wood chip tank with mixer connected to transporter for outdoor / indoor installation



## Basic dimensions



BIO-SC		48	69	96
Heat output	[kW]	14,4 - 48	20,7 - 69	28,8 - 96
Boiler water content	[l]	145	185	200
Boiler mass	[kg]	780	990	1020
Flue gas tube diameter * / height F / E	Ø (mm)	f150 / 1040 / 1355	f200 / 1300 / 1370	f200 / 1300 / 1370
Main flow / Return flow	[R]	5/4"	6/4"	6/4"
Max. operating temperature	[°C]	90	90	90
Max. operating overpressure	[bar]	2,5	2,5	2,5
Boiler width / depth / height A / B / C	[mm]	1920 / 1335 / 1440	2060 / 1495 / 1440	2120 / 1565 / 1440
Dimensions for G / H / C entering the boiler room	[mm]	1220 / 955 / 1440	1360 / 955 / 1440	1420 / 1025 / 1440
Wood chip transporter D / I / J			955mm / 2m - 5m / 2m - 5m	
Energy efficiency class		A+	A+	A+

\* the inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube



## EKO-CKS Multi Plus

### Hot water boiler on wood chips or pellets

Steel hot water boilers **EKO-CKS Multi Plus** with a nominal heat output of **170 - 580 kW** are designed for burning **wood chips** or **wood pellets**.

They are intended for installation in closed or open central heating systems of medium and large buildings. The automatic operation of these systems provides the user with enviable comfort and makes these systems suitable for a wide range of applications.

The boilers have a built-in movable grate on which the fuel burns, lambda probe, automatic fuel injection system, automatic ignition, thermal protection, automatic ash extraction from the burning chamber and a cyclone for the separation of particles from flue gases.

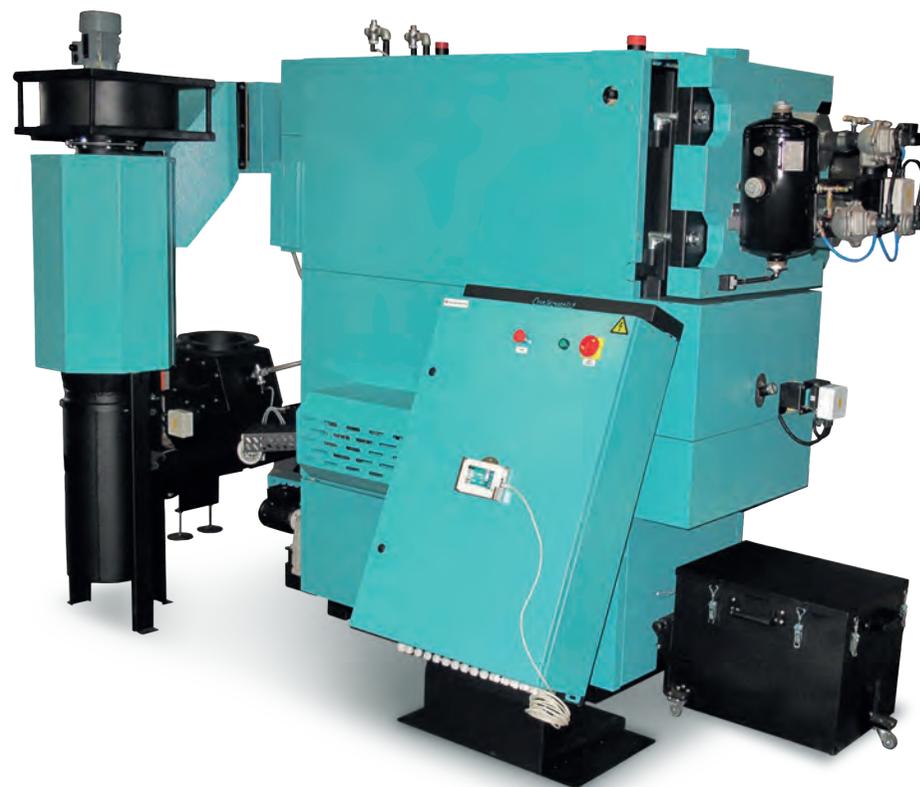
They are recognizable by the successful combination of modern technologies and quality building materials and easy installation and use. A number of proven technical solutions makes these boilers safe and reliable in operation.



WOOD CHIPS



WOOD PELLETS

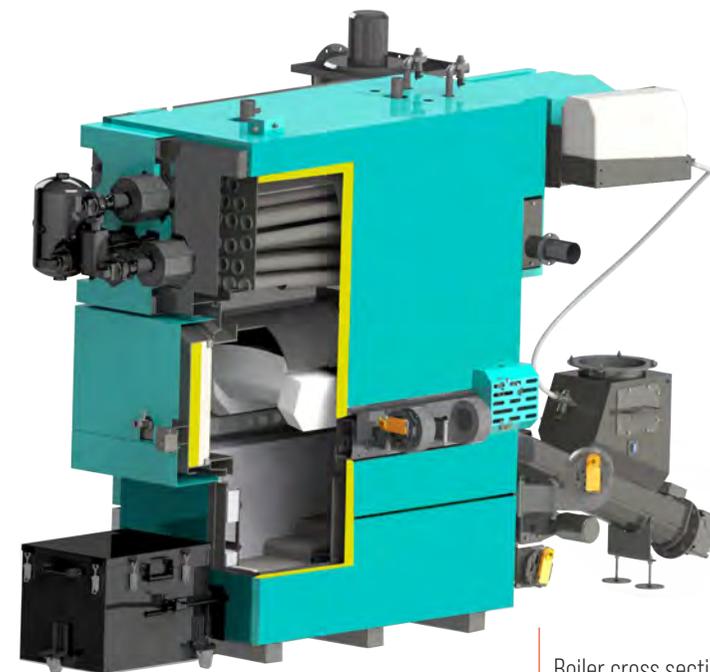


## Characteristics of EKO-CKS Multi Plus boilers

- Boiler class 5, ecodesign.
- They are intended for burning wood chips class P16A / P16B - P45A, M25 (G30-G50, W25) and wood pellets class ENplus A1 and A2.
- They are intended for installation in closed or open central heating systems.
- After changing the type, size or humidity of the fuel, it is necessary to make adjustments to the settings of the system, there is the possibility of pre-setting the parameters for certain types of fuel.
- Required voltage 380/400 V.
- Properly dimensioned combustion chamber with a movable grate ensures a high degree of efficiency of the boiler, which makes it "economical".
- The maximum operating overpressure of the boiler is 4 bar, which allows installation in larger heating systems.
- A separate boiler body, cyclone with fan, containers for automatic ash removal, casing with thermal insulation, electrical cabinet with digital boiler controller and cleaning accessories are supplied, which enables easy transport, installation in the boiler room and reduces the risk of damage.
- The boiler is manufactured in accordance with the European standard EN 303-5.

## They are equipped with:

- Digital boiler controller with a touch screen that controls the operation of the boiler, the operation of the fuel supply transporter in the boiler as well as with the possibility of controlling up to two additional fuel transporters and a mixer in the fuel tank.
- A movable grate on which the fuel burns.
- Lambda probe.
- Automatic fuel supply to the burner by screw transporter, automatic fuel ignition and automatic ash extraction from the boiler.
- Cyclone with flue gas fan for extracting and separating the particles from the flue gases.
- Turbulators in flue pipes, thermal protection of the boiler against overheating, protection against back flame to the fuel tank (backfill sensor, valve).



Boiler cross section

## Obligatory accessories:

- Coupling fuel transporter.
- Fuel tank: wood chips with mixer and transporter / wood pellets with transporter.
- Buffer tank.

## Additional equipment:

- Automatic flue pipe cleaning system (pneumatic).
- CM2K (module for control 2 heating circuits via outdoor corrector (possible installation with CM2K module), CMNET (cascade manager), CAL (light and sound alarm alarm), CMGSM alarm and on/off boiler via SMS).
- CM-WiFi box system for monitoring the operation of the boiler via portal on PC, tablet or mobile phone.

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## Delivery and accessories EKO-CKS Multi (170-580 kW)



### Basic delivery

- Boiler body with burner with movable grate
- Supply screw transporter with connection for external supply transporter, back flame protection and backfill sensor
- Casing with thermal insulation
- Cyclone with ash box
- Cyclone fan
- Automatic ash extraction system with ash containers (screw)
- Electrical cabinet with digital boiler controller



### Obligatory accessories

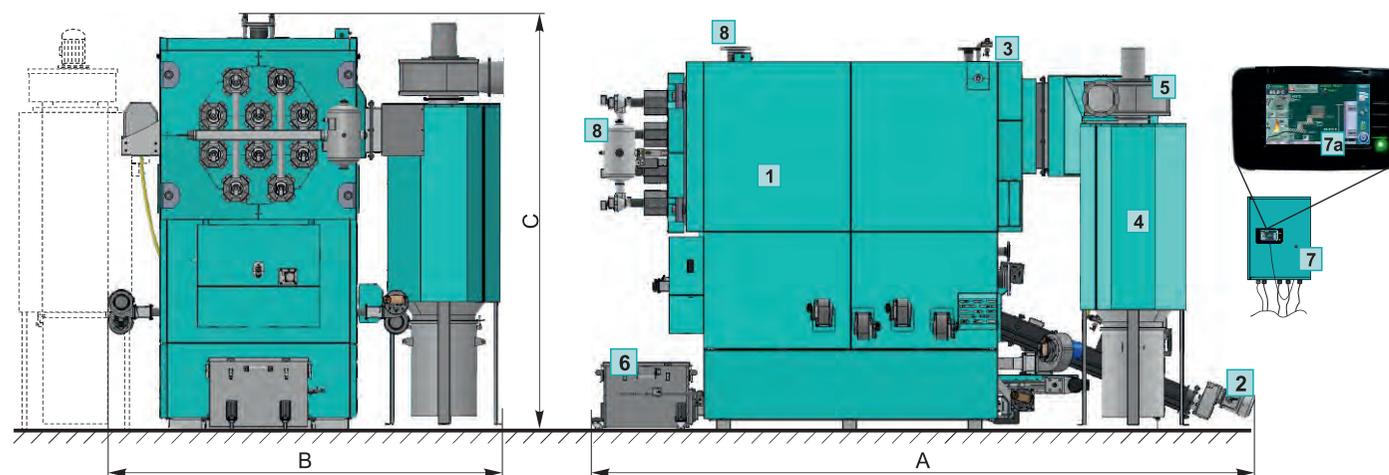
- Wood chips tank with mixer connected to transporter



### Additional equipment

- Automatic flue pipe cleaning system (pneumatic)
- CM2K (module for control 2 heating circuits via outdoor temperature, max. 4xCM2K), CSK/CSK-Touch CSK / CSK-Touch room corrector (possible installation with CM2K module)
- CMNET (cascade manager), CAL (light and sound alarm notification), CMGSM (alarm notification and boiler on/off via SMS), CM-WiFi box
- Screw fuel transporter between the tank transporter and the boiler transporter
- Automatic removal of ash from the flue gas box

## Basic dimensions



- 1 Boiler body with burner with movable grate and thermal insulation
- 2 Supply screw transporter with supply transporter connection 2, back flame protection and backfill sensor
- 3 Boiler thermal protection connections
- 4 Cyclone with ash box (possible installation on the left or right side)
- 5 Cyclone fan
- 6 Automatic ash extraction system with ash containers (screw)
- 7 Electrical cabinet with digital boiler controller
- 7a Controller
- 8 Automatic flue pipe cleaning system - pneumatic [accessories]

EKO-CKS Multi Plus		170	250	340	450	580
Rated heat output	[kW]	170	250	340	450	580
Power range	[kW]	51 - 170	75 - 250	102-340	135 - 450	174 - 580
Main flow / return flow	(R)/(DN)	2"	80	80	100	100
Max. operating temperature	[°C]	95	95	95	95	95
Max. operating overpressure	[bar]	4	4	4	4	4
Total boiler depth A	[mm]	3885	3885	4235	4720	4720
Total boiler width B	[mm]	2010	2170	2260	2555	2655
Total boiler height C	[mm]	2270	2520	2520	2595	2775
Energy efficiency class		A+	A+	A+	A+	A+

120

121

## Wood chip containers with mixer and conveyor

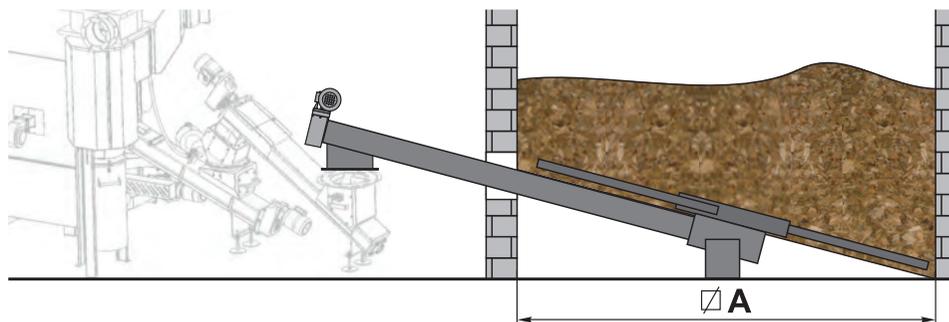


They are intended for storing and supplying wood chips to the boiler such as BIO-SC or EKO-CKS Multi Plus. They are made in such a way that they can be placed in a covered space or outside the building. They are equipped with a screw transporter, an electric motor and a wood chip mixer. The containers are filled from the top after opening the lid, and the wood chip with which they are filled may have a humidity of up to 35%.

The operation of the container/transporter is controlled by digital boiler controller in a standard configuration. Containers are made in the following dimensions: 2.8m<sup>3</sup>, 5.5m<sup>3</sup>, 9m<sup>3</sup>, 18m<sup>3</sup>.

## Wood chip supply systems from storage room

They are intended for the supply of wood chips (max. humidity up to 35%) from the storage room to the heating equipment such as BIO-SC or EKO-CKS Multi Plus. They are equipped with a rotating plate with springs for mixing wood chips (Ø 1.2 - 5m) which is connected to a screw transporter (2.5 - 8m) driven by an electric motor, and the operation of this system is controlled by digital boiler controller in standard configuration.



## Wood chip container with mixer connected to the transporter





## CAS



### Accumulation of thermal energy

CAS buffer tanks are intended for installation in central heating systems, most often with biomass boilers (such as BioTec-C, BioTec-L, BioTec Plus, EKO-CK P, PelTec, EKO-CKS P Unit, BIO-SC, EKO-CKS Multi Plus ...) to accumulate thermal energy and more economical and efficient operation of the boiler.

They are available in several standard sizes (volumes 325, 475, 740, 940, 1450, 2160, 2960, 3820 and 5055 liters) and design: as buffer tank (CAS), with built-in stainless-steel tank for domestic hot water), with built-in heating coil for connecting solar collectors (CAS-S) and with built-in stainless steel tank and heating coil (CAS-BS). Such designs allow the simultaneous use of multiple renewable energy sources, which makes them environmentally and energy friendly.

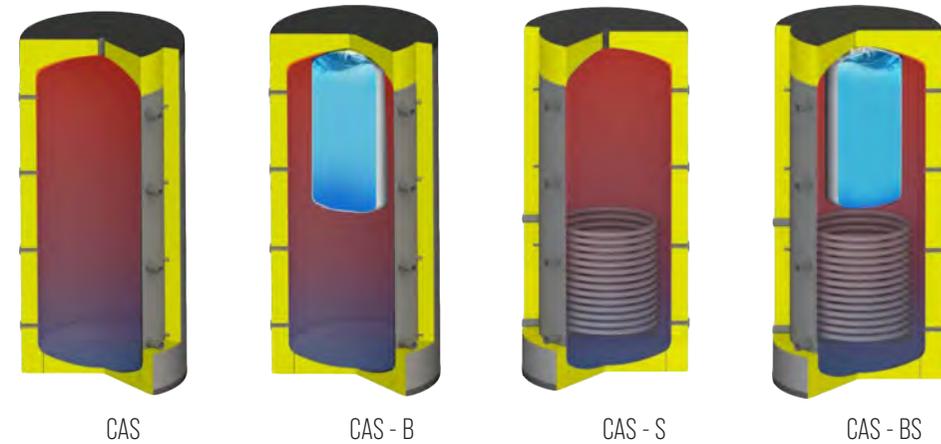
With the installed CAS tanks, heating can be planned at an acceptable time, and in the case of milder outdoor temperatures, space heating and domestic hot water heating without boiler heating is possible for several days.

Buffer tanks are made of certified materials in accordance with ISO 9001 and ISO 14001.

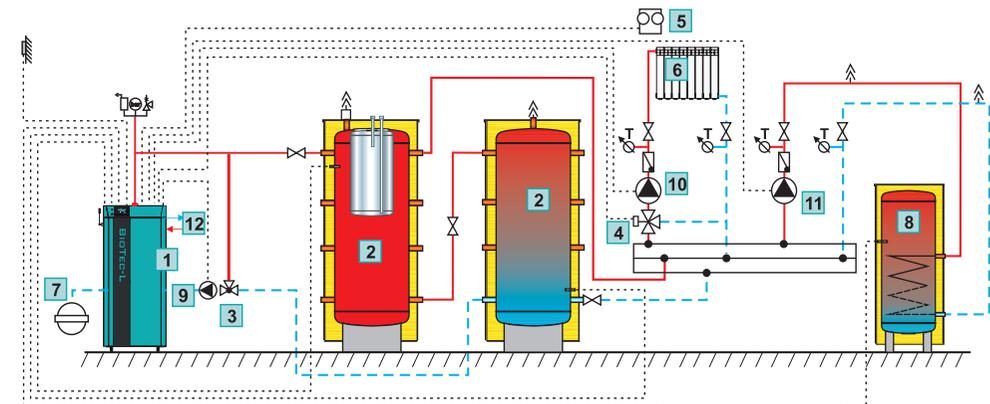


## Characteristics of CAS buffer tanks

- They are intended for installation in central heating systems to accumulate thermal energy.
- They increase the efficiency and economy of biomass boilers.
- They are made of certified steel sheet in accordance with ISO 9001 and ISO 14001.
- They are well insulated with thermal insulation with a Skai jacket.
- The tanks can be connected to increase the total accumulation in the system.
- Standardno se izrađuju u sljedećim veličinama i izvedbama:
  - \* CAS 301 (325 liters), CAS 501 (475 liters), CAS 801 (740 liters), CAS 1001 (940 liters), CAS 1501 (1435 liters), CAS 2001 (1920 liters), CAS 3001 (1920 liters), CAS 3001 (2960 liters), CAS 4001 (3820 liters), CAS 5002 (5055 liters) - buffer tank;
  - \* CAS-S 501 (475 liters), CAS-S 801 (740 liters), CAS-S 1001 (940 liters) - buffer tank with heating coil for connecting solar collectors;
  - \* CAS-B 501 (475 liters), CAS-B 801 (740 liters), CAS-B 1001 (940 liters) - buffer tank with built-in stainless steel tank for domestic hot water;
  - \* CAS-BS 501 (475 liters), CAS-BS 801 (740 liters), CAS-BS 1001 (940 liters) - buffer tank with built-in stainless steel tank for domestic hot water and heating coil for solar collectors.
- Buffer tanks of different dimensions, connections or larger volumes (up to 250.000 liters) are made by the order.



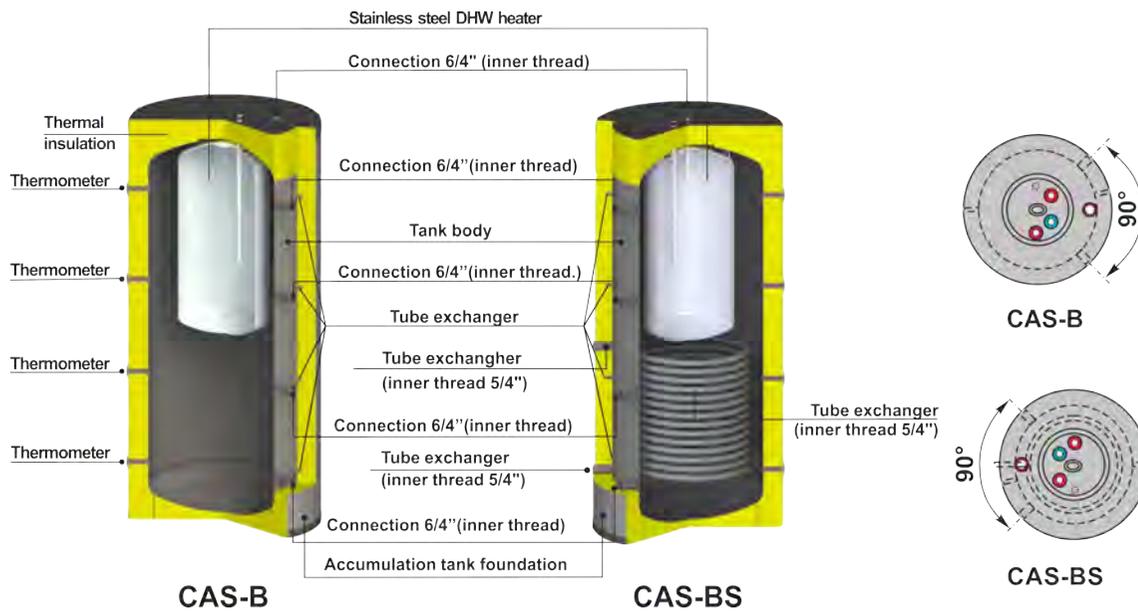
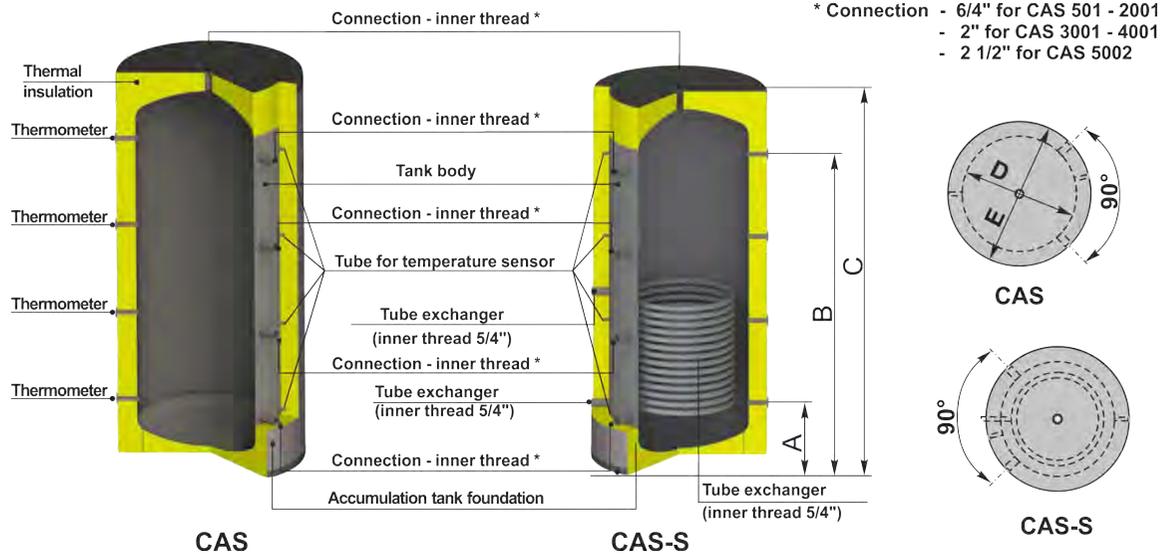
Schematic diagram of connecting 2 buffer tanks CAS to a heating system with a pyrolytic boiler



## CAS tank size selection proposal

- **Pyrolytic** (wood gasification) boilers: for every 1 kW of boiler power at least 50 liters tank volume.
- **Solid fuel boilers:** for every 1 kW of power at least 30 liters of tank volume.
- **Wood chip boilers:** for every 1kW of power at least 12 liters of tank volume.
- **Wood pellet boilers:** for every 1kW of power at least 10 liters of tank volume.

1	Boiler BioTec-L	7	Expansion vessel for closed heating systems
2	Buffer tank CAS-B and CAS	8	Domestic hot water tank (SKB / LKB / TB / STB ...)
3	Three-way thermostatic valve (60°C)	9	Pump P1 - boiler pump
4	3-way mixing valve with actuator	10	Pump P2 - heating pump
5	Room corrector	11	Pump P3 - DHW pump
6	Heating circuit	12	Thermal protection of the boiler





## CAS-PBS



### Buffer tanks with corrugated stainless steel pipe

CAS-PBS buffer tanks are intended for installation in **low-temperature heating** and hot water heating systems with the support of the solar system. The special construction provides fast heating of the upper part of the tank by means of solar collectors, which provides faster and more efficient heating of DHW.

In the lower part of the tank there is a solar heating coil, while in the upper part of the tank there is a corrugated stainless steel pipe heat exchanger for instantaneous DHW heating. An electric heater can be installed in the upper part of the tank, which can heat the domestic hot water if there is not enough energy from the collector or some other conventional system.

The buffer tank is well insulated with thick insulation to minimize environmental losses. Due to the multiple connections, several independent heating and DHW heating systems can be connected to the tank, which makes it very environmentally and energy efficient.

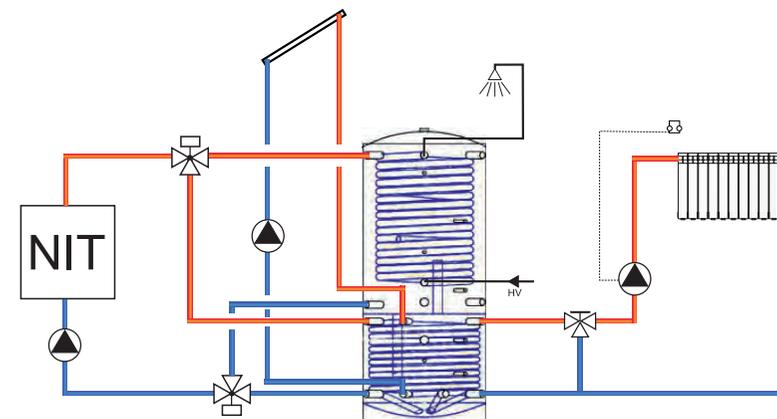
Tanks are made of certified materials in accordance with ISO 9001.



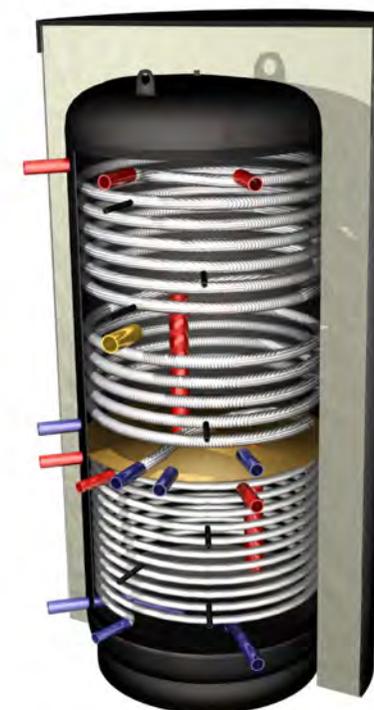
## Characteristics of CAS-PBS buffer tanks

- Buffer tank made of quality black steel.
- Instantaneous heating of domestic hot water through a corrugated stainless steel pipe in the upper part of the buffer tank.
- Tube heat exchanger in the lower part of the tank for connecting a solar system or other heat source.
- Divider plate with pipes that allows a better distribution of temperatures along the height of the tank.
- Possibility of connecting the electric heater to the 2" connection.
- 130mm thermal insulation to minimize heat loss of the tank.
- Intended for connection to low-temperature heat sources.

CAS-PBS		850	1000
Volume	[lit]	855	940
Tank body diameter	[mm]	790	790
Outer diameter	∅ [mm]	1050	1050
Total height (without / with insulation)	∅ [mm]	1875 / 2005	2230 / 2310
Connections	[R]	5/4"	5/4"
Max. operating pressure	[bar]	3	3
Min. room height	[mm]	2100	2300
Tank body mass	[kg]	200	227
Total tank mass	[kg]	215	240
Volume of corrugated DHW pipe	[lit.]	29	29
Surface of corrugated DHW pipe	[m <sup>2</sup> ]	4,76	4,76
Max. operating pressure corrugated DHW pipe	[bar]	6	6
DHW connections	[R]	5/4	5/4
Tube heat exchanger	[m <sup>2</sup> ]	2,6	2,8
Tube heat exchanger water content	[lit.]	14	17
Thermal insulation	[mm]	130	170



NIT= Low-temperature heat source



Tank cross section

## CAS-HV



### Buffer tanks

CAS-HV buffer tanks are intended for the accumulation of hot or cold process water. They are most often connected to heat pumps or water coolers where energy accumulation is required, either thermal or cooling to optimize the operation of the energy source or save electricity.

The tank is coated with zinc paint and has high-quality thermal insulation that prevents losses to the environment and also prevents condensation when cold water accumulates.

Tanks are made of certified materials in accordance with ISO 9001 and 14001.



## Characteristics of CAS-HV buffer tanks

- They are made of quality steel in accordance with ISO 9001 and coated with zinc paint.
- High-quality thermal insulation with Armaflex steam dam is installed after connecting the tank to the installation to minimize the possibility of damage.
- They are intended for connection to heat pumps or cooling devices.
- Due to the number of connections, the tanks are simply connected to each other to obtain larger storage volumes.
- They are manufactured in accordance with ISO 9001 and 14001.

### Delivery

- Tank body on a wooden pallet, thermal insulation and thermometers in PVC foil.



Tank cross section

CAS-HV		301	501	801	1001	1501	2001	3001	4001	5002
Volume	[lit]	325	465	727	920	1426	2122	2960	3820	5022
Tank body diameter	Ø [mm]	500	650	790	790	1000	1200	1250	1400	1600
Outer diameter	Ø [mm]	700	850	990	990	1200	1400	1450	1600	1860
Total height	[mm]	1815	1670	1750	2150	2100	2180	2695	2790	2810
Connections	[G]	6/4"	6/4"	6/4"	6/4"	6/4"	6/4"	2"	2"	2 1/2"
Max. operating pressure	[bar]	3	3	3	3	3	3	3	3	3
Min. operating temp.*	[°C]	-10	-10	-10	-10	-10	-10	-10	-10	-10
Max. operating temp.	[°C]	100	100	100	100	100	100	100	100	100
Min. room height	[mm]	2015	1870	1950	2350	2300	2435	2915	3015	3035
Tank body mass	[kg]	58	75	99	149	185	245	321	380	450
Total tank mass	[kg]	66	84	112	164	204	265			
Thermal insulation	[mm]	25	25	25	25	25	25	25	25	25

\* Minimum operating temperature refers to a mixture of water and glycol

# PUK



## Buffer tanks

PUK buffer tanks are intended for the accumulation of cold process water. They are most often connected to heat pumps or water coolers where greater energy accumulation is needed to optimize the operation of energy sources or save electricity.

The tank has high-quality thermal insulation that prevents losses to the environment and also prevents condensation when cold water accumulates.

Tanks are made of certified materials in accordance with ISO 9001 and 14001.



## Characteristics of PUK buffer tanks

- They are made of quality steel in accordance with the ISO 9001 standard.
- High-quality polyurethane foam thermal insulation with PEXL steam dam is factory-fitted to the tank.
- They are intended for connection to heat pumps or cooling devices.
- Due to the number of connections, the tanks are simply connected to each other to obtain larger storage volumes.
- They are manufactured in accordance with ISO 9001 and 14001.

### Delivery

- Insulated tank on a wooden pallet in cardboard packaging.

PUK		50	100	200
VVolume	[lit]	51	91	190
Outer diameter	Ø [mm]	400	400	600
Total height	[mm]	900	1500	1215
Main flow / return flow connections	[G]	5/4"	5/4"	5/4"
Sensor connections	[G]	1/2"	1/2"	1/2"
Max. operating pressure	[bar]	3	3	3
Min. operating temp. *	[°C]	10	10	10
Max. operating temp.	[°C]	95	95	95
Min. room height	[mm]	911	1507	1360
Total tank mass	[kg]	20	30	46
Thermal insulation	[mm]	50	50	60



PUK 50-100



PUK 200



## EKO-CUP M3 i EKO-CUP M3 Bg



### Oil / gas hot water boiler

Steel hot water boilers **EKO-CUP M3** rated heat output 18 to 80 kW and **EKO-CUP M3 Bg** rated heat output 25 to 80 kW are modern design and recognizable by high efficiency and low emissions of combustion products, which is the result of continuous improvement of construction, modern manufacturing technology and quality building materials.

A number of proven technical solutions make these boilers safe and reliable in operation. The three-pass flue gas system is the main reason why we can call them "economical".

A special feature of **EKO-CUP M3 Bg** boilers is the built-in stainless steel tank for domestic hot water immersed in boiler water. This feature makes it extremely interesting, because the existing controller of the boiler is enough to keep the domestic hot water in the tank constantly heated.

Obligatory boiler accessories is boiler controller, **EKO-CUP M3/Bg-REG** or **CUPREG-Touch/90°C**.



OIL/GAS

## Boiler characteristics EKO-CUP M3 / EKO-CUP M3 Bg

- Hot water boiler for central heating with three-pass flue gas system, heat output 18 to 80 kW.
- Economical and environmentally friendly, with a high degree of efficiency.
- Built-in turbulators enable better heat transfer from flue gases to boiler water, regulation of furnace resistance, regulation of flue gas outlet temperature, i.e. coordination of boiler-burner-chimney operation.
- A lot of water in the boiler reduces the number of starts and prolongs the life of the burner and saves energy.
- A special features are quality thermal and sound insulation of the boiler.
- Boiler doors with threaded holes are prepared for the installation of burners and can be opened to the left and right by 90°, which allows easy and quick cleaning of the boiler.
- A special feature of the EKO-CUP M3 Bg is the built-in stainless steel domestic hot water tank immersed in boiler water and a three-pass flue gas system, the EKO-CUP M3 Bg has a heat output of 25 to 80 kW.
- A separate boiler body and a separate casing with thermal insulation is supplied, what allows easy transport and installation of the boiler.
- Obligatory additional equipment is boiler controller. You can choose between EKO-CUP M3/Bg-REG or CUPREG-Touch controller.
- The boiler is manufactured in accordance with ISO 9001 and ISO 14001.



Basic boiler  
controller EKO-CUP  
M3/Bg-REG



Digital boiler  
controller CUPREG-  
Touch



Factory-prepared oil/  
gas burner opening



EKO-CUP M3 boiler  
connections and  
cleaning accessories

## EKO-CUP M3 / Bg-REG

- Osnovna kotlovska regulacija upravlja radom jednostupanjskog plamenika prema zadanoj temperaturi vode u kotlu.
- U regulaciji nalazi se radni i sigurnosni termostat i termometar.

## CUPREG-Touch / 90°C

- Digital boiler controller (maximum boiler operating temperature 90°C) can control the operation of a single-stage, two-stage or modulating oil or gas burner and controls the central heating system (up to 2 mixing circuits controlled by outdoor temperature), cascade of several boilers and domestic hot water heating.
- Possibility of remote monitoring and control of the boiler via web portal (requires additional equipment CM-WiFi box), CM2K module for additional heating circuits, oil level sensor in the tank ...

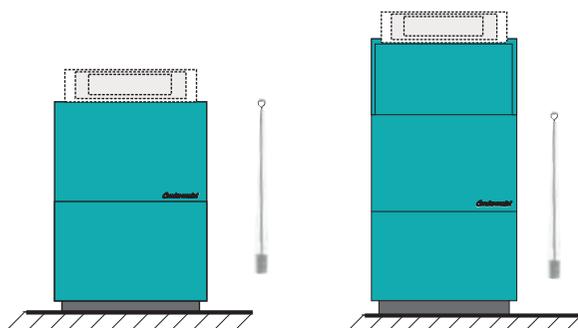


EKO-CUP M3 Bg boiler  
connections



Stainless steel DHW tank

## Delivery and obligatory accessories

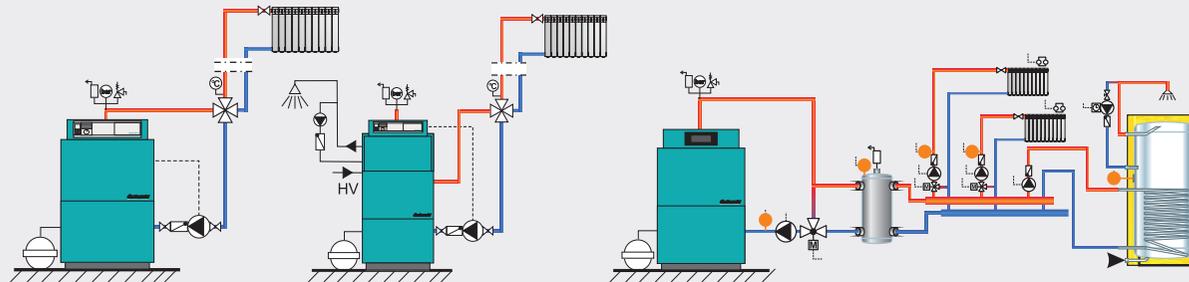


### Delivery of EKO-CUP M3

- Boiler body with casing, cleaning brush
- Obligatory accessories: EKO-CUP M3/Bg-REG or CUPREG-Touch controller

### Delivery of EKO-CUP M3 Bg

- Boiler body with casing, cleaning brush
- Obligatory accessories: EKO-CUP M3/Bg-REG or CUPREG-Touch controller



### Connection of boiler EKO-CUP M3 / Bg to system with one heating circuit with 4-way mixing valve and DHW

- EKO-CUP M3/Bg-REG, oil/gas burner, 4-way manual mixing valve

#### Closed heating system

- Safety airvent group (2.5 bar) and expansion vessel

#### Open heating system

- Open expansion vessel

### Connection of boiler EKO-CUP M3/Bg to system with hydraulic crossover, 2 heating circuits with mixing valves and DHW with recirculation

- CUPREG-Touch, Oil/gas burner, hydraulic crossover...

#### Closed heating system

- Safety airvent group (2.5 bar) and expansion vessel

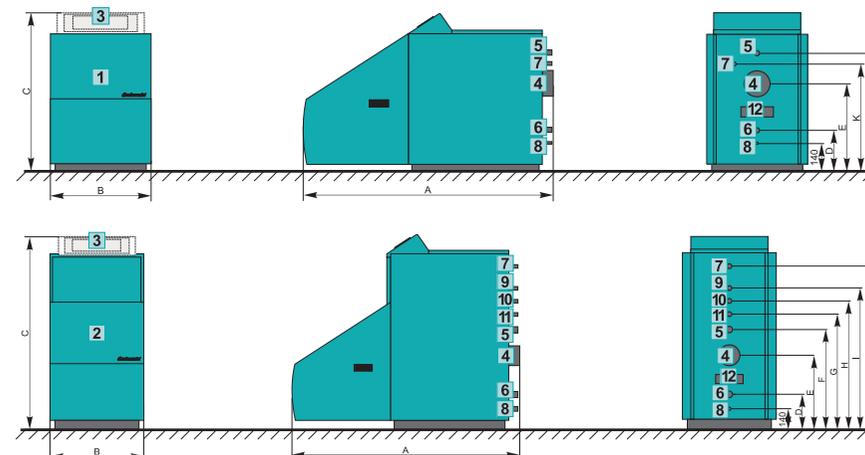
#### Open heating system

- Open expansion vessel

## Basic dimensions

EKO CUP M3/M3 Bg		18	25	35	50	65	80
Heat output	[kW]	15-18	18-25	25-35	35-50	50-65	65-80
DHW tank water content	[l]	-	- / 80	- / 80	- / 80	- / 80	- / 120
Continuous DHW output [45°C]	[l/min]	-	- / 8,8	- / 8,8	- / 8,8	- / 8,8	- / 12,5
Boiler water content	[l]	48	54 / 97	80 / 98	85 / 118	105 / 143	130 / 170
Boiler mass	[kg]	105	117 / 195	147 / 220	168 / 236	206 / 275	235 / 315
Flue gas tube diameter * / height [E]	[mm]	130/440	130/434	130/490	150/515	160/580	160/580
Burner opening	∅ [mm]	100	100	100	100	110	110
Chimney underpressure	[Pa]	8	10	12	14	16	18
Main flow / Return flow	[R]	1"	1"	5/4"	5/4"	6/4"	6/4"
Flue gas temperature	[°C]	170	170	170	170	170	170
Max. operating temperature	[°C]	90	90	90	90	90	90
Max. operating overpressure	[bar]	2,5	2,5	2,5	2,5	2,5	2,5
Total length A	[mm]	1175	1275	1275	1275	1275	1315
Total width B	[mm]	500	500	580	630	690	690
Total height C	[mm]	790	790 / 1185	860 / 1255	890 / 1285	960 / 1355	960 / 1355
Height D	[mm]	215	215	230	250	250	250
Height F	[mm]	595	595	660	700	760	760
Height G	[mm]	-	- / 687	- / 755	- / 800	- / 865	- / 865
Height H	[mm]	-	- / 777	- / 845	- / 890	- / 955	- / 955
Height I	[mm]	-	- / 867	- / 935	- / 980	- / 1045	- / 1045
Height J	[mm]	-	- / 1006	- / 1080	- / 1120	- / 1180	- / 1180
Height K	[mm]	540	540	620	645	710	710

\* The inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube



- 1 Boiler EKO-CUP M3
- 2 Boiler EKO-CUP M3 Bg
- 3 Boiler controller [EKOCUP M3/Bg-REG or CUPREG-Touch]
- 4 Flue gas tube connection
- 5 Main flow
- 6 Return flow
- 7 Safety line
- 8 Filling/Draining
- 9 Hot DHW
- 10 Recirculation
- 11 Cold DHW
- 12 Flue gas box cleaning opening



## EKO-CUP S3 and EKO-CUP SU3

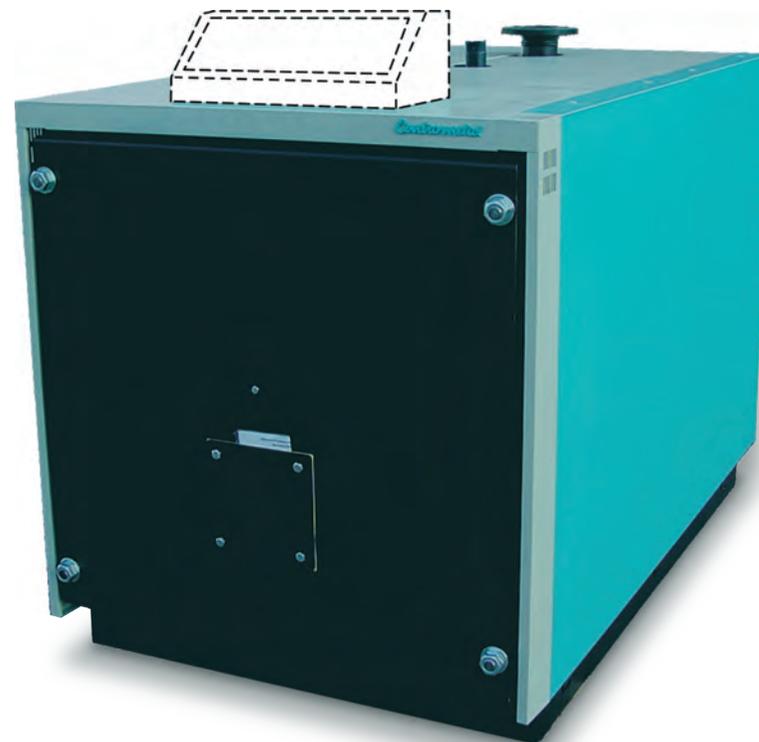
### Oil/gas hot water boiler

Steel hot water boilers **EKO-CUP S3** with a nominal heat output of 125 to 600 kW are intended for heating medium and large buildings, and as a heat source for various technological processes. They are installed either as separate units or several of them are connected in a cascade.

They are recognizable by the successful combination of modern technologies and quality building materials and the ease of installation and supervision. The use of proven technical solutions makes these boilers safe and reliable in operation. The three-pass flue gas system is an important reason for the economy of these boilers.

**EKO-CUP SU3** boilers are on average 200 mm narrower and slightly deeper and higher than EKO-CUP S3 boilers.

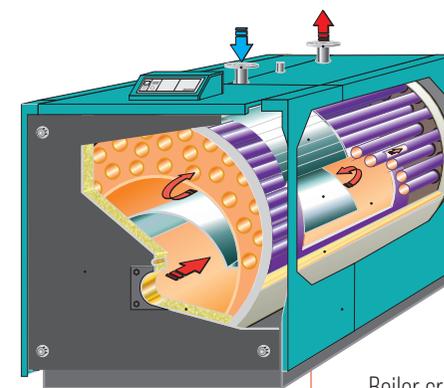
Obligatory boiler accessory is boiler controller, **EKO-CUP S3/V3-REG** or **CUPREG-Touch**, for which the maximum operating temperature of the boiler must also be selected.



OIL/GAS

## Characteristics of EKO-CUP S3 boilers

- Hot water boiler for central heating with three-pass flue gas system, heat output from 125 to 600 kW.
- Max. boiler operating pressure 3 bar (standard) or 6 bar (on request), and 90°C (standard), 100°C or 105°C (on request) max. operating temperature.
- Boiler controller is a obligatory accessory, and you can choose between 4 models: ECO-CUP S3/V3-REG /90°C, CUPREG-Touch /90°C, CUPREG-Touch /100°C, CUPREG-Touch /105°C.
- Built-in turbulators enable better heat transfer from flue gases to boiler water, regulation of furnace resistance, regulation of flue gas outlet temperature, i.e. quality coordination of boiler-burner-chimney operation.
- A lot of water in the boiler reduces the number of starts and prolongs the life of the burner and saves energy.
- All boiler connections are on the top, which allows easy connection to the heating installation.
- Boiler door with blind plate is adapted for the installation of all fan burners on the market and can be opened to the left and right by 90°, which allows easy and quick cleaning of the boiler.
- EKO-CUP SU3 boilers are on average 200 mm narrower and slightly deeper and higher than EKO-CUP S3 boilers.
- Delivery of the boiler: separate boiler body, separate casing with thermal insulation which enables easy transport and installation of the boiler, and separately selected controller.



Boiler cross section



Boiler delivery



Boiler connections

## EKO-CUP S3 / V3-REG / 90°C

- The basic boiler controller controls the operation of a single-stage or two-stage burner according to the set water temperature in the boiler.
- In the controller (maximum operating temperature of the boiler 90°C) there is a safety and operating thermostat of the first and second stage of the burner and a thermometer.

## CUPREG-Touch / 90°C / 100°C / 105°C

- Digital boiler controller (maximum boiler operating temperature 90°C or 100°C or 105°C) can control the operation of a single-stage, two-stage or modulating oil or gas burner and controls the central heating system (up to 2 mixing heating circuits controlled by outdoor temperature), cascade of several boilers and domestic hot water preparation.
- Possibility of remote monitoring and control of the boiler via web portal (requires additional equipment CM- WiFi box), CM2K module for additional heating circuits, oil level sensor in the tank ...

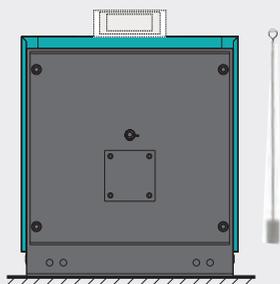


Basic boiler controller EKO-CUP S3/V3-REG



Digital boiler controller CUPREG-Touch

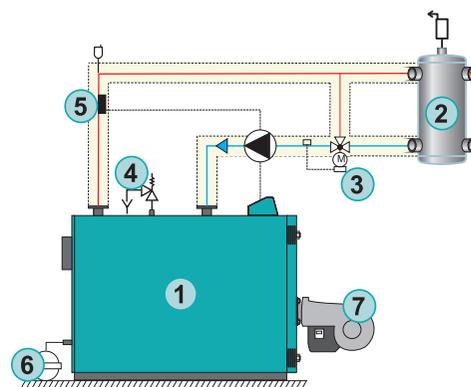
## Delivery and obligatory accessories



### Delivery of EKO-CUP S3

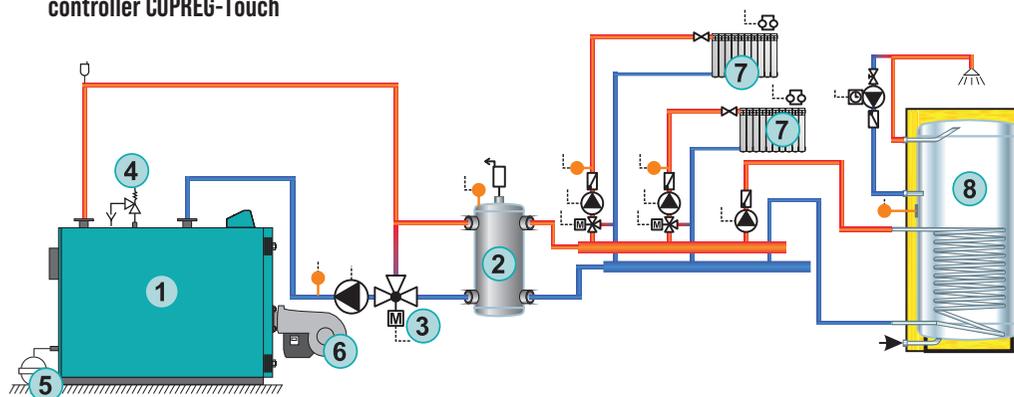
- Boiler body, boiler casing, cleaning brush
- Obligatory accessories: EKO-CUP S3/V3-REG or CUPREG-Touch

Schematic diagram of connection to a hydraulic crossover with basic boiler controller EKO-CUP S3/V3-REG



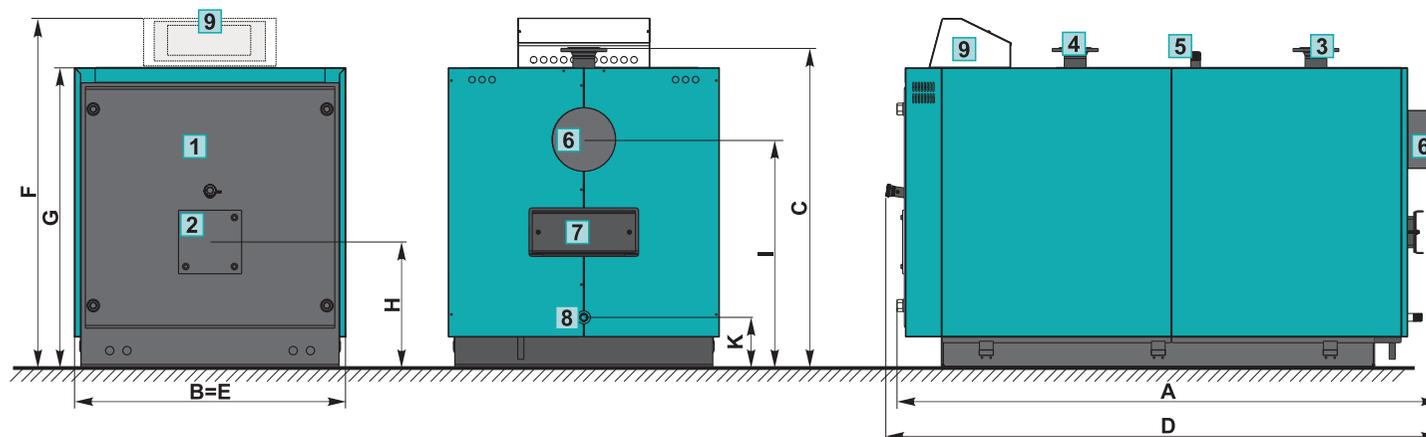
- 1 Boiler EKO-CUP S3
- 2 Hydraulic crossover
- 3 3-way mixing valve with actuator ESBE CRA controller (60°C).
- 4 Certified safety valve
- 5 Contact pipe thermostat
- 6 Expansion vessel
- 7 Oil/gas burner

Schematic diagram of connection to a hydraulic crossover with boiler controller CUPREG-Touch



- 1 Boiler EKO-CUP S3
- 2 Hydraulic crossover
- 3 3-way mixing valve with actuator
- 4 Certified safety valve
- 5 Expansion vessel
- 6 Oil/gas burner
- 7 Heating circuits with actuators
- 8 DHW with recirculation

## Basic dimensions



EKO-CUP S3		125	160	240	320	400	460	530	600
Heat output	(kW)	37,5-125	48-160	72-240	96-320	120-400	138-460	168-530	180-600
Boiler water content	(l)	225	290	390	465	615	735	865	970
Total boiler mass	(kg)	445	563	673	867	1066	1184	1418	1515
Max. operating temperature	(°C)	90/100/105	90/100/105	90/100/105	90/100/105	90/100/105	90/100/105	90/100/105	90/100/105
Max. operating overpressure / flanges		3 bar / NP6 ili 6 bar / NP16							
Flue gas tube diameter * / height (l)	(mm)	180/700	200/790	200/790	250/890	250/970	250/970	300/1062	300/1062
Burner opening	Ø (mm)	130	130	170	170	170	220	220	220
Combustion chamber resistance	(mbar)	1,7	2,5	2,6	2,8	3,5	4,0	4,3	4,9
Main flow / return flow		R 2"	DN 50	DN 65	DN 80	DN 80	DN 80	DN 80	DN 100
Filling / draining	(R)	3/4"	3/4"	3/4"	3/4"	1"	1"	1"	1"
Safety line	(R)	1"	1"	5/4"	6/4"	6/4"	6/4"	6/4"	6/4"
Flue gas temperature	(°C)	140	140	140	140	140	140	140	140
Boiler body length A	(mm)	1630	1475	1890	1890	1945	2245	2245	2495
Boiler body width B	(mm)	780	945	945	1050	1150	1150	1250	1250
Boiler body height C	(mm)	970	1110	1110	1225	1355	1355	1460	1455
Total length D	(mm)	1660	1510	1930	1930	1985	2285	2285	2530
Total width E	(mm)	780	945	945	1050	1150	1150	1250	1250
Total height F	(mm)	1080	1210	1210	1320	1420	1420	1520	1520
Height G	(mm)	910	1040	1040	1150	1250	1250	1350	1350
Heights (H / K)	(mm)	360/175	440/175	440/175	440/175	450/185	450/185	475/185	480/185

- 1 Boiler EKO-CUP S3
- 2 Burner mounting plate
- 3 Boiler main flow
- 4 Boiler return flow
- 5 Safety line
- 6 Flue gas tube connection
- 7 Cleaning opening
- 8 Filling / draining
- 9 Boiler controller (EKO-CUP S3/V3-REG or CUPREG-Touch)

\* The inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube



## EKO-CUP V3 and EKO-CUP SV3

### Oil/gas hot water boiler

Steel hot water boilers **EKO-CUP V3** with a nominal heat output of 0.8 to 1.5 MW and **EKO-CUP SV3** with a nominal heat output of 1.5 MW to 2.1 MW are intended for heating medium and large buildings and as a heat source for various technological processes.

They are installed either as separate units or several of them are connected in a cascade. They are recognizable for their modern design and successful combination of modern manufacturing technologies and quality construction materials, as well as for easy installation and supervision.

The use of proven technical solutions makes these boilers safe and reliable in operation. The three-pass flue gas system is an important contribution to the economy of these boilers.

Obligatory boiler accessory is boiler controller, **EKO-CUP S3/V3-REG** or **CUPREG-Touch**, for which the maximum operating temperature of the boiler must also be selected.

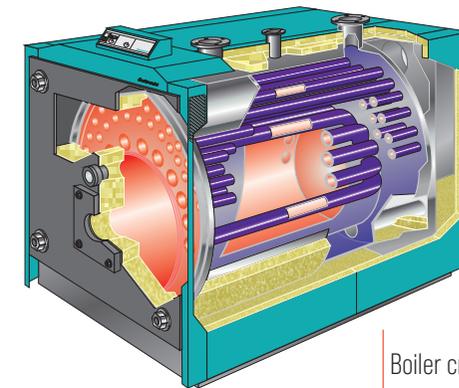


OIL/GAS



## Characteristics of boilers EKO-CUP V3 / SV3

- Hot water boiler for central heating with three-pass flue gas system,
- The maximum operating overpressure of the boiler is 6 bar, which allows installation in central heating systems of tall buildings.
- The maximum operating temperature of the EKO-CUP V3 boiler is 105 °C, while the maximum operating temperature of the EKO-CUP SV3 boiler is 100 °C.
- Built-in spiral turbulators enable better heat transfer from flue gases to boiler water, regulation of furnace resistance, regulation of flue gas outlet temperature, i.e. quality coordination of boiler-burner-chimney operation.
- A lot of water in the boiler reduces the number of starts and prolongs the life of the burner and saves energy.
- The technical solutions used are the reason for the almost negligible initial condensation.
- All boiler connections are on the top, which allows easy connection to the installation.
- Boiler door with blind plate is adapted for the installation of all fan burners on the market and can be opened to the left and right by 90°, which allows easy and quick cleaning of the boiler.
- Delivery of the boiler: separate boiler body, separate casing with thermal insulation which enable easy transport and installation of the boiler, and separately selected controller.



Boiler cross section



Boiler delivery



Boiler connections

## EKO-CUP S3 / V3-REG / 90 °C

- The basic boiler controller (with EKO-CUP V3 and SV3 it is possible to order controller with a maximum boiler operating burner according to the set boiler water temperature.
- The controller includes a safety and operating thermostat of the first and second stage of the burner and a thermometer.

## CUPREG-Touch / 90 °C / 100 °C / 105 °C

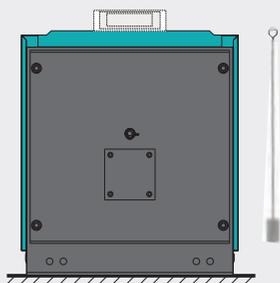
- Digital boiler controller (with EKO-CUP V3 it is possible to order controller with a maximum boiler operating temperature of 90 °C, 100 °C or 105 °C, and with EKO-CUP SV3 with a maximum boiler operating temperature of 90 °C and 100 °C) can control the operation of a single-stage, two-stage or modulating oil or gas burner and controls the central heating system (up to 2 mixing heating circuits controlled by outdoor temperature), the cascade of several boilers and the preparation of domestic hot water.
- Possibility of remote monitoring and control of the boiler via web portal (requires additional equipment CM- WiFi box), CM2K module for additional heating circuits, oil level sensor in the tank ...

Basic boiler  
controller EKO-CUP  
S3/V3-REGDigital boiler  
controller CUPREG-  
Touch

142

143

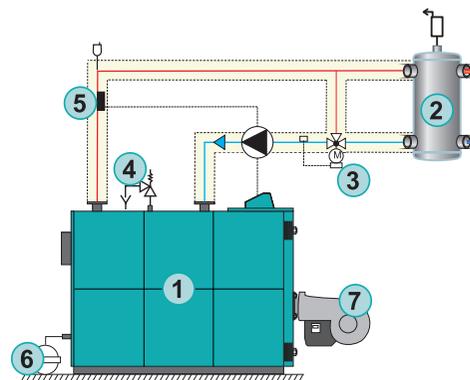
## Delivery and obligatory accessories



### Delivery of EKO-CUP V3/SV3

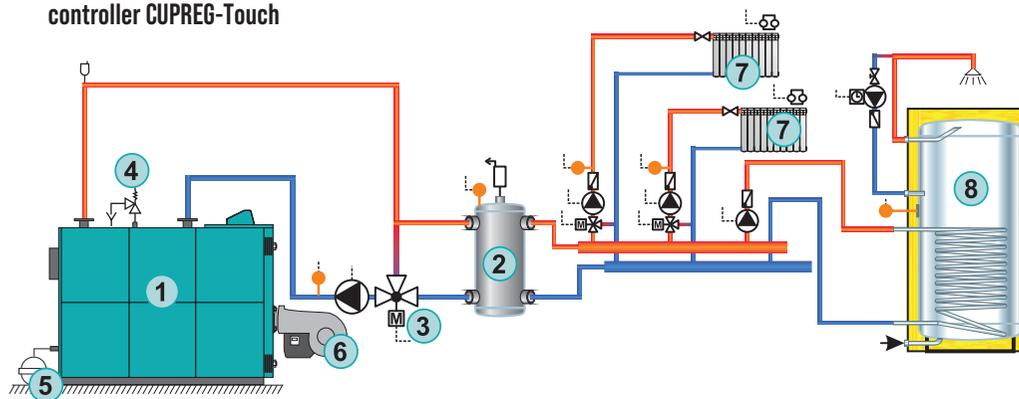
- Boiler body, boiler casing, cleaning brush
- Obligatory accessories: EKO-CUP S3/V3-REG or CUPREG-Touch

Schematic diagram of connection to a hydraulic crossover with basic boiler controller EKO-CUP S3/V3-REG



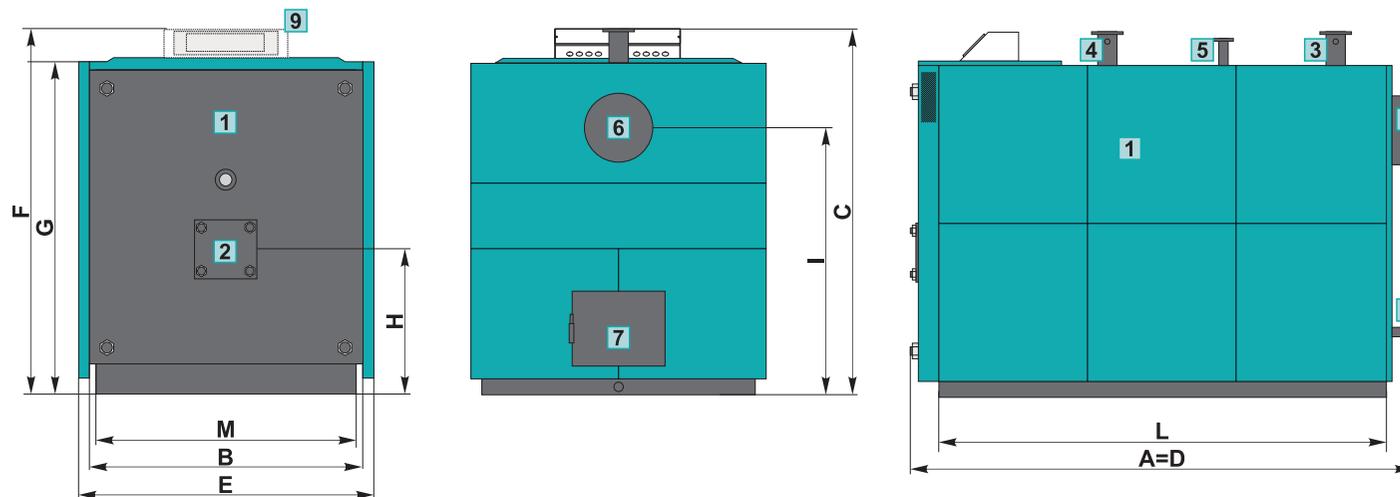
- 1 Boiler EKO-CUP V3/SV3
- 2 Hydraulic crossover
- 3 3-way mixing valve with actuator ESBE CRA controller (60°C).
- 4 Certified safety valve
- 5 Contact pipe thermostat
- 6 Expansion vessel
- 7 Oil/gas burner

Schematic diagram of connection to a hydraulic crossover with boiler controller CUPREG-Touch



- 1 Boiler EKO-CUP V3/SV3 Hydraulic
- 2 crossover
- 3 3-way mixing valve with actuator
- 4 Certified safety valve
- 5 Expansion vessel
- 6 Oil/gas burner
- 7 Heating circuits with actuators
- 8 DHW with recirculation

## Basic dimensions



EKO-CUP V3		800	1000	1250	1500
Heat output	[kW]	800	1000	1250	1500
Heat output range	[kW]	240-800	300-1000	375-1250	450-1500
Boiler water content	[l]	1085	1150	1410	1510
Boiler body mass	[kg]	2104	2320	2430	2750
Max. operating temperature	[°C]	90/100/105	90/100/105	90/100/105	90/100/105
Max. operating overpressure	[bar]	6	6	6	6
Flue gas tube diameter *	∅ [mm]	300	300	400	400
Flue gas tube height I	[mm]	1150	1220	1370	1415
Main flow / return flow (NP 16)	(DN)	100	125	125	150
Safety line (NP 16)	(DN)	50	65	65	65
Filling / draining	(R)	1"	5/4"	5/4"	5/4"
Flue gas temperature	[°C]	190	190	190	190
Boiler body dimensions AxBxC	[mm]	2485x1335x1615	2525x1405x1690	2525x1555x1880	2480x1600x1925
Total boiler dimensions DxExF	[mm]	2485x1400x1700	2525x1470x1750	2525x1585x1955	2480x1675x2000
Height (G / H)	[mm]	1445/660	1515/660	1705/763	1725/765
Stand width M	[mm]	1265	1335	1485	1530
Stand length L	[mm]	1960	1960	1960	1960
Combustion chamber resistance	[mbar]	6,3	7,1	7,9	8,7

EKO-CUP SV3	
	2500
	2100
	630-2100
	3000
	5200
	90/100/105
	6
	450
	1580
	150
	50
	6/4"
	165
	3480x1865x2145
	3480x1930x2145
	1965 / 1035
	1800
	2880
	9,5

- 1 Boiler EKO-CUP V3/SV3
- 2 Burner mounting plate
- 3 Boiler main flow
- 4 Boiler return flow
- 5 Safety line
- 6 Flue gas tube connection
- 7 Cleaning opening
- 8 Filling / draining
- 9 Boiler controller (EKO-CUP S3/V3-REG or CUPREG-Touch)

\* The inner diameter of the chimney is determined according to the power of the boiler and the height of the chimney and must almost always be larger than the diameter of the flue gas tube

# CUPREG-Touch



The **CUPREG-Touch** digital boiler controller is intended for installation on hot water boilers EKO-CUP M3 /Bg, EKO-CUP S3/ SU3, EKO-CUP V3 and EKO-CUP SV3.

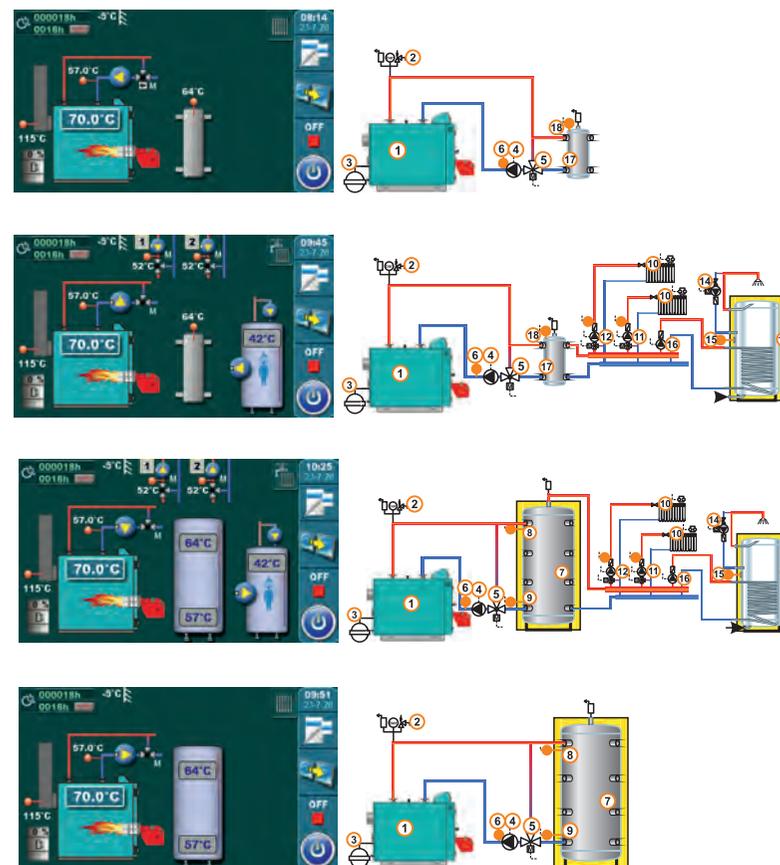
Depending on the ordered controller, the maximum boiler temperature EKO-CUP M3 /Bg is 90°C, EKO-CUP S3 and EKO-CUP V3 is 90°C, 100°C and 105°C and EKO-CUP SV3 90°C and 100°C. It can control the operation of a single-stage, two-stage or modulating oil or gas burner.

It can control the central heating system, up to 2 mixing circuits of outdoor temperature-controlled heating and the preparation of domestic hot water with recirculation.

One of 27 different connection schemes can be selected.

Possibility of remote monitoring and control of the boiler via web portal (accessories CM-WiFi box), monitoring via GSM network (accessories CM-GSM), alarm module with light and sound (accessories CAL), possibility of installing a module for controlling additional heating circuits (accessories CM2K, max. 4 modules and room correctors CSK or CSK-Touch), possible installation of oil level sensor in the tank (accessories oil level sensor).

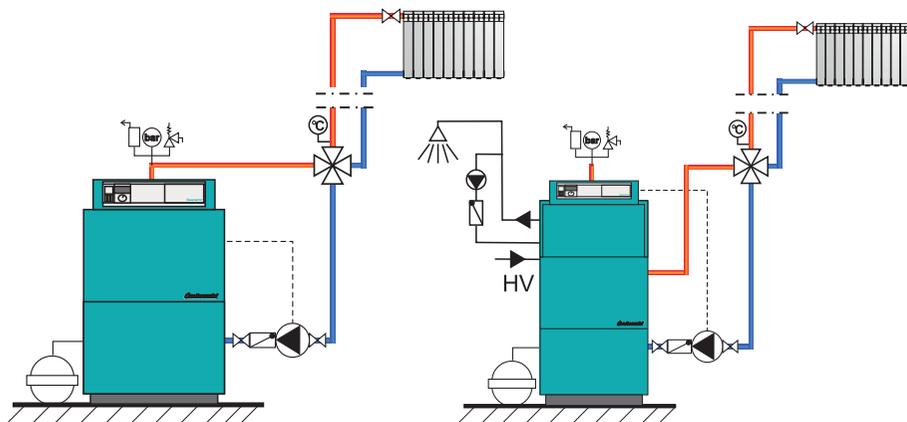
## Example of several possible CUPREG-Touch controller configurations



## EKO-CUP M3 / Bg-REG



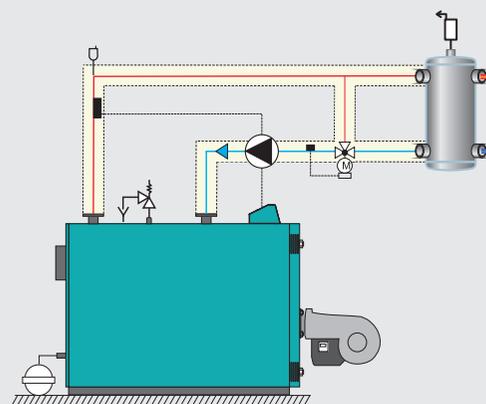
- Basic boiler controller **EKO-CUP M3/Bg-REG** for installation on boilers EKO-CUP M3 and EKO-CUP M3 Bg
- Maximum operating temperature of the boiler is 90°C
- Possibility of controlling a single-stage burner according to the set water temperature in the boiler
- Possibility to turn the circulation pump on/off
- A safety thermostat and thermometer are installed in the controller



## EKO-CUP S3 / V3-REG / 90°C



- Basic boiler controller **EKO-CUP S3/V3-REG /90°C** for installation on boilers EKO-CUP S3, EKO-CUP V3 and EKO-CUP SV3
- Maximum operating temperature of the boilers EKO-CUP S3, EKO-CUP V3 and EKO-CUP SV3 je 90°C
- Possibility of controlling a single-stage or two-stage burner according to the set water temperature in the boiler
- Possibility to turn the circulation pump on/off
- Controller has a built-in first and second stage thermostat, safety thermostat and thermometer



## CSK-Touch

The **CSK-Touch** digital room corrector, with a 4,3" color touch screen, allows you to control the room temperature and turn the heating circuit on and off. In addition to measuring and correcting the room temperature, this room corrector allows you to adjust the temperature of the buffer tank or hydraulic crossover and the temperature of domestic hot water (DHW) if any and set the timers for heating circuit, boiler and DHW and start and turn off the boiler (except pyrolytic).

By connecting several digital room correctors to the boiler, it is possible to set the desired temperatures on other correctors via one corrector.

If the boiler to which the CSK-Touch is connected is connected to the Centrometal web portal, a five-day weather forecast can be displayed on the corrector screen. On the boiler to which the corrector is connected, the rights to change certain parameters on an individual corrector can be determined, so that the possibility of turning the boiler on/off, changing the timers can be prohibited..

If several CSK-Touch or CSK correctors are connected to the boiler/CM2K, all other correctors can be controlled via only one CSK-Touch corrector.

CSK-Touch can be connected to PelTec /-L /Hermetic, BioTec-L, BioTec Plus, Pelet-set Touch, EKO-CKS P Unit and EKO-CKS Multi Plus boilers with built-in CM2K module in the following ways:

- **wireless over WiFi network (requires CM-WiFi box)**
- **wireless via router (requires CM-WiFi box)**
- **wired (via two-core cable to CM2K module)**

The CSK-Touch can be connected to the Pelet-set Touch, BioTec-L and BioTec Plus without a CM2K module, but then it must only be connected via a CM-WiFi box or via a router using a CM-WiFi box. Wired connection directly to BioTec-L, BioTec Plus and Pelet-set Touch boilers (without CM2K module) is not possible.



## Several ways of connecting



## Few examples of a screen



CSK



CSK is an analog room corrector that allows the correction of the set temperature in the room according to the set temperature on the boiler controller.

On the corrector, it is possible to switch off/on the heating circuit to which it is connected.

The corrector can be connected to CM2K module and Pelet-set Touch, BioTec-L and BioTec Plus boilers.

The corrector is connected to the boiler or CM2K module via 2 or 3 wires. When connected via 2 wires, temperature correction is disabled.



# Accessories for boilers with digital boiler controller with touch screen

## CM2K

Module for controlling additional heating circuits



- Allows control of up to 2 heating circuits according to outdoor temperature and heating curve (control of up to 2 mixing valves with actuator and up to 2 heating pumps or up to 2 DHW circuits or up to 2 recirculation circuits or up to 2 DHW circuits + recirculation)
- Possible connection of up to 4 modules (up to 8 heating circuits)
- Possible connection of up to 2 room CSK correctors via 2 or 3 wires (optional)
- Up to 2 CSK-Touch room correctors can be connected via 2 wires or wirelessly (via CM-WiFi box) (optional)
- Possible connection to PelTec /-L /Hermetic, BioTec-L, BioTec Plus, Cm Pelet-set Touch, EKO-CKS P Unit, BIO-SC, EKO-CKS Multi Plus, CUPREG-Touch

## CSK

Analog room corrector



- Correction of the set room temperature (according to the set temperature on the boiler controller)
- Possibility to turn off the heating circuit in the room where the corrector is located
- Connection to CM2K module and BioTec-L /Plus boiler via 2 or 3 wires
- Connection only to CM2K module, BioTec-L and BioTec Plus boiler

## CSK-Touch

Digital room corrector



- Wired connection (CM2K module only, with 2 wires)
- Wireless connection (connection via CM-WiFi box, to CM2K module, BioTec-L, BioTec Plus, Cm Pelet-set Touch)
- Possibility of wireless communication of several CSK-Touch with each other
- Allows room temperature control, heating circuit on/off, setting of timers, weather forecast (only with CM-WiFi box)
- Provides basic control of the boiler and heating system temperatures, notifications of errors and warnings from the boiler, setting the administrator rights of each thermostat



## CM-WiFi box

Boiler monitoring and control via the Internet



- Monitoring and control of boiler operation using computer, mobile phone, etc. by connecting via wifi network to the web portal
- Boiler on/off, setting temperature and timers, receiving warnings and errors on the portal and email, weather forecast...
- Wireless connection of CSK-Touch to CM2K module or Cm Pelet-set Touch, BioTec-L and BioTec Plus boiler
- Possible connection to PelTec /-L /Hermetic, BioTec-L, BioTec Plus, Cm Pelet-set Touch, EKO-CKS P Unit, BIO-SC, EKO-CKS Multi Plus, CUPREG-Touch

## CM-GSM

Boiler condition information via SMS



- Notification of boiler status/warnings/errors via mobile (GSM) network to the mobile device via SMS in the selected language
- Boiler warning/error message via call to mobile device with siren sound
- Boiler on/off via SMS
- Possible connection to PelTec /-L /Hermetic, BioTec-L, BioTec Plus, Cm Pelet-set Touch, EKO-CKS P Unit, BIO-SC, EKO-CKS Multi Plus, CUPREG-Touch

## CAL

Sound or light warning or error signal



- Module with sound and light signaling of boiler error or warning status
- Possible connection to PelTec /-L /Hermetic, BioTec-L, BioTec Plus, Cm Pelet-set Touch, EKO-CKS P Unit, BIO-SC, EKO-CKS Multi Plus, CUPREG-Touch

## CMNET

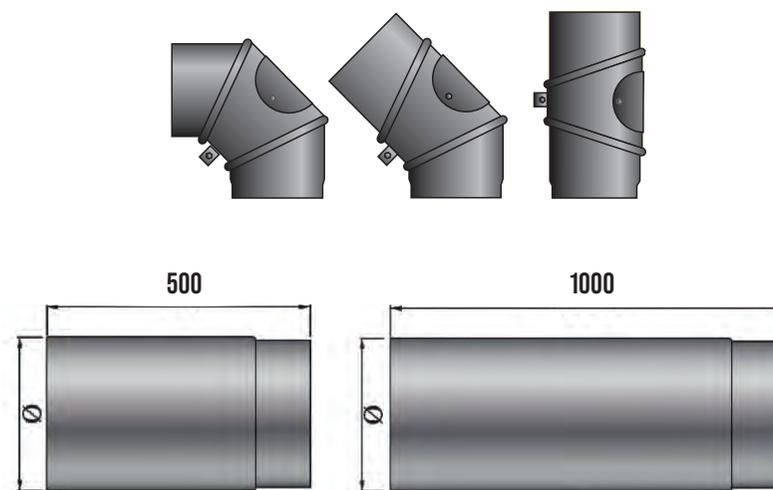
Cascade connection of boilers



- Cascade control of 2 to 8 boilers
- For cascade 2 boilers = 1x CMNET, for cascade 3 to 8 boilers = each boiler one CMNET
- External start required to start cascade operation
- Possible connection to PelTec /-L /Hermetic, Cm Pelet-set Touch, EKO-CKS P Unit, BIO-SC, EKO-CKS Multi Plus, CUPREG-Touch

# Flue gas tubes and elbows

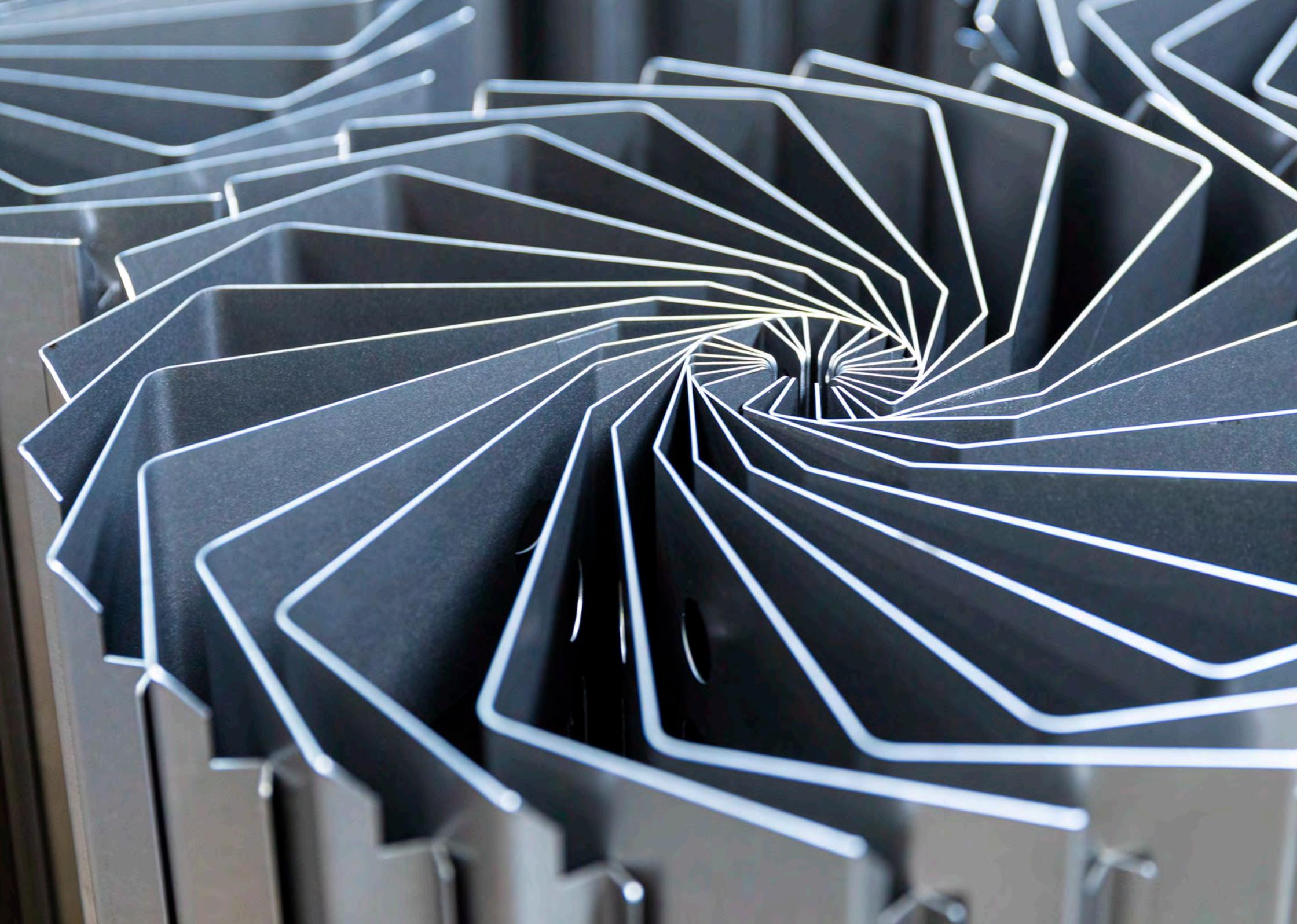
Flue gas tubes and elbows are intended for easy, fast and safe connection of each type of boiler to the chimney in the building.



## Characteristics of flue gas tubes and elbows:

- They are made of powder coated sheet metal (DD13), 2mm thick.
- Flue elbows are made of three parts (segments), adjustable at an angle of 0°-90°, with built-in cleaning opening.
- Flue gas tubes and elbows are delivered without thermal insulation and need to be subsequently thermally insulated.

Flue gas elbows and tubes							
Flue gas elbow	(mm)	Ø120	Ø130	Ø150	Ø160	Ø180	Ø200
Flue gas tube L=500	(mm)	Ø120	Ø130	Ø150	Ø160	Ø180	Ø200
Flue gas tube L=1000	(mm)	Ø120	Ø130	Ø150	Ø160	Ø180	Ø200



## EI-Cm Basic / EI-Cm Classic / EI-Cm ePlus



EI-Cm Basic



EI-Cm Classic



EI-Cm ePlus

### Hot water electric boilers

Steel hot water electric boilers **EI-Cm Basic / Classic / ePlus**, rated heat output from **6 to 45 kW**, are designed for heating houses or apartments or manufacturing processes as stand-alone or as an auxiliary heat source on electricity.

Today, they are increasingly used to heat domestic hot water in storage tanks, by connecting to a tube heat exchanger. **EI-Cm Classic and ePlus** boilers are equipped with a circulation pump, expansion vessel, modern modulating digital controller and the necessary safety elements.

Noiseless operation and modern design make them acceptable for installation in any part of the house or apartment, especially since they do not require ventilation or a chimney. The use of modern manufacturing technologies, quality construction materials and proven technical solutions that include all the advantages of modulating controller of electric heaters, make these boilers safe and reliable in operation.



EI-Cm Basic



EI-Cm ePlus



EI-Cm Classic



## Characteristics of El-Cm Basic boilers

- Hot water boiler designed for electric heating, rated heat output **6, 9, 12, 18, 24, 27, 30, 36, 40 and 45 kW**.
- A boiler with electric heaters and basic controller with control and safety thermostat is available.
- The basic controller has 3 power levels that are selected manually.



El-Cm Basic - boiler controller

## Characteristics of El-Cm Classic boilers

- Hot water boiler designed for electric heating, rated heat output **6, 9, 12, 18, 24 and 27 kW**.
- The following are installed in electric boilers as standard: boiler body with electric heaters, circulation pump, expansion vessel, safety elements (safety valve, safety thermostat and pressure switch), filling and draining tap and modulating digital controller.
- Modulating digital controller optimally manages the operation of the electric heater in **3 modulation stages** by optimizing the electricity consumption with the effect of the electric boiler.



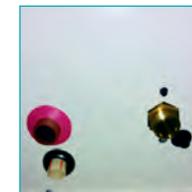
El-Cm Classic - digital boiler controller

## Characteristics of El-Cm ePlus boilers

- Hot water boiler designed for electric heating, rated heat output **6, 9, 12, 18 and 24 kW**.
- The following are installed in electric boilers as standard: boiler body with electric heaters, circulation pump, expansion vessel, safety elements (safety valve, safety thermostat and pressure switch), filling and draining tap and modulating digital controller.
- Modulating digital controller optimally manages the operation of the electric heater in **9 stages of modulation** by optimizing the electricity consumption with the effect of the electric boiler.
- The controller can control the heating of domestic hot water via a 3-way valve with actuator (heating priority).



El-Cm ePlus - digital boiler controller



Boiler connections

## Characteristics of electric boilers

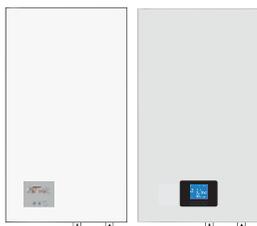
- Silent operation, modern design and small dimensions make them acceptable for installation in part of the house or apartment, especially since they do not require ventilation or chimney.
- They are light weight and easy to install.
- Boilers of 6 and 9 kW can also be connected to a single-phase electrical connection.
- The El-Cm Classic and El-Cm ePlus boilers are like "small boiler rooms", because all their essential parts are integrated into a compact housing.



Boiler connections



## Delivery, obligatory accessories

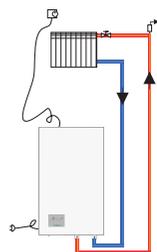


### Delivery EI-Cm Basic

- Kotao s oplatom i osnovnom regulacijom, ožičen, u kartonskoj kutiji

### Isporuka EI-Cm Classic i ePlus

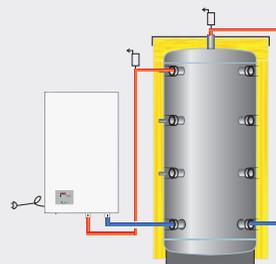
- Boiler with casing and basic controller, wired, in a cardboard box



### Connection to the heating system

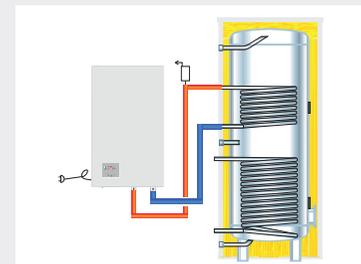
- Safety valve \*, expansion vessel \*
- Heating pump \*
- Room thermostat

\* In the contents of the boiler delivery EI-Cm Classic and EI-Cm ePlus



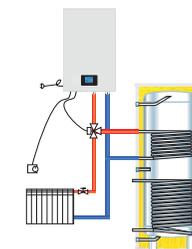
### Connection to the buffer tank to accumulate a cheap electricity tariff

- Buffer tank CAS of a volume adjusted to the optimal use of cheaper electricity tariffs
- Pump, expansion vessel and safety valve in the delivery of EI-Cm Classic and EI-Cm ePlus boilers



### DHW tank heating

- When the el. energy is the only source of heat, the electric boiler is connected to the upper heat exchanger (when there is a solar system) or the lower heat exchanger (when there is no solar system)
- Pump, expansion vessel and safety valve in the delivery of EI-Cm Classic and EI-Cm ePlus boilers



### Connection to heating and DHW system with EI-Cm ePlus boiler

- When the heating is satisfied, the basic controller of the boiler can switch the 3-way valve with actuator to the heating of domestic hot water.

## Technical characteristics

EL-CM BASIC 6-45 kW		6	9	12	18	24	27	30	36	40	45		
Heat output	[kW]	6	9	12	18	24	27	30	36	40	45		
Boiler water content	[lit.]	10			20			20					
Boiler mass (without water)	[kg]	14	15	15	20	20	20	30	30	31	31		
Max. operating overpressure	[°C]	80											
Max. operating overpressure	[bar]	3,0											
Main / Return flow	[DN]	DN25						DN30					
Electric heaters	[kW]	1x6	2x4,5	2x6	3x6	3x8	3x9	12+12+6	15+15+6	16+16+8	18+18+9		
Conductor cross section	[mm <sup>2</sup> ]	5x2,5	5x2,5	5x4	5x4	5x6	5x6	5x10	5x10	5x16	5x25		
Connection voltage	[V/Hz]	400/50											
Boiler dimensions (w / h / d)	[mm.]	320x620x125				370x620x160				540x710x180			
Energy efficiency class		D											

EL-CM CLASSIC 6-27 kW		6	9	12	18	24	27
Heat output	[kW]	6	9	12	18	24	27
Boiler water content	[lit.]	12,5					
Boiler mass (without water)	[kg]	23	24	24	25	25	25
Max. operating temperature	[°C]	80					
Max. operating overpressure	[bar]	2,6					
Main / Return flow		DN20, 3,4"					
Electric heaters	[kW]	3x2	3x3	3x4	3x6	3x8	3x9
Conductor cross section	[mm <sup>2</sup> ]	5x2,5	5x2,5	5x4	5x4	5x6	5x6
Expansion vessel	[lit.]	8					
Connection voltage	[V/Hz]	400/50					
Boiler dimensions (w / h / d)	[mm]	430/710/230					
Energy efficiency class		D					

EL-CM ePlus 6-24 kW		6	9	12	18	24	
Heat output	[kW]	6	9	12	18	24	
Boiler water content	[lit.]	12,5					
Boiler mass (without water)	[kg]	25					
Max. operating temperature	[°C]	80					
Max. operating overpressure	[bar]	2,6					
Main / Return flow	[G]	G3/4"					
Electric heaters	[kW]	3x2	6x1,5	6x2	9x2	9x2,7	
Conductor cross section	[mm <sup>2</sup> ]	5x2,5	5x2,5	5x4	5x4	5x6	
Expansion vessel	[lit.]	7,5					
Connection voltage	[V/Hz]	400/50					
Boiler dimensions (w / h / d)	[mm]	430/710/230					
Energy efficiency class		D					



## Container boiler rooms CKK

### Hot water container boiler rooms

Container boiler rooms **CKK** are intended for installation in hot water central heating systems and preparation of domestic hot water for buildings as a temporary or permanent solution.

Depending on the requirement, oil boilers with a capacity of 18 to 2.100 kW or biomass boilers with a capacity of 12 to 340 kW can be installed in container boiler rooms.

The boiler rooms are equipped with all the necessary equipment so that, in addition to the connection to the central heating installation and the installation of chimneys, it is necessary to provide electrical and plumbing connections and fuel.

Compact design ensures easy operation, maintenance and relocation of the boiler room from one location to another.

The boiler room is thermally insulated and made in accordance with ISO 9001 and ISO 14001.



OIL



WOOD PELLETS



WOOD CHIPS

CHOPPED WOOD, UP TO  
0,5m

WOOD BRIQUETTES



## Characteristics of container boiler rooms

- They are intended for connection to hot water central heating systems with operating temperatures up to 110/70°C and 90/70°C and operating pressures of 2,5, 3, 4 or 6 bar.
- Oil boilers with a capacity of 18 to 2.100 kW or biomass boilers with a capacity of 12 to 340 kW can be installed in boiler rooms.
- The degree of automation of the heating process management depends on the requirement, and the solutions offered can meet all the requirements in the field of heating.
- The boiler room can be moved to the installation site by standard means in road, rail or water transport.
- According to the wishes of the investor and the needs of the installation, it is possible to install different controllers, buffer tanks, different sizes of fuel storage, container insulation ...
- Standard container size 20 ft, 40 ft HC or custom made container.
- Possibility of connecting several container boiler rooms in one heating system.

It is known that in new residential areas at the beginning of construction it is not recommended to install large central boiler rooms, because they remain underused for several years.

On the other hand, in addition to the construction of roads, highways, various ancillary facilities, etc., there is often a request for temporary heating, for which the construction of permanent boiler rooms is not profitable.

The most practical solution for such cases is to install a portable container boiler room or more in series.



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## CKK-U 18 - 2.100 kW

### DELIVERY OPTIONS

#### Container boiler rooms on fuel oil

- Standard containers up to 40 ft HC or custom
- Boiler power: od 18 - 2.100 kW
- Hot water boiler with oil burner.
- Heating oil tank.
- All necessary safety elements
- Built-in digital boiler controller by outdoor temperature
- Built-in hydraulic crossover and/or DHW tank
- Insulated pipelines, boiler water preparation, elements according to the investor's wishes



OIL



CKK-U

## CKK-P 12 - 320 kW

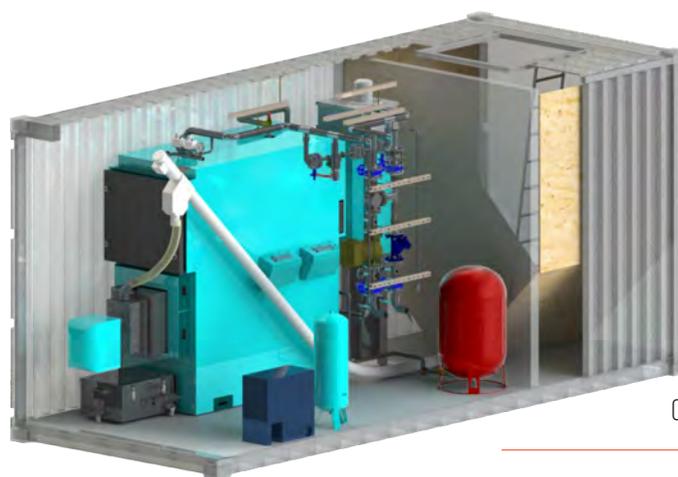
### DELIVERY OPTIONS

#### Container boiler rooms on wood pellets

- Standard containers up to 40 ft HC or custom
- Boiler power: from 12 to 320 kW
- Hot water boiler with pellet burner, automatic boiler cleaning and ash extraction from the boiler
- Pellet tank with notification in the same or separate container
- All necessary safety elements
- Insulated pipelines, boiler water preparation, elements according to the investor's wishes
- Built-in digital boiler controller controlled by outdoor temperature
- Built-in hydraulic crossover or buffer tank and DHW tank



WOOD PELLETS



CKK-P



## CKK-S 170 - 340 kW

### DELIVERY OPTIONS

#### Container boiler rooms on wood chips/pellets

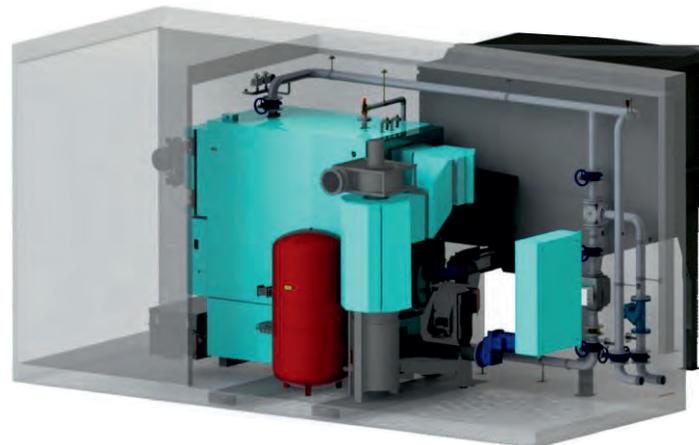
- Standard containers up to 40 ft HC or custom
- Boiler power: from 170 to 340 kW
- Hot water boiler with movable grate, automatic boiler cleaning and automatic ash extraction from the boiler
- Wood chip container in a separate container or outer container
- All necessary safety elements
- Insulated pipelines, boiler water preparation, elements according to the investor's wishes
- Built-in hydraulic crossover or buffer tank and DHW tank



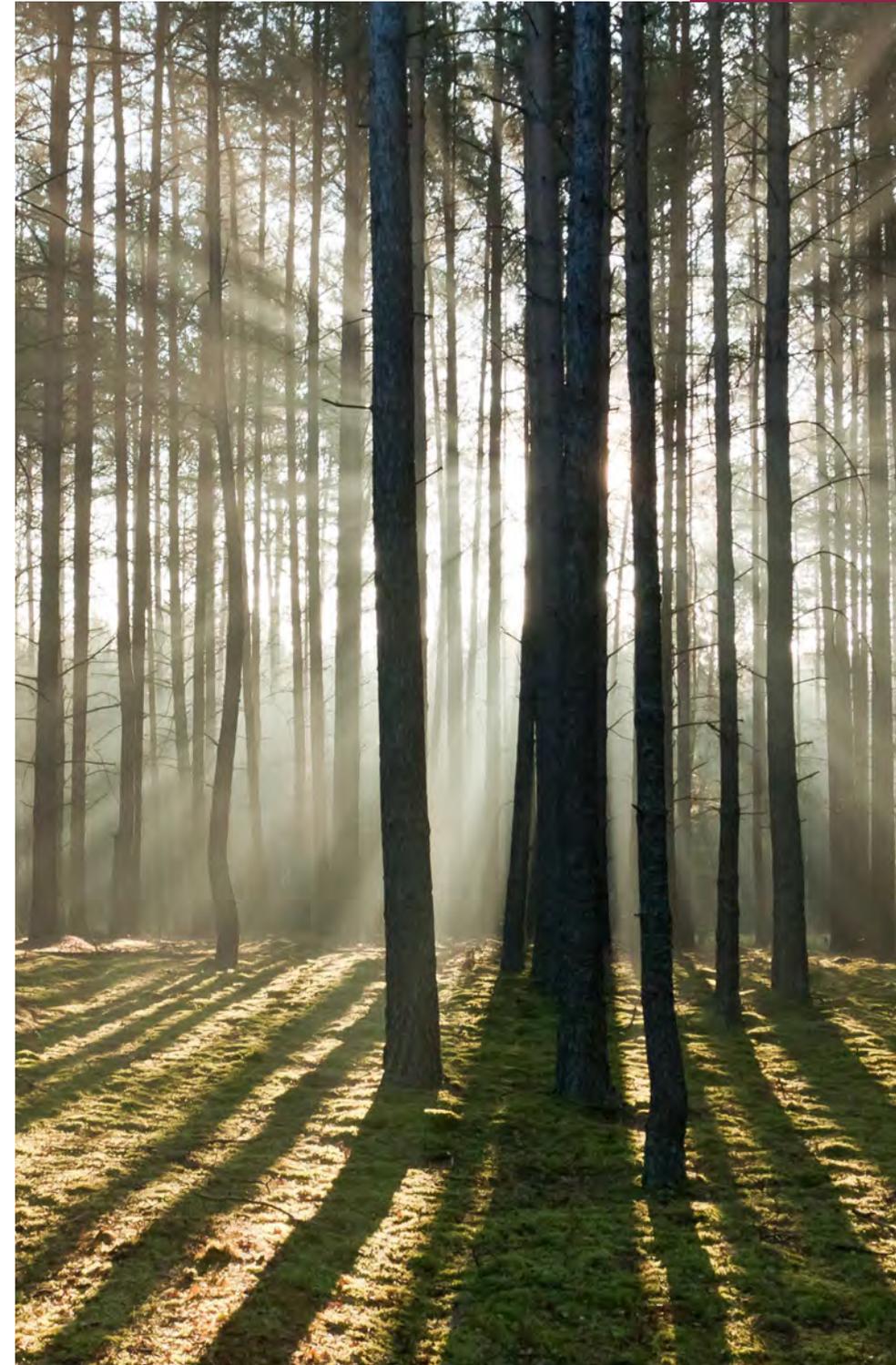
WOOD CHIPS



WOOD PELLETS



CKK-S



## SKB-Digi i LKB-Digi



### Combined stainless steel water heaters

Combined hot water tanks **SKB Digi** volume **80, 100 and 120 liters** and **LKB Digi** volume **100 and 120 liters** with built-in digital controller are intended for heating and storage of domestic hot water in households, restaurants and other facilities where there is a need for domestic hot water.

The possibility of choosing domestic hot water heating by a boiler circuit connected to a tube heat exchanger or a built-in electric heater makes these tanks very interesting.

A special advantage of these tanks is the uniform flow and pressure of domestic hot water, regardless of the number of currently active outlets, which means that, for example, someone's use of domestic hot water will not interrupt your enjoyment in the shower.

The tanks are made of stainless steel, which guarantees high hygienic conditions.

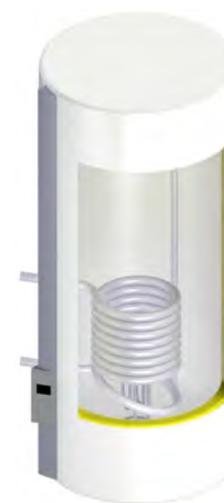
They are recognizable by the successful combination of modern technologies and quality building materials with ease of installation and use. A range of proven technical solutions makes these tanks safe and reliable in operation.

They are made in accordance with ISO 9001 and ISO 14001.



## Characteristics of SKB-Digi and LKB-Digi water heaters

- Combined hot water heaters SKB Digi volume 80, 100 and 120 liters and LKB Digi volume 100 and 120 liters.
- Possibility to choose domestic hot water heating by a boiler circuit connected to a boiler heat exchanger bojlera ili pak ugrađenim električnim grijačem.
- They are intended for wall mounting in **vertical (SKB Digi)** or **horizontal (LKB Digi)** installation.
- They are made in two variants: with connections to the central heating installation and a circulation connection on the **left** or **right** side.
- They are made of quality stainless steel, which guarantees high hygienic conditions.
- The accumulated amount of domestic hot water enables uniform flow and pressure of domestic hot water regardless of the number of currently active discharge points.
- The large surface and thin wall of the built-in tube heat exchanger allows fast heating of domestic hot water in the water heater, and the possibility of heating the total amount of water to a temperature above 60°C prevents the formation of legionella.
- High-quality digital water heater controller enables precise setting of the desired temperature and selection of the method of heating domestic hot water, either with electricity or boiler.
- Possibility to switch on anti-freeze mode.
- They are thermally insulated with mineral wool on Al foil and heat losses due to good and effective insulation are very small.
- The possibility of installing recirculation allows the constant presence of hot water at the outlet and eliminates the need to discharge a certain amount of water before the hot water begins to flow.



SKB-Digi



LKB-Digi

Water heaters made  
of stainless steelDigital  
controller

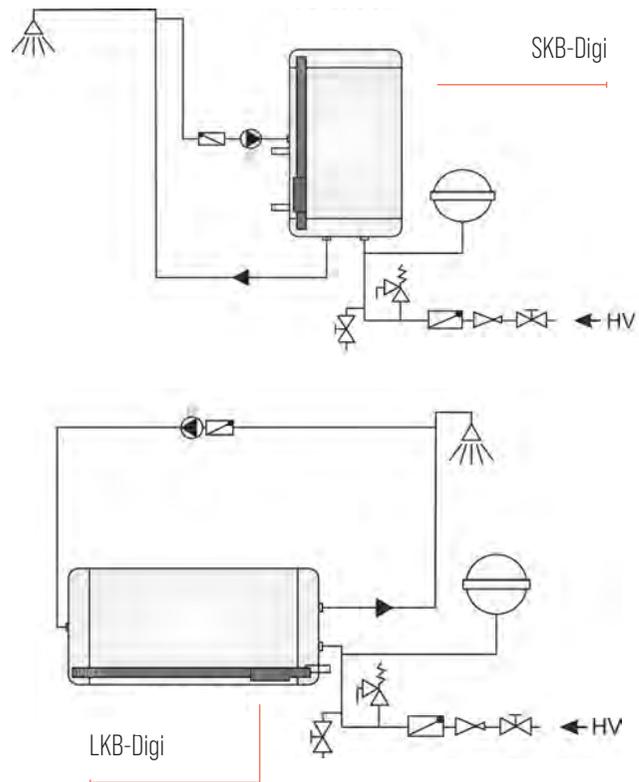
Water heater delivery



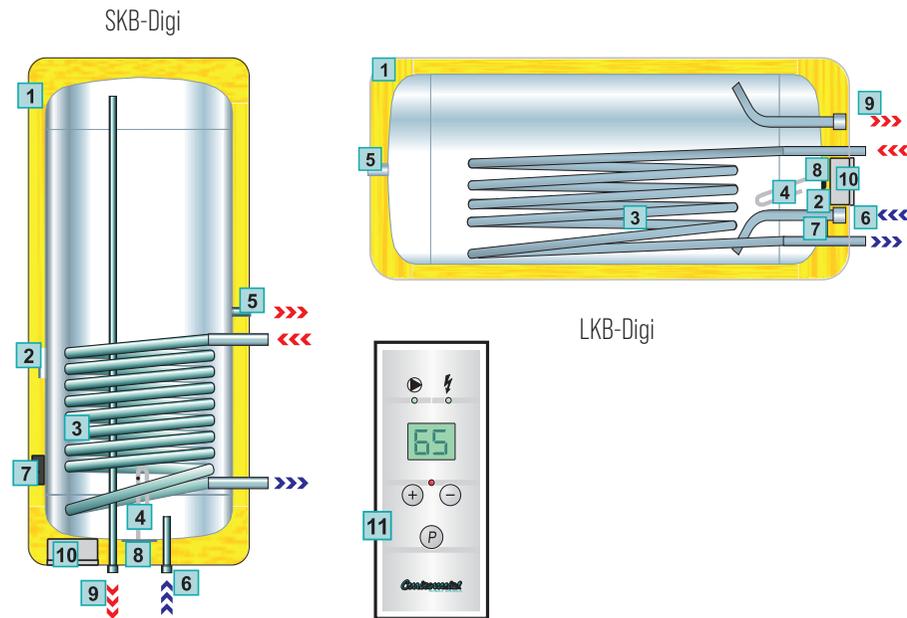
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## Connection to plumbing installation

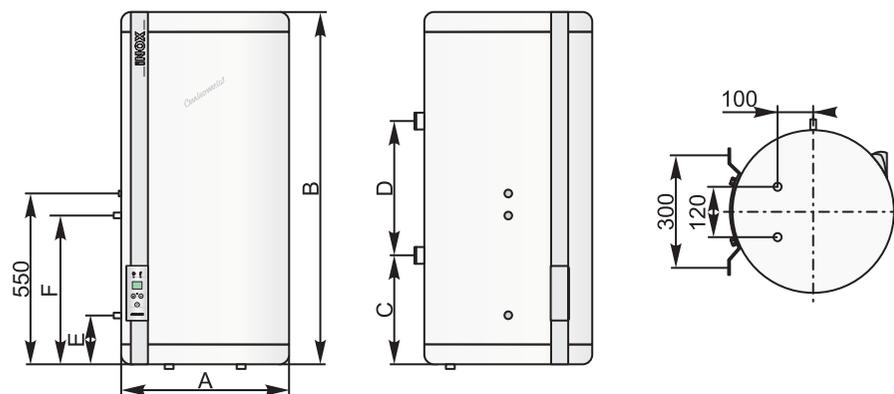


## Cross section and water heater parts



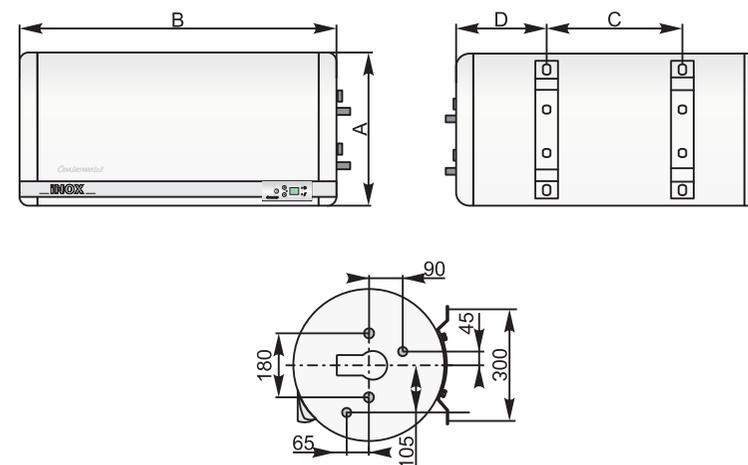
- |   |                     |    |                                    |
|---|---------------------|----|------------------------------------|
| 1 | Thermal insulation  | 7  | Safety thermostat                  |
| 2 | Temp. sensor sleeve | 8  | Cleaning opening                   |
| 3 | Tube heat exchanger | 9  | Hot DHW connection                 |
| 4 | Electric heater     | 10 | Ordinally terminal and electronics |
| 5 | Recirculation       | 11 | Control panel                      |
| 6 | Cold DHW connection |    |                                    |

## Basic dimensions - SKB Digi



SKB-Digi		80	100	120
Volume	[l]	80	100	120
Water heater diameter A	∅ [mm]	475	475	475
Water heater length B	[mm]	815	950	1090
Height C	[mm]	265	265	265
Height D	[mm]	300	415	565
Height E	[mm]	210	210	210
Height F	[mm]	450	450	450
Tube heat exchanger	[m <sup>2</sup> ]	0,38	0,42	0,42
Tube heat exchanger - connection	[R]	3/4"	3/4"	3/4"
Cold water	[R]	1/2"	1/2"	1/2"
Hot water	[R]	1/2"	1/2"	1/2"
Recirculation	[R]	1/2"	1/2"	1/2"
Connection voltage	[V~]	230	230	230
Electric heater	[kW]	2	2	2
Water heater mass	[kg]	31	35	39,5
Max. operating overpressure	[bar]	6	6	6
Energy efficiency class		C	C	C

## Basic dimensions - LKB Digi



LKB-Digi		100	120
Volume	[l]	100	120
Water heater diameter A	∅ [mm]	475	475
Water heater length B	[mm]	950	1090
Length C	[mm]	415	560
Length D	[mm]	270	270
Tube heat exchanger	[m <sup>2</sup> ]	0,42	0,42
Tube heat exchanger - connection	[R]	3/4"	3/4"
Cold water	[R]	1/2"	1/2"
Hot water	[R]	1/2"	1/2"
Recirculation	[R]	1/2"	1/2"
Connection voltage	[V~]	230	230
Electric heater	[kW]	2	2
Water heater mass	[kg]	35,5	40
Max. operating overpressure	[bar]	6	6
Energy efficiency class		C	C

# TB



## Heating and accumulation of domestic hot water

Hot water stainless steel water heaters **TB** volume **120 to 850** liters are intended for heating and accumulation of domestic hot water by connecting to the boiler circuit in the boiler room or to another heat source within a technological process.

They are often installed with solar systems as an additional accumulation with solar stainless steel water heaters **STB**. Water heaters are made of high quality stainless steel, which guarantees high hygienic conditions.

Using modern technologies and proven technical solutions, they have high heat transfer coefficient and negligible losses to the environment.

They are made in accordance with ISO 9001 and ISO 14001.



TB 200-850

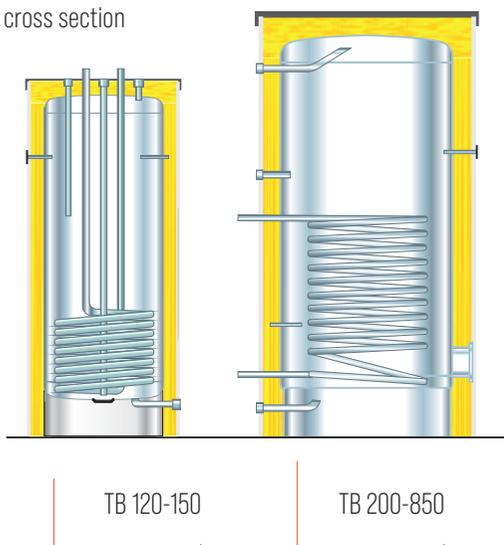


TB 120-150

## TB water heater characteristics

- Hot water stainless steel water heaters TB volumes of 120, 150, 200, 300, 600 and 850 liters are intended for heating and accumulation of domestic hot water by connecting to the boiler circuit or some other heat source within a technological process.
- They are suitable for installation in solar systems, as an additional accumulation with solar stainless steel water heaters STB.
- The water heaters are made of quality stainless steel, which guarantees high hygienic conditions.
- Due to the rapid heating with the large heating surface of the tube heat exchanger, they provide the comfort of a large amount of hot water.
- With the TB 120 and 150, the connections are located on the upper side, while with the TB 200, 300, 600 and 850, the connections are located on the rear side of the water heaters, which enables easy and quick connection to the installation.
- It is possible to install the sensor in the space provided on the back of the water heater.
- 80 mm thick insulation effectively protects the water heater from heat losses.

TB cross section



Thermometer



Connections from above  
TB 120-150



Delivery in wooden packaging



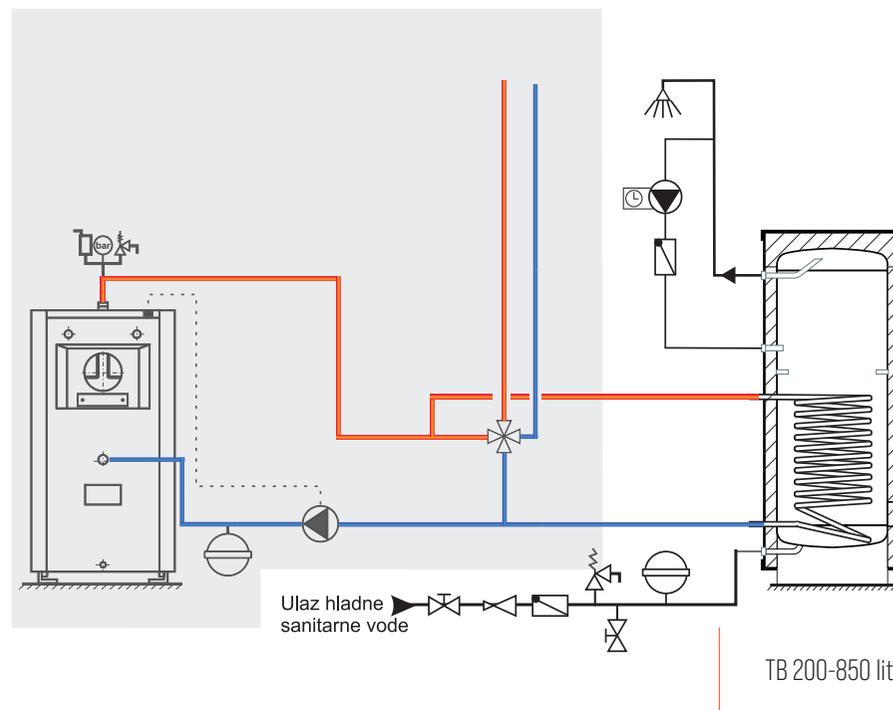
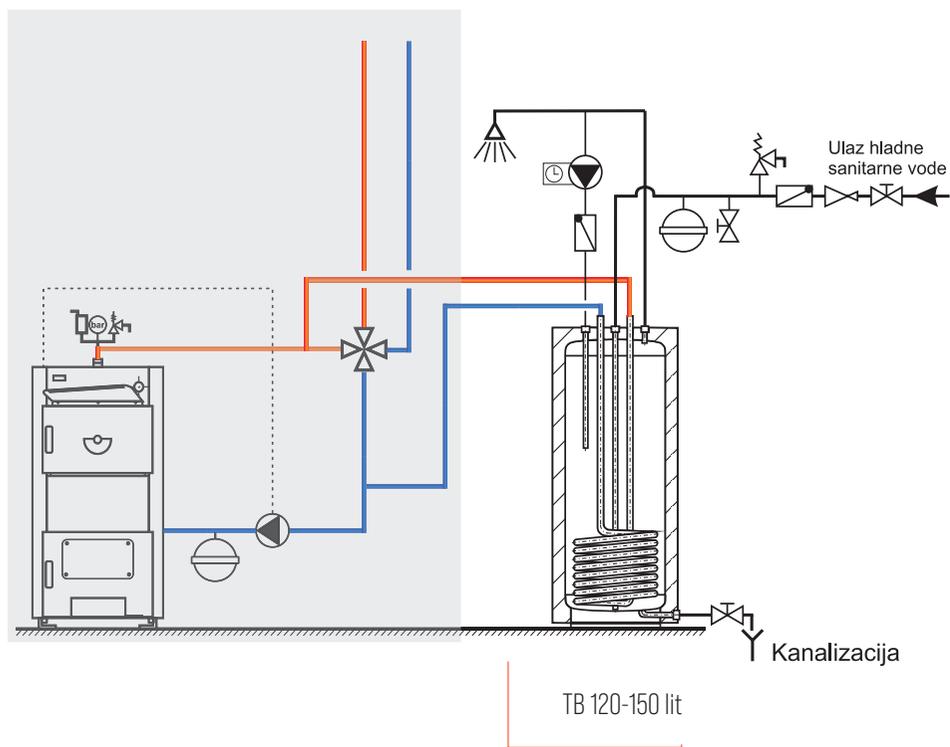
Connections on the back  
TB 200-850



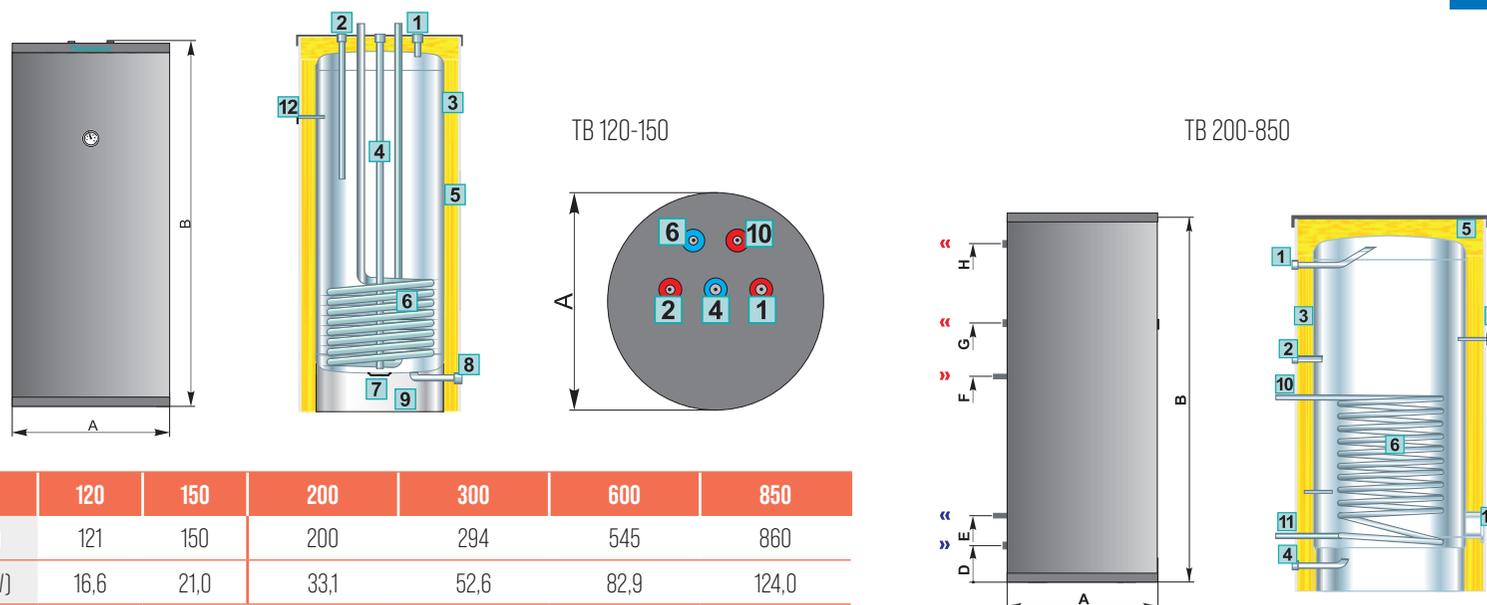
166

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## Connection to plumbing installation and the boiler



## Technical data



TB		120	150	200	300	600	850
Volume	[l]	121	150	200	294	545	860
Max. heat exchanger performance <sup>1)</sup>	[kW]	16,6	21,0	33,1	52,6	82,9	124,0
	[l/h]	408	515	814	1297	2045	3067
	[kW]	13,3	19,0	26,7	39,5	63,0	94,5
	[l/h]	330	417	658	975	1554	2331
	[kW]	8,3	10,5	16,5	24,5	39,0	58,5
	[l/h]	204	257	406	604	962	1443
Water heater water flow	[m <sup>3</sup> /h]	1,5	1,5	1,5	5,0	5,0	5,0
Tube heat exchanger	[m <sup>2</sup> ]	0,42	0,53	0,84	1,3	2,1	3,15
Tube heat exchanger water content	[l]	1,9	2,4	2,8	7,2	11,6	17,5
Water heater mass	[kg]	30	41	46	63	129	157
Outer diameter A	∅ [mm]	640	640	640	640	810	960
Water heater height B	[mm]	970	1125	1450	1900	1995	1940
Heights D / E / F	[mm]	92/-/-	92/-/-	92/300/810	92/300/950	100/390/1100	72/325/1075
Heights G / H	[mm]	-	-	920/1150	1060/1650	1200/1710	1375/1640
Cold / hot water connection	[R]	3/4"	3/4"	3/4"	3/4"	5/4"	5/4"
Max. operating DHW overpressure	[bar]	6	6	6	6	6	6
Max. operating heating medium overpressure	[bar]	6	6	6	6	6	6
Energy efficiency class	 [L]	C	C	C	C	C	C

(1) Inlet temp. heating medium 80,70,60°C; DHW 10/45°C

- 1 Hot DHW connection
- 2 Recirculation
- 3 Temp. sensor location
- 4 Cold DHW connection
- 5 Thermal insulation
- 6 Tube heat exchanger
- 7 Cleaning opening (TB 120-150)
- 8 Water heater drain connection
- 9 Water heater stand stand
- 10 Water heater heating medium connection - flow
- 11 Water heater heating medium connection - return
- 12 Thermometer
- 13 Cleaning opening (TB-200-850)

## SF/E



### Hot water enameled water heaters

Hot water enameled SF/E water heaters with a volume of **150 to 1,000** liters are intended for heating and accumulation of domestic hot water by connecting to the boiler circuit in the boiler room or to another heat source within a technological process.

They are often installed next to solar systems as an additional accumulation with solar enameled water heaters DSFF / E.

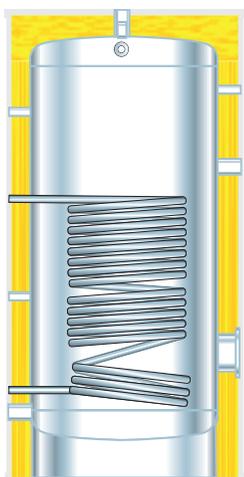
The water heaters are made of black steel and enameled in two layers according to DIN 4753, which guarantees high hygienic conditions. By using modern technologies and proven technical solutions, they have high coefficient of heat transfer and negligible losses to the environment.

They are made in accordance with ISO 9001 and ISO 14001.



## SF / E water heater characteristics

- Hot water enameled SF / E water heaters with volumes of 150, 200, 300, 400, 500, 600, 800 and 1,000 liters are intended for heating and accumulation of domestic hot water by connecting to the boiler circuit or some other heat source within a technological process.
- They are suitable for installation in solar systems, as an additional accumulation with solar enameled water heaters DSFF / E.
- The boilers are made of quality steel, two-layer enameled according to DIN 4753, which guarantees high hygienic conditions.
- Due to the rapid heating of the large heating surface of the tube heat exchanger, they provide the comfort of a large amount of hot water.
- The connections are on the back of the water heater, which allows easy and quick connection to the installation.
- It is possible to install the sensor in the designated place on the back of the water heater.
- Thermal insulation (up to 600 liters is 60mm PU hard foam with fleece, inseparable / 800 and 1000 liters of insulation in several layers, 80mm hard foam and 20mm fleece, detachable) effectively protects the water heater from heat losses.



SF / E cross section



Thermometer



Rear connections



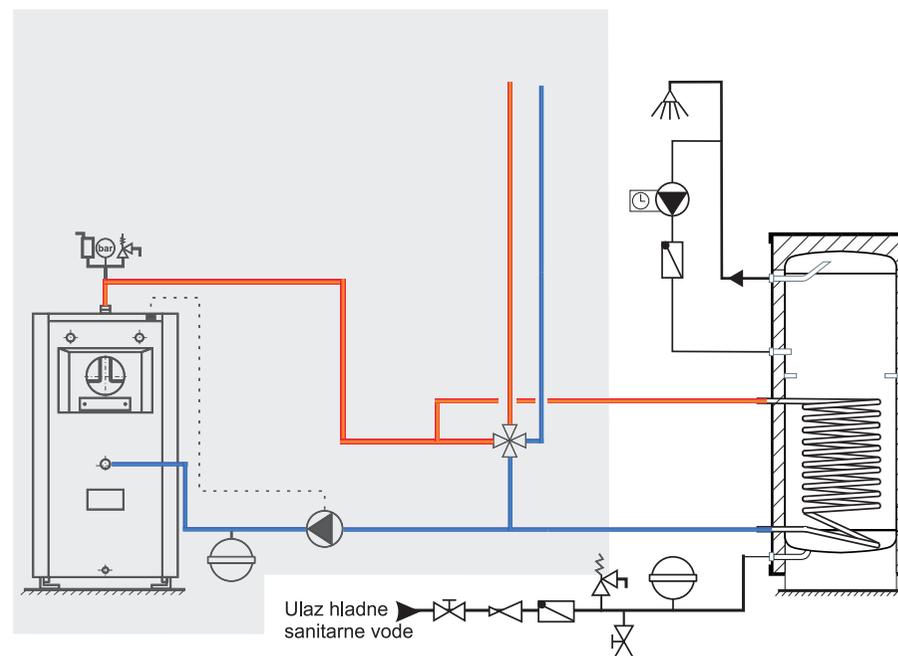
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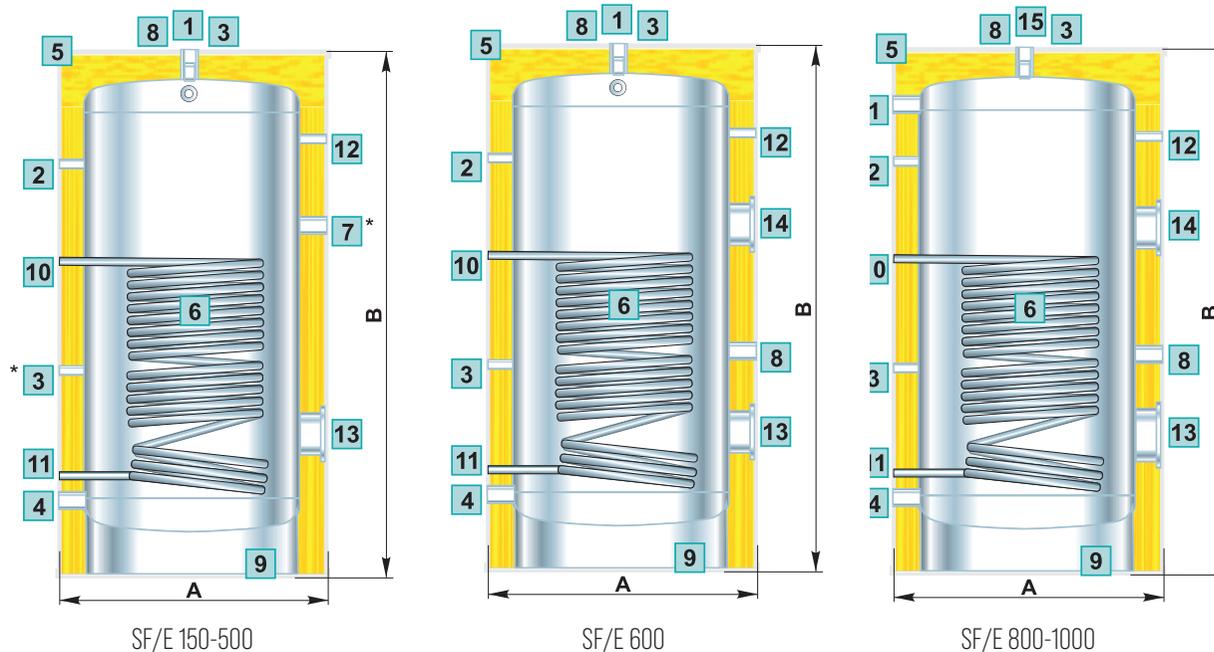
## Connection to plumbing installation and the boiler

### Delivery

- Hot water enameled water heater in cardboard packaging



## Technical data



SF/E		150	200	300	400	500	600	800	1000
Volume	(l)	140	191	304	408	498	559	830	925
Max. heat exchanger performance (1)	(kW)	14,7	19,1	23,6	28,0	35,3	35,3	54,5	54,5
	(l/h)	362	471	580	688	870	870	1339	1339
Water heater water flow	(m <sup>3</sup> /h)	1,3	1,6	2,0	2,4	3,0	3,0	4,7	4,7
Tube heat exchanger	(m <sup>2</sup> )	1,0	1,3	1,6	1,9	2,4	2,4	3,7	3,7
Tube heat exchanger water content	(l)	5,8	7,8	9,9	12,4	15,5	15,5	24,2	24,2
Water heater mass	(kg)	69	87	116	136	161	173	258	274
Outer diameter A	∅ (mm)	600	600	650	750	750	750	990	990
Water heater height B	(mm)	950	1215	1570	1500	1800	2000	1990	2190
Cold / hot water connection	(R)	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	2"	2"
Max. operating DHW overpressure	(bar)	6	6	6	6	6	6	6	6
Max. operating heating medium overpressure	(bar)	6	6	6	6	6	6	6	6
Energy efficiency class		A	A	B	B	B	B	C	C

(1) Inlet temp. heating medium 80°C; DHW 10/45°C

- 1 Hot DHW connection
- 2 Recirculation
- 3 Temp sensor location
- 4 Cold DHW connection
- 5 Thermal insulation
- 6 Tube heat exchanger
- 7 6/4" electric heater connection
- 8 Mg anode
- 9 Water heater stand
- 10 Water heater heating medium connection - flow
- 11 Water heater heating medium connection - return
- 12 Thermometer
- 13 Lower flange [180/120 // 290/220mm]
- 14 Upper flange [180/120mm]
- 15 Connection 5/4"

## STB



### Bivalent solar stainless steel water heaters

Bivalent solar stainless steel water heaters **STB** volumes of **200, 300, 600 and 850** liters are intended for heating and accumulating domestic hot water using solar energy and other energy sources.

The water heaters are made of stainless steel, which guarantees high hygienic conditions.

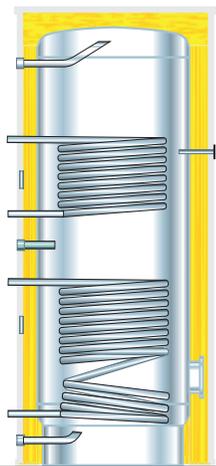
The use of modern technologies and proven technical solutions enables the economical use of available energy sources. When using a solar system, CM-Sol digital solar controller is recommended.

They are made in accordance with ISO 9001 and ISO 14001.



## STB water heaters characteristics

- Hot water bivalent solar stainless steel boilers with a volume of 200, 300, 600 and 850 liters are intended for heating domestic hot water using solar energy and boiler water.
- They are made of quality stainless steel, which guarantees high hygienic conditions.
- The connectors are located on the back, which allows easy and quick connection to the installation.
- 80 mm thick insulation effectively protects the water heater from heat losses.



STB cross section



Thermometer



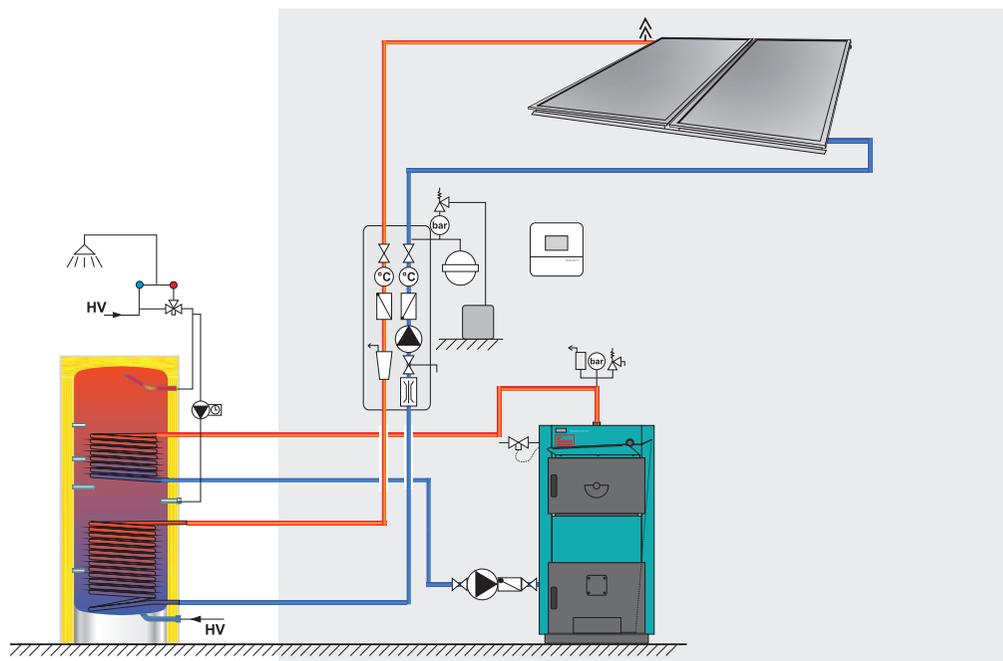
High quality skai  
insulation



## Connection to the installation

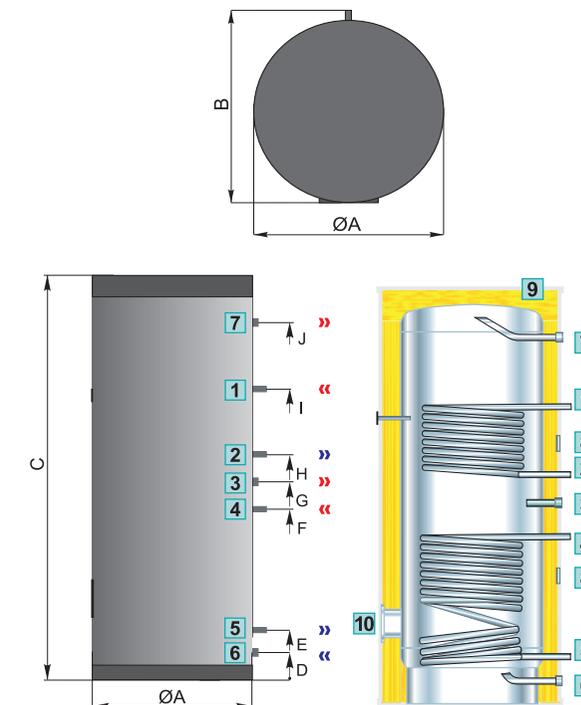
### Delivery

- Bivalent solar stainless steel water heater in wooden packaging



## Technical data

STB		200	300	600	850				
Volume	[l]	198	283	537	850				
Water heater height C	[mm]	1420	1900	1995	1940				
Water heater diameter A	Ø [mm]	640	640	810	960				
Heights (D / E / F / G)	[mm]	90 / 295 / 695 / 775	90 / 295 / 865 / 965	75 / 330 / 985 / 1085	70 / 320 / 1075 / 1375				
Heights (H / I / J)	[mm]	855 / 1055 / 1145	1065 / 1345 / 1645	1185 / 1585 / 1725	1270 / 1540 / 1635				
Water heater diameter without insulation	Ø [mm]	480	480	650	800				
Water heater depth B	[mm]	690	690	860	1000				
Tube heat exchanger		upper	lower	upper	lower	upper	lower	upper	lower
Max. heat exchanger performance (1)	80°C [kW]	16,1	33,1	19,5	37,4	37,6	63,7	53,1	83,8
	70°C [kW]	13,3	26,7	16,0	28,5	28,9	49,7	40,7	66,3
	60°C [kW]	8,0	16,5	10,1	18,1	18,4	32,5	26,4	44,5
	[l/h]	395	814	479	916	922	1561	1299	2053
	[l/h]	325	658	391	697	707	1216	997	1624
	[l/h]	195	406	247	443	450	796	646	1090
Heating medium flow	[m <sup>3</sup> /h]	1,5	1,5	3	1,5	3	1,5	3	1,5
Tube heat exchanger surface	[m <sup>2</sup> ]	0,42	0,83	0,53	1,06	1,06	2,12	1,59	3,17
Cold sanitary water (2)	[R"]	3/4	3/4	5/4	5/4				
Hot sanitary water (2)	[R"]	3/4	3/4	5/4	5/4				
Recirculation (2)	[R"]	3/4	3/4	3/4	3/4				
Heat exchanger connections (boiler and solar) (3)	[R"]	3/4	1	1	1				
Maximum operating overpressure	[bar/MPa]	6 / 0,6	6 / 0,6	6 / 0,6	6 / 0,6				
Mass	[kg]	49	66	125	162				
Energy efficiency class		C	C	C	C				



- 1 Boiler water supply
- 2 Boiler water return
- 3 Recirculation 3/4"
- 4 Collector water supply
- 5 Collector water return
- 6 Cold DHW 3/4"
- 7 Hot DHW 3/4"
- 8 Temp. sensors sleeves
- 9 Thermal insulation
- 10 Flange 115/180 mm

(1) Inlet temp. heating medium 80,70,60°C; DHW 10/45°C (2) Inner thread (3) Outer thread-hermeto coupling Ø 22-3 / 4" for STB-200, and Ø 28-1" for STB-300, STB-600 and STB-850

## DSFF/E



### Bivalent solar enameled water heaters

Bivalent solar enameled boilers **DSFF/E** volumes of **200, 300, 400, 500, 600, 800 and 1.000 liters**, are intended for heating and accumulation of domestic hot water using solar energy, reheating with boiler water and alternative reheating with electric heater.

The water heaters are enameled in two layers according to DIN 4753, which guarantees high hygienic conditions.

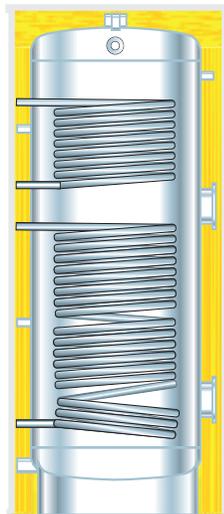
The use of modern technologies and proven technical solutions enables the economical use of available energy sources. When using a solar system, CM-Sol digital solar controller is recommended.

They are made in accordance with ISO 9001 and ISO 14001.



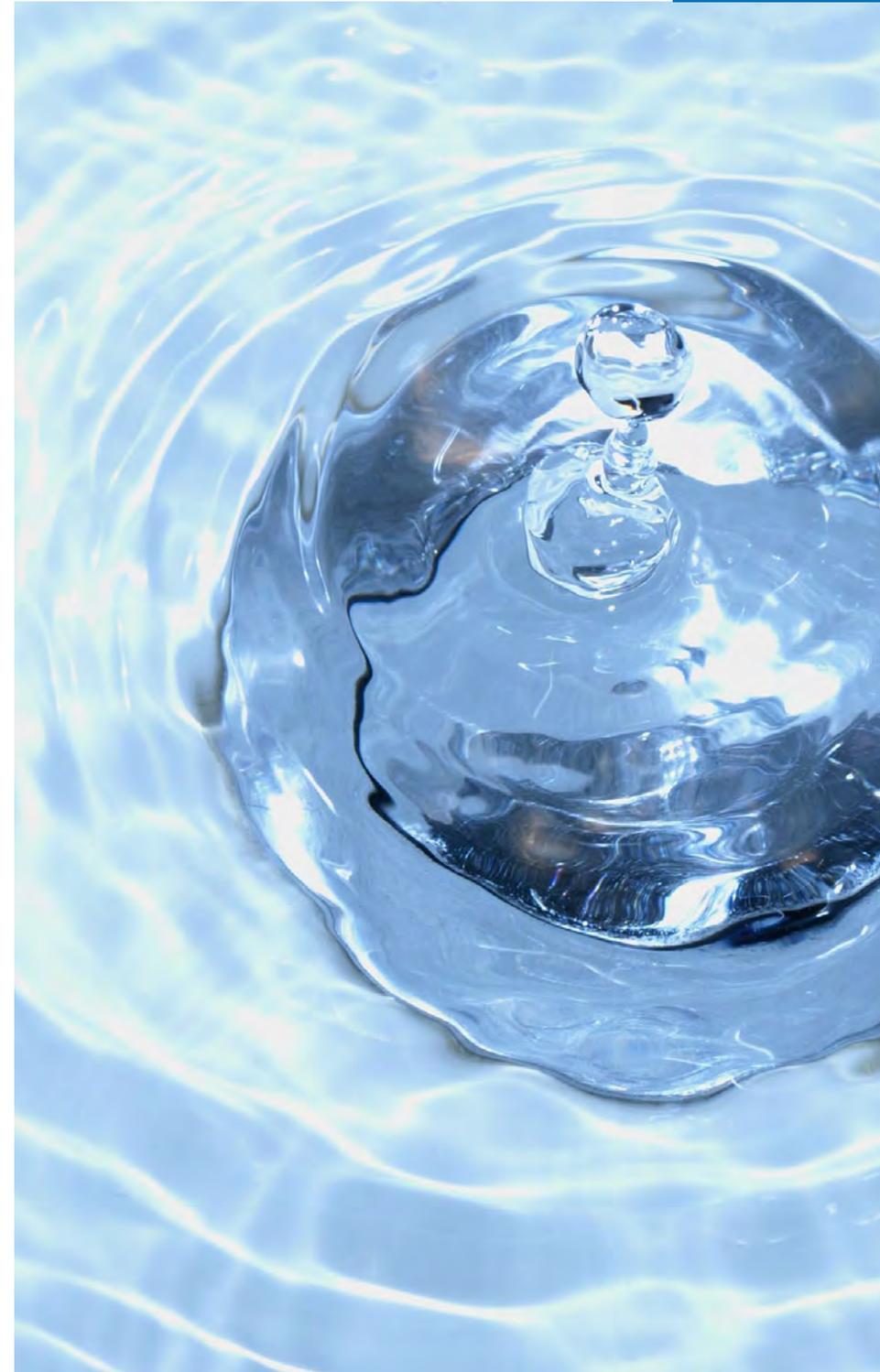
## DSFF/E water heater characteristics

- Hot water bivalent enameled solar water heaters with volumes of 200, 300, 400, 500, 600, 800 and 1.000 liters are intended for heating domestic hot water using solar energy, boiler water and alternatively an electric heater.
- They are made of quality steel, enameled in two layers according to DIN 4753 and are made in accordance with the European standard EN 12897.
- The connectors are located on the back, which allows easy and quick connection to the installation.
- Thermal insulation (up to 600 liters is 60mm PU hard foam with fleece, inseparable / 800 and 1000 liters of insulation in several layers, 80mm hard foam and 20mm fleece, detachable) effectively protects the water heater from heat losses.



Thermometer

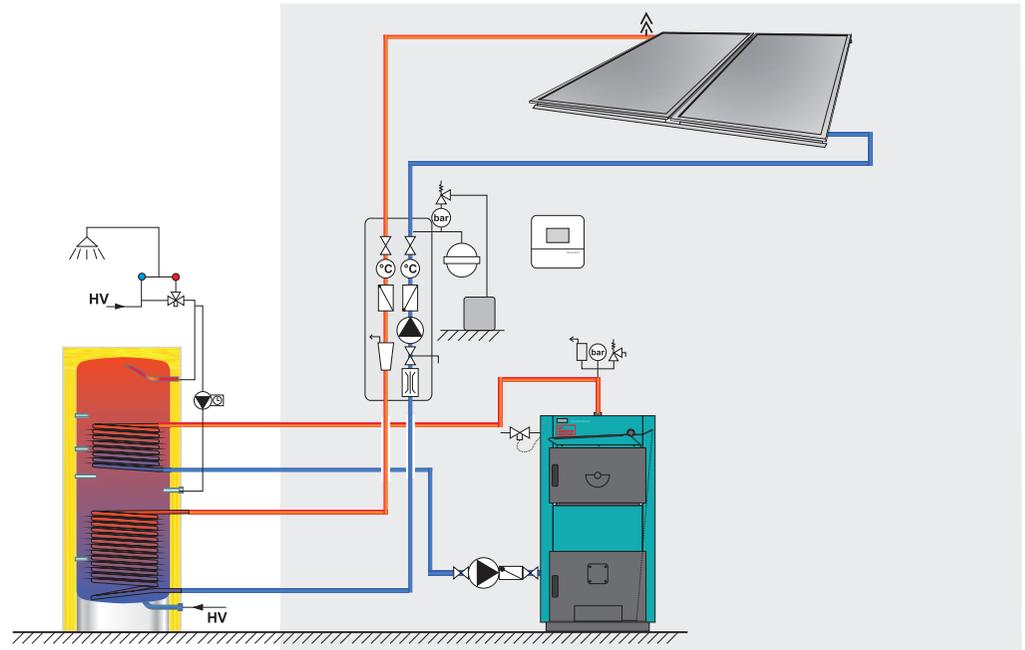
DSFF/E cross section



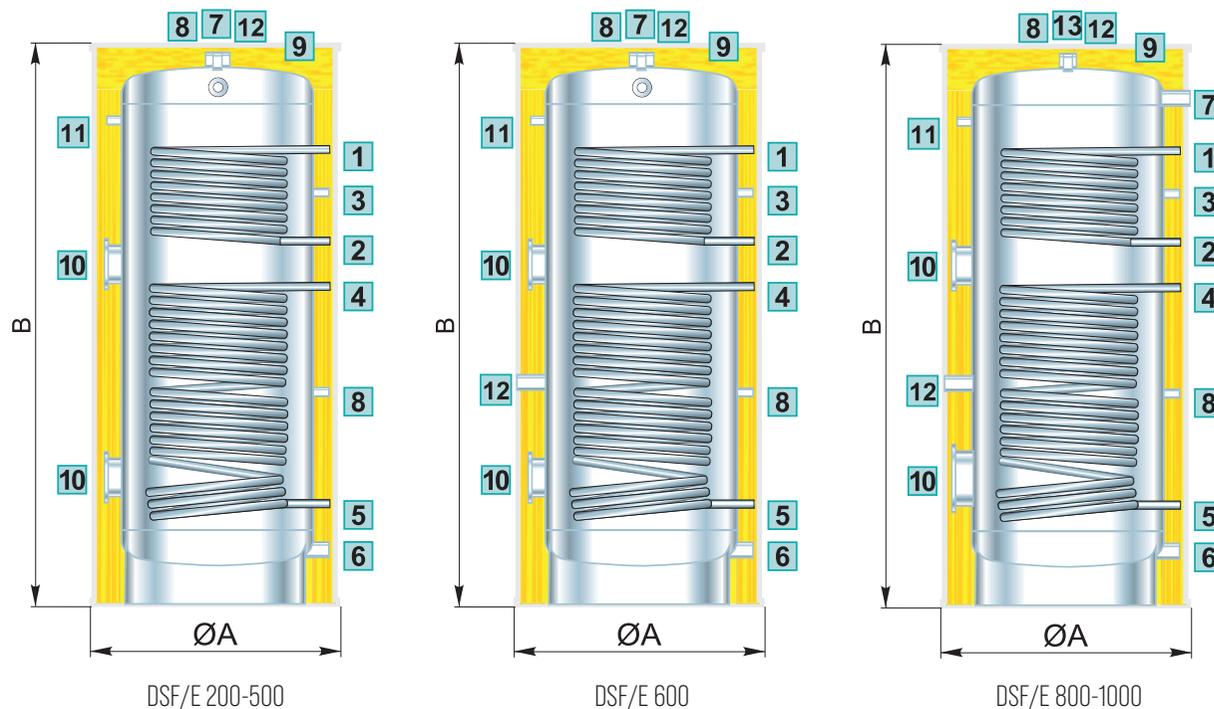
## Connection to the installation

### Delivery

- Bivalent solar enameled water heater in cardboard packaging



## Technical data



DSFF/E		200	300	400	500	600	800	1000							
Volume	(l)	191	304	408	498	559	830	925							
Tube heat exchanger		upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower
Max. heat exchanger performance (1) 80°C	(kW)	7,6	15,2	13,3	23,6	11,8	28,0	19,2	35,3	28,0	35,3	26,5	54,5	32,4	54,5
	(l/h)	185	370	326	580	290	687	471	870	687	870	651	1085	796	1339
Tube heat exchanger	(m <sup>2</sup> )	0,5	1,0	0,9	1,6	0,8	1,9	1,3	2,4	1,9	2,4	1,8	3,0	2,2	3,7
Tube heat exchanger water content	(l)	2,9	5,8	5,7	9,9	4,5	12,4	8,5	15,5	12,3	15,5	15	24,2	18,6	24,2
Boiler water flow	(m <sup>3</sup> /h)	0,7	1,3	1,2	2,0	1,0	2,4	1,7	3,0	2,4	3,0	2,3	3,8	2,8	4,7
Water heater dimensions ØA / height B	(mm)	600/1215	650/1570	750/1500	750/1800	750/2000	990/1990	990/2190							
Cold / hot water connection	(G)	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	2"	2"							
Heat exchanger connections (solar/boiler)	(G)	1"	1"	1"	1"	1"	1 1/4"	1 1/4"							
Max. operating DHW overpressure	(bar)	6	6	6	6	6	6	6							
Boiler mass	(kg)	98	134	152	185	205	279	318							
Energy efficiency class		A	B	B	B	B	C	C							

- 1 Boiler water supply
- 2 Boiler water return
- 3 Recirculation
- 4 Collector water supply
- 5 Collector water return
- 6 Cold DHW
- 7 Hot DHW
- 8 Temp. sensors sleeves
- 9 Thermal insulation
- 10 Flange (180/120 // 290/220mm)
- 11 Thermometer
- 12 Mg anode
- 13 Connection 5/4"

(1) Inlet temp. heating medium 80°C; DHW 10/45°C

## WP/E



### Hot water enameled boilers for heat pumps

Hot water enameled boilers **WP/E** with a volume of **200 to 1.000** liters are intended for heating and accumulation of domestic hot water by connecting to a low-temperature source such as a heat pump.

The water heaters are made of black steel and enameled in two layers according to DIN 4753, which guarantees high hygienic conditions.

The large surface tube heat exchanger enables good energy transfer even at lower flow temperatures.

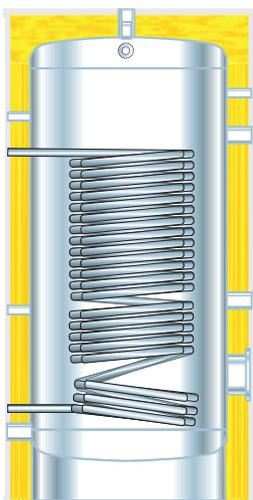
By using modern technologies and proven technical solutions, they have high coefficient of heat transfer and negligible losses to the environment.

They are made in accordance with ISO 9001 and ISO 14001.



## WP/E water heater characteristics

- Hot water enameled water heaters WP/E volumes of 200, 300, 400, 500, 600, 800 and 1.000 liters are intended for heating and accumulation of domestic hot water by connecting to a low-temperature source such as a heat pump.
- The water heaters are made of quality steel, two-layer enameled according to DIN 4753, which guarantees high hygienic conditions.
- The large surface tube heat exchanger enables good energy transfer even at lower flow temperatures.
- The connections are on the back of the water heater, which allows easy and quick connection to the installation.
- It is possible to install the sensor in the space provided on the back of the water heater.
- Thermal insulation (up to 600 liters is 60mm PU hard foam with fleece, inseparable / 800 and 1000 liters of insulation in several layers, 80mm hard foam and 20mm fleece, detachable) effectively protects the water heater from heat losses.



WP/E cross section



Rear connections



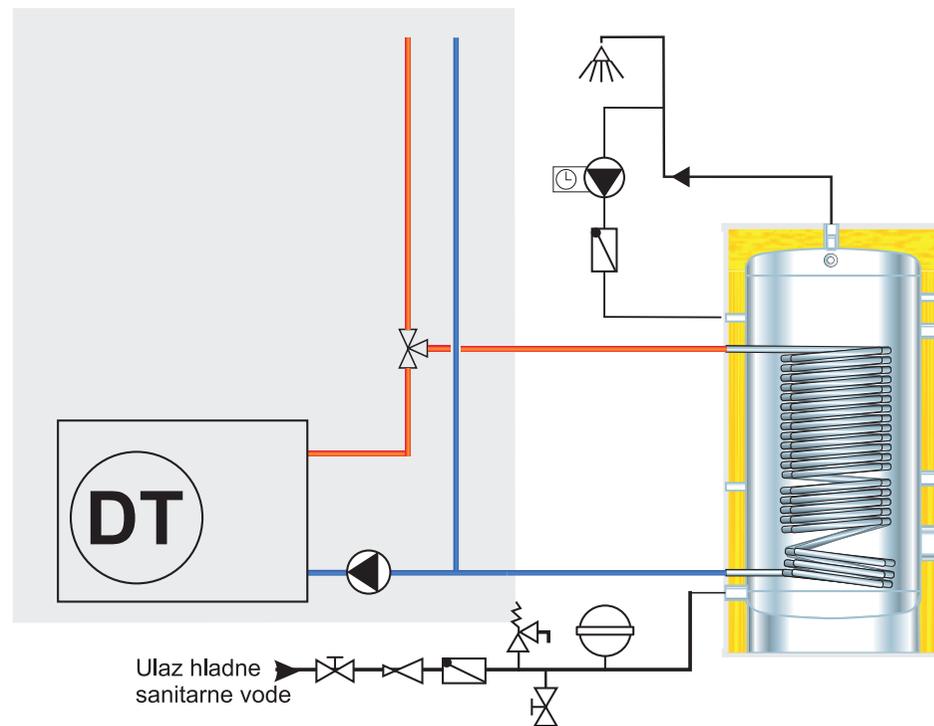
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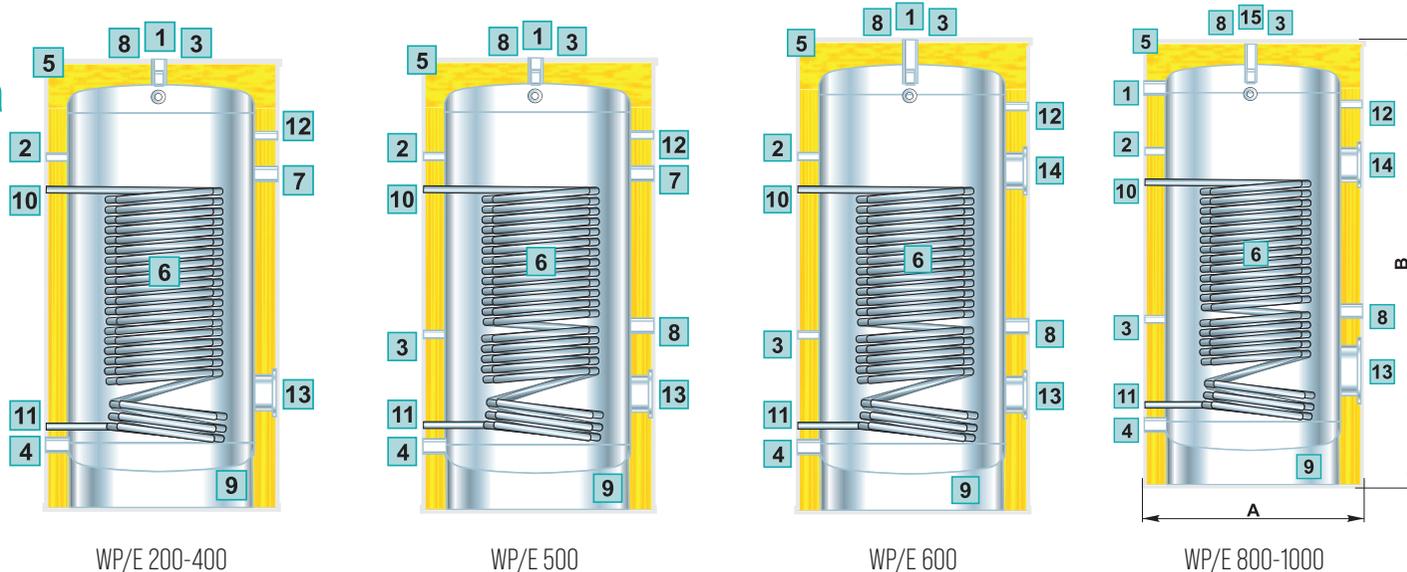
## Connection to plumbing installation and low temperature source

### Delivery

- Hot water enameled water heater in cardboard packaging



# Technical data



WP/E		200	300	400	500	600	800	1000
Volume	[l]	191	304	408	498	559	830	925
Max. heat exchanger performance <sup>(1)</sup> 80 °C	[kW]	36,8	47,1	63,3	79,5	79,5	88,4	88,4
	[l/h]	905	1159	1558	1957	1957	2171	2171
Boiler water flow	[m <sup>3</sup> /h]	3,2	4,1	5,6	6,8	6,8	7,6	7,6
Max. heat exchanger performance <sup>(2)</sup> 50 °C	[kW]	6,0	8,0	11,0	13,5	13,5	15	15
	[l/h]	153	197	270	331	331	368	368
Boiler water flow	[m <sup>3</sup> /h]	1,0	1,4	1,9	2,3	2,3	2,6	2,6
Tube heat exchanger	[m <sup>2</sup> ]	2,5	3,2	4,3	5,4	5,4	6,0	6,0
Tube heat exchanger water content	[l]	15,9	20,4	27,5	35,2	35,2	39,2	39,2
Water heater mass	[kg]	114	141	179	217	228	291	308
Outer diameter A	∅ [mm]	600	650	750	750	750	990	990
Water heater height B	[mm]	1215	1570	1500	1800	2000	1990	2190
Cold / hot water connections	[R]	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	2"	2"
Max. operating DHW overpressure	[bar]	6	6	6	6	6	6	6
Energy efficiency class		A	B	B	B	B	C	C

(1) Inlet temp. heating medium 80 °C; DHW 10/45 °C

(2) Inlet temp. heating medium 50 °C; DHW 10/45 °C

- 1 Hot DHW
- 2 Recirculation
- 3 Temp sensor sleeve
- 4 Cold DHW
- 5 Thermal insulation
- 6 Tube heat exchanger
- 7 6/4" electric heater connection
- 8 Mg anode
- 9 Water heater stand
- 10 Boiler water connection supply
- 11 Boiler water connection return
- 12 Thermometer
- 13 Lower flange (180/120 // 290/220mm)
- 14 Upper flange (180/120mm)
- 15 Connection 5/4"

## WPS/E



### Bivalent solar enameled water heaters for heat pumps

Bivalent solar enameled water heaters WSP/E with volumes of 400, 500, 600, 800 and 1.000 liters are intended for heating and accumulating domestic hot water using solar energy, reheating with low-temperature sources such as heat pumps and alternative heating with electric heaters.

The large surface tube heat exchanger enables good energy transfer even at lower flow temperatures of low temperature sources. The water heaters are enameled in two layers according to DIN 4753, which guarantees high hygienic conditions.

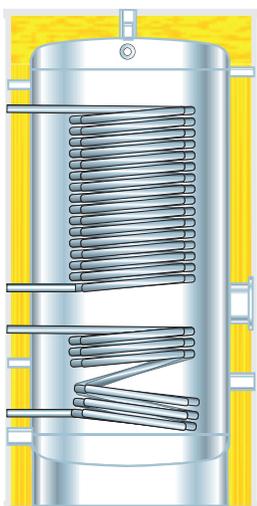
The use of modern technologies and proven technical solutions enables the economical use of available energy sources. When using a solar system, CM-Sol digital solar controller is recommended.

They are made in accordance with ISO 9001 and ISO 14001.



## WPS/E water heater characteristics

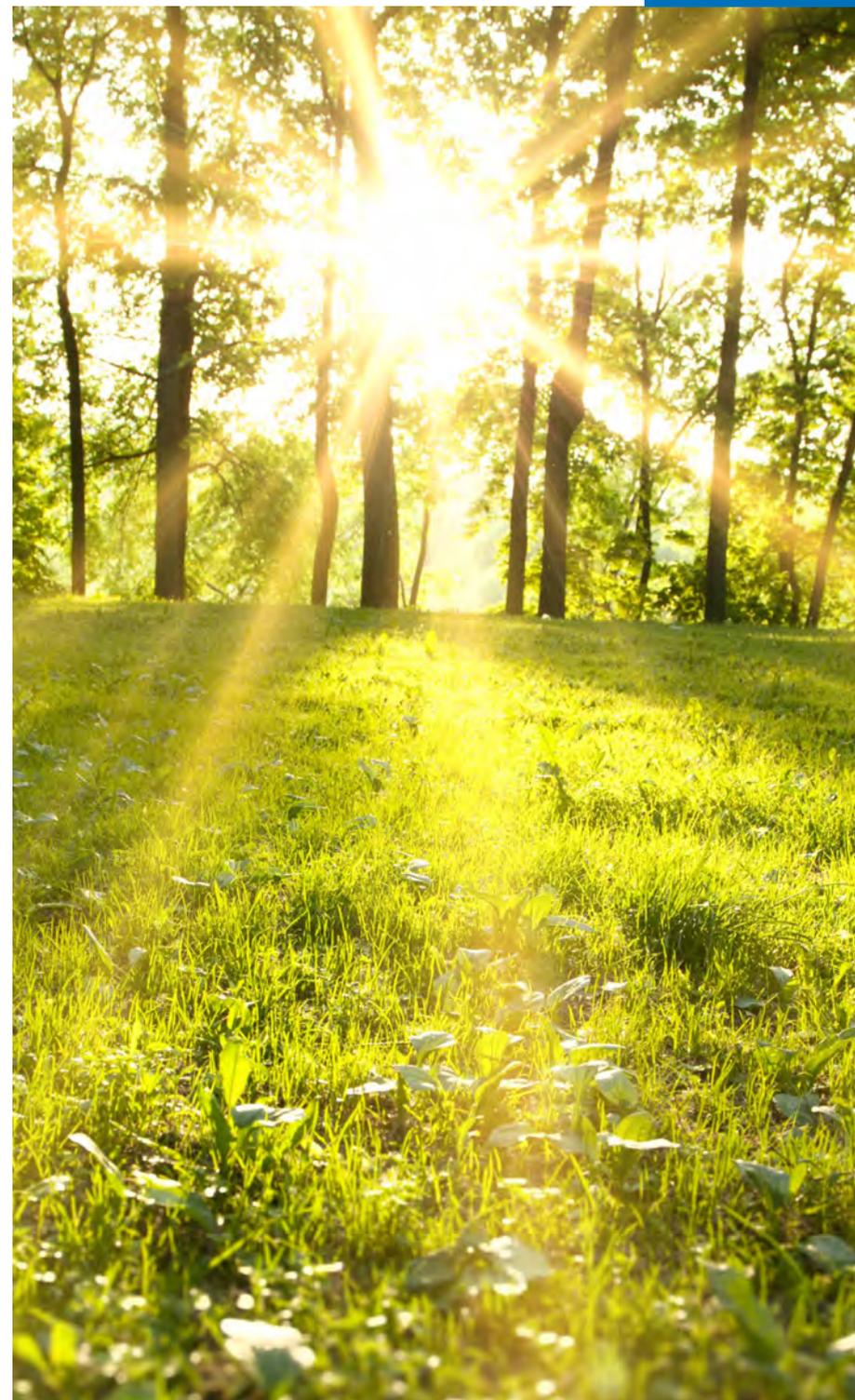
- Hot water bivalent enameled solar water heaters with volumes of 400, 500, 600, 800 and 1.000 liters are intended for heating domestic hot water using solar energy, low-temperature source such as a heat pump and alternatively an electric heater.
- They are made of quality steel, enameled in two layers according to DIN 4753 and are made in accordance with the European standard EN 12897.
- The large surface tube heat exchanger enables good energy transfer even at lower flow temperatures of low temperature sources.
- The connectors are located on the back, which allows easy and quick connection to the installation.
- Thermal insulation (up to 600 liters is 60mm PU hard foam with fleece, inseparable / 800 and 1000 liters of insulation in several layers, 80mm hard foam and 20mm fleece, detachable) effectively protects the water heater from heat losses.



WPS/E cross section



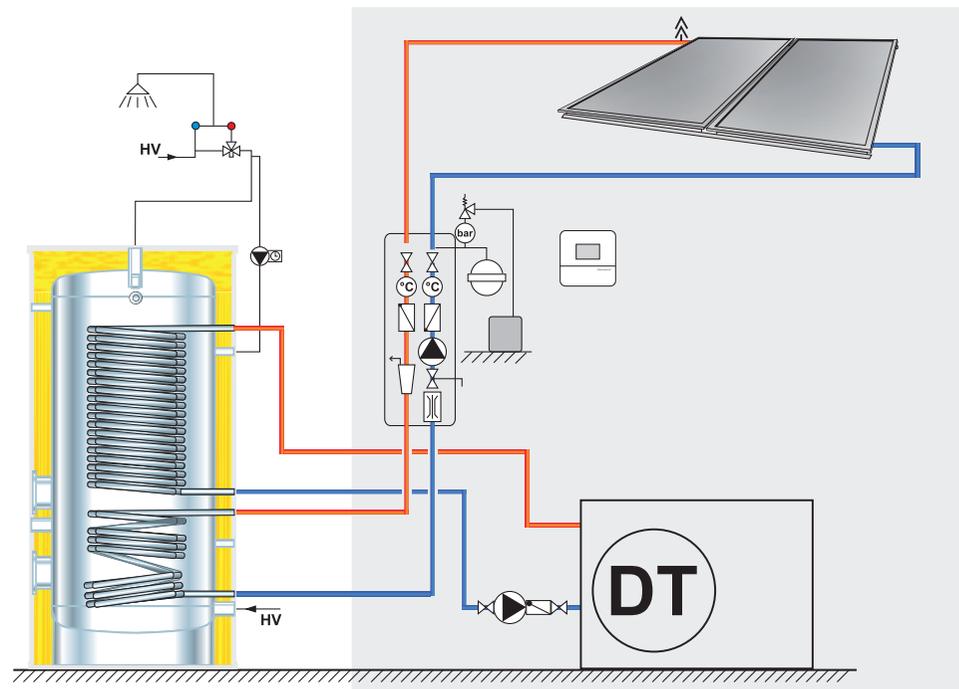
Rear with connectors



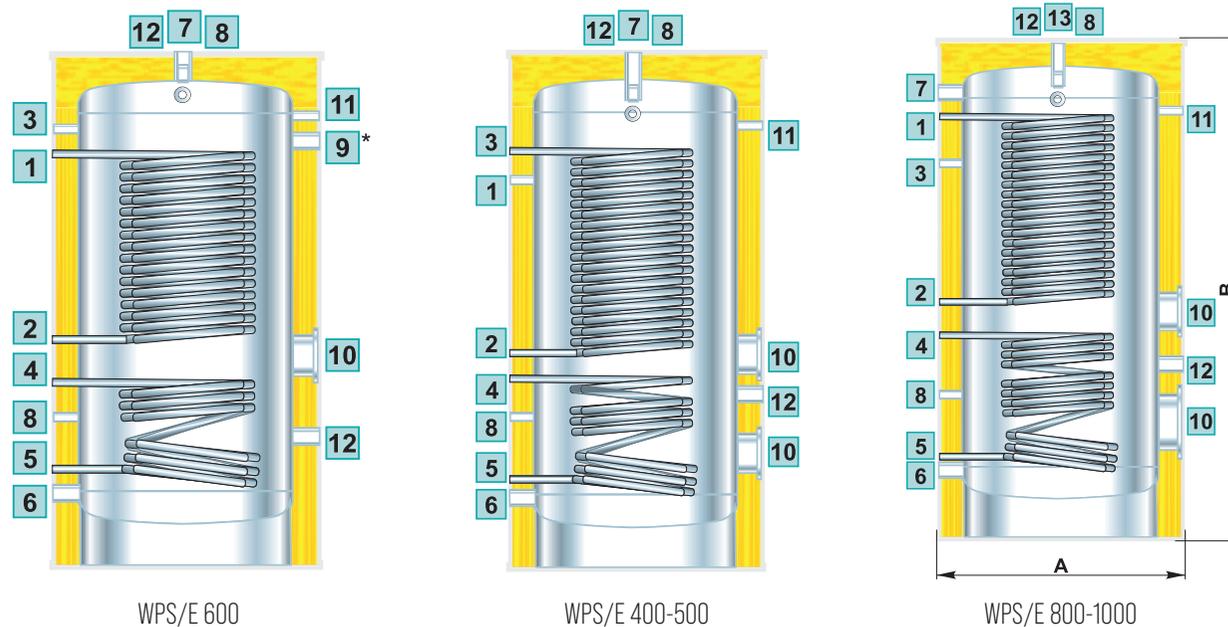
## Connection to the installation

### Delivery

- Bivalent solar enameled water heater in cardboard packaging



## Technical data



WPS/E		400	500	600	800	1000					
Volume	[l]	408	498	559	830	925					
Tube heat exchanger		upper	lower	upper	lower	upper	lower	upper	lower	upper	lower
Max. heat exchanger performance <sup>(1)</sup> 80°C	[kW]	42,6	17,7	56,0	22,1	78,0	26,6	76,6	32,4	88,4	51,5
	[l/h]	1049	435	1377	543	2062	652	1881	796	2171	1266
Boiler water flow	[m <sup>3</sup> /h]	3,7	1,5	4,8	1,9	6,7	2,3	6,5	2,8	7,6	4,4
Max. heat exchanger performance <sup>(2)</sup> 50°C	[kW]	7,5	/	9,5	/	13,0	/	13,0	/	15,0	/
	[l/h]	184	/	243	/	320	/	320	/	370	/
Boiler water flow	[m <sup>3</sup> /h]	1,3	/	1,6	/	2,3	/	2,3	/	2,6	/
Tube heat exchanger	[m <sup>2</sup> ]	2,9	1,2	3,8	1,5	5,3	1,8	5,2	2,2	6,0	3,5
Tube heat exchanger water content	[l]	18,4	7,8	24,1	9,8	34,7	11,8	34,0	14,4	39,2	22,3
Water heater dimensions ØA / height B	[mm]	750/1500	750/1800	750/2000	990/1990	990/2190					
Cold / hot water connection	[G]	1 1/4"	1 1/4"	1 1/4"	2"	2"					
Heat exchanger connections (solar/energy source)	[G]	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"					
Max. operating DHW overpressure		6	6	6	6	6					
Boiler mass		189	216	261	312	368					
Energy efficiency class		B	B	B	C	C					

- 1 Heat source water supply
- 2 Heat source water return
- 3 Recirculation 1/2" / 1"
- 4 Collector water supply
- 5 Collector water return
- 6 Cold DHW
- 7 Hot DHW
- 8 Temp. sensors sleeves
- 9 6/4" electric heater connection
- 10 Flange (180/120 // 290/220mm)
- 11 Thermometer
- 12 Mg anode
- 13 5/4" connection

[1] Inlet temp. heating medium 80°C; DHW 10/45°C

[2] Inlet temp. heating medium 50°C; DHW 10/45°C

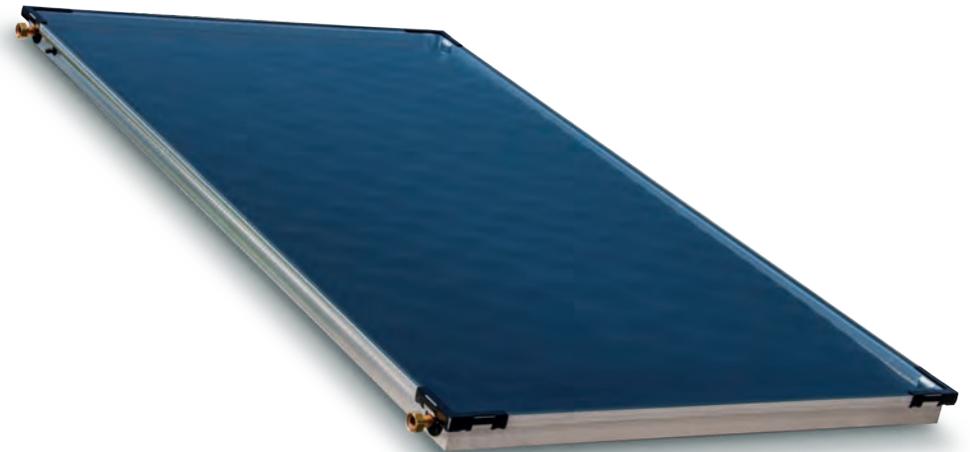


## CPK-8203N 4H

### Flat plate solar thermal collectors

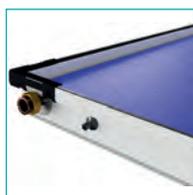
The **CPK-8203N 4H** series flat plate collectors are a modern product of high quality and modern design. They are intended primarily for domestic hot water heating systems and also for swimming pools and central heating systems with heat accumulation.

Flat plate collectors CPK-8203N 4H are made of quality materials which allows them a long service life in all weather conditions. By using high-performance selective coatings and one absorber plate over the entire collector surface, the best possible heat transfer is achieved based on the maximum use of the collector surface.



## CPK-8203N 4H collector characteristics

- In a modern way of laser welding, the register of copper pipes is attached to an aluminum plate that is coated with a high-performance selective coating, which achieves the effect of a thermal plate.
- The aluminum plate is set over the entire surface of the collector, which prevents the occurrence of air turbulence, and thus unnecessary energy losses.
- The pipes inside the collector are in the shape of a harp, which achieves optimal flow through the collector.
- The 3.2 mm thick solar glass is sealed with a rubber seal.
- The collector has 4 connections with 'hermeto' connectors for easier connection.
- The collector can be installed on the roof with the help of a mounting set (additional equipment) and as a free-standing stand on special supports (additional equipment).
- The proven installation system ensures simple, safe and quality installation in the shortest time.
- The collector is designed for mounting in a vertical or horizontal position.
- A maximum of 6 plate collectors are connected in one series, a larger number are connected in parallel.
- The installation of collectors in domestic hot water heating systems (STB, DSFF/E, WPS/E), pool water and central heating systems (CAS-S, -BS) saves fuel needed for conventional energy sources, which also and pollutes the environment less.
- The collector is Solar Keymark certified and labeled.



Sensor sleeve and  
'hermeto' connection



Solar Keymark



## Delivery and obligatory accessories

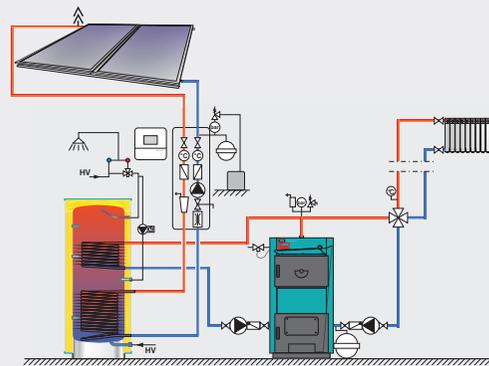


### Delivery

- Collector

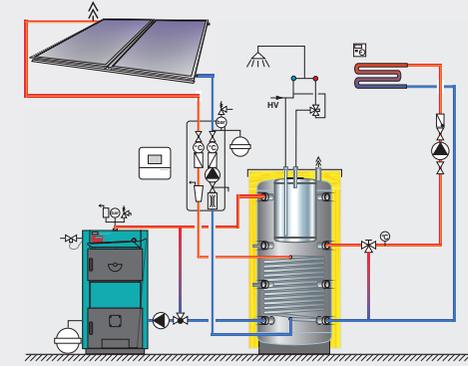
### Obligatory accessories

- Mounting set for 1 or 2 collectors on a pitched or flat roof for vertical or horizontal installation of collectors



### Connection to bivalent DHW tank

- Collector CPK-8203N 4H
- Mounting set for pitched or flat roof
- Solar pump group
- Solar expansion vessel
- Solar bivalent tank (STB, DSFF / E, WPS / E)
- Solar controller (Cm-SOL) with sensors



### Connection to the combined tank for summer DHW heating

- Collector CPK-8203N 4H
- Mounting set for pitched or flat roof
- Solar pump group
- Solar expansion vessel
- Solar controller with sensors (Cm-SOL)
- Combined storage tank (CAS-S, CAS-BS)

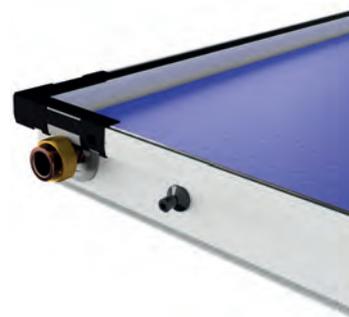
## Technical characteristics



Flat roof mounting



Pitched roof mounting



CPK-8203N 4H		
Gross area	[m <sup>2</sup> ]	2,02
Aperture area	[m <sup>2</sup> ]	1,84
Absorber area	[m <sup>2</sup> ]	1,84
Absorber material		Al sheet selective coated
Absorption coefficient	(%)	95
Emission coefficient	(%)	5
Pipe register	(mm)	f8
Pipe manifold	(mm)	f22
Absorber volume	(l)	1,56
Glass		3,2 mm tempered solar glass
Transmittance of the glass	(%)	90

Connections		4x with hermeto couplings
Connections	(R)	1"
Max. operating overpressure	(bar)	10
Max. stagnation temperature		192°C under norm conditions
Insulation		40mm mineral wool
Height	(mm)	1.730
Width	(mm)	1.170
Depth	(mm)	83
Collector mass	(kg)	31
Fluid		mixture of propylene glycol and water
Approved mounting angle		min. 15°, max. 75°





## SOLAR PUMP GROUP CSPG TL-6600

### Solar system parts

An important element of solar systems are solar pump groups **CSPG TL-6600**. The **CSPG TL-6600** solar pump group contains all the necessary elements for the proper circulation of solar fluid through the solar system. In addition to having all the necessary functional and safety elements in one place, solar pump groups are thermally and soundproof insulated, require little space and are easy to install.

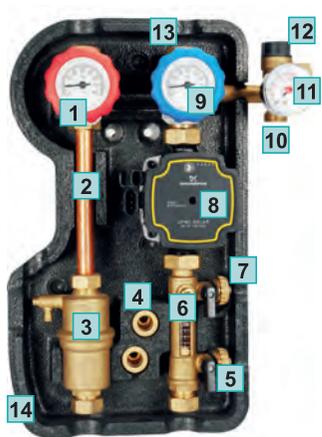
If we have an additional storage tank, in addition to the solar pump group CSPG TL-6600, we need to install a **3-way diverting valve** (zone valve) that can expand the solar system.

If we want to simply run the solar system over 2 temperatures, we can install a **differential thermostat**. It can be used to select automatic or manual operation, the thermostat on/off range of 0-20°C can be set. It is supplied with all necessary sensors.



### Elements of the solar pump group CSPG TL-6600

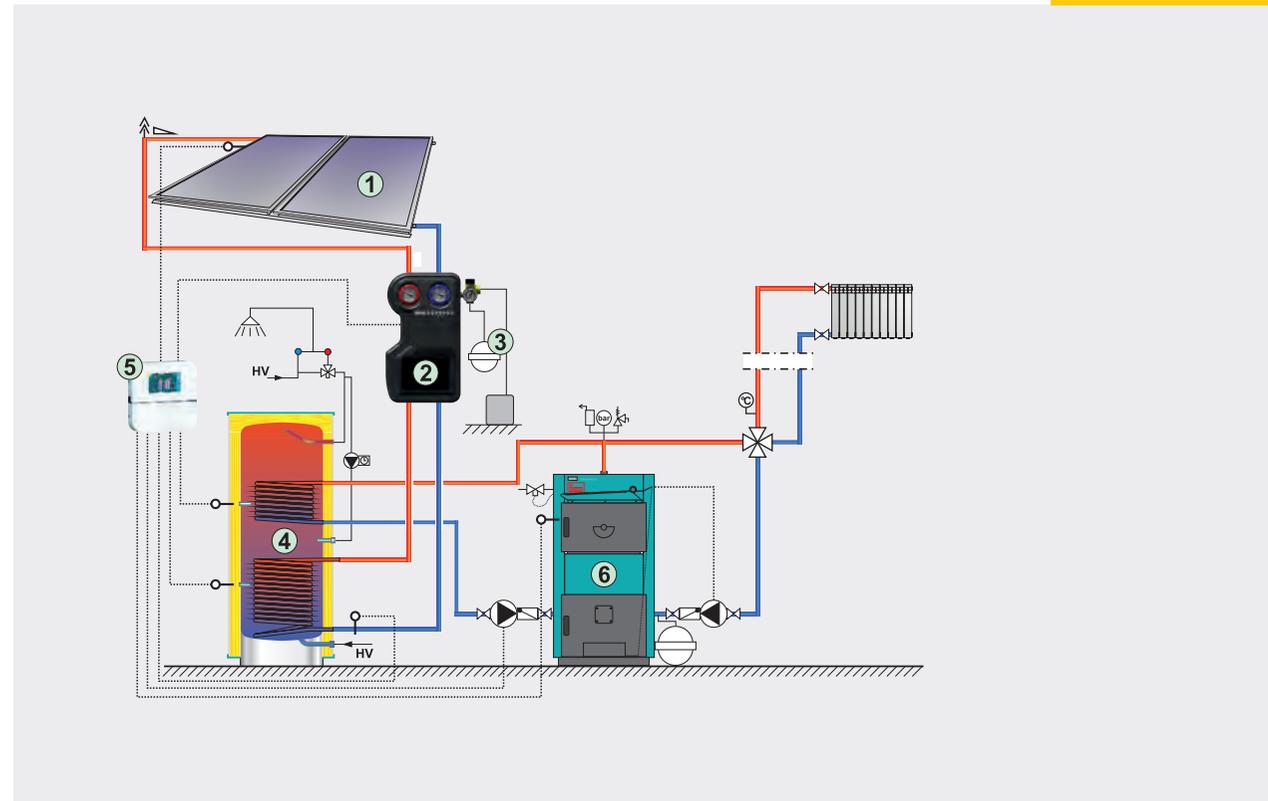
- 2 thermometers
- Pressure gauge
- Safety valve, 6 bar
- Circulating pump Grundfos Solar UPM3 15-75
- Filling/draining valves
- Flow regulator (2-12 lit./min.)
- Hermeto connection f22mm
- Filling/draining connections R 3/4" joint with seal
- Manual airvent
- Expansion vessel connection
- Two-part insulating foam



- 1 Thermometer with ball valve
- 2 Flow pipe
- 3 Manual airvent
- 4 Connections for filling/draining hoses
- 5 Drain connection
- 6 Flow meter 2-12 lit/min.
- 7 Filling connection
- 8 Pump
- 9 Thermometer with non-return valve
- 10 Expansion vessel connection
- 11 Pressure gauge
- 12 6-bar safety valve
- 13 Return pipe connection
- 14 Insulation

## 3-WAY DIVERTING VALVE (ZONE VALVE)

- Diverts fluid either in one direction or the other direction
- In the event of a power failure, it returns to its original position
- 1" connections



- 1 Solar thermal collectors
- 2 Solar pump group CSPG TL-6600
- 3 Solar expansion vessel
- 4 Bivalent domestic hot water tank
- 5 Solar controller
- 6 Heat source

CSPG TL-6600		
Pumpe	[type]	Grundfos Solar UPM3 15/75-130
Max. operating pressure	[bar]	6
Operating temperature	[°C]	130°C - 150°C max
Fluid		water with max. 50% glycol
Joints		sealed, f 22mm
Connections	[mm]	R 3/4", for hose f15 mm
Width	[mm]	250
Height	[mm]	430
Depth	[mm]	170

## Cm-SOL

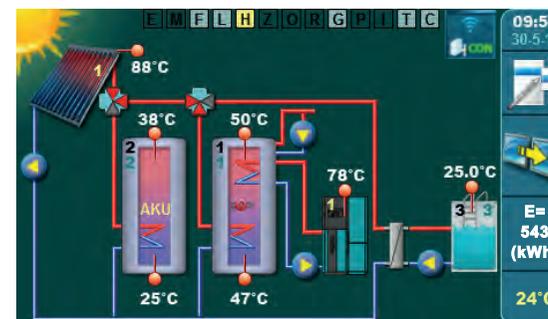


### Multifunction solar controller

The Cm-SOL solar controller is intended for controlling the heating of DHW tanks, buffer tanks (with or without built-in DHW tanks) or swimming pools via solar thermal collectors and/or boilers and/or electric heaters. **The controller can control the heating of up to 4 different tanks/pools that can be heated via up to 2 separate solar collector fields and up to 2 types of conventional sources (boilers) or electric heater.**

Collector pumps can be controlled with PWM or analog signal. In addition to the temperature sensor, a flow meter and a pressure switch can be connected to the controller. In addition to standard tank heating control via temperature difference, the controller has protection functions such as collector cooling (via tank), anti-freeze collector options, tank cooling (via collector or recirculation), legionella protection (disinfection function) and outlet protection (pumps and valves) from blocking due to prolonged standstill.

All functions are controlled via the color touch screen, which simplifies the use of controller. As an accessory, the CM-WiFi box can be connected, which enables the connection of the controller to the local WiFi network and remote control and monitoring of the solar system.



## Characteristics of solar controller Cm-SOL

- The Cm-SOL controller can control solar heating of up to 4 separate tanks with 1 or 2 collector fields and heating of the first tank by means of conventional sources - electric heater and up to two boilers.
- The controller has 10 inputs, 8 outputs and 2 PWM and 2 analog outputs for collector pumps.
- Collector types can be chosen between flat plate and tube collectors.
- Tank types can be selected from DHW tank, buffer tank, buffer tank with built-in DHW tank and pool.
- The hydraulic connection of several tanks can be selected via pumps, zone 3-way valve and zone 2-way valve.
- It is possible to run the heating of the first tank to the second (heating of the DHW tank with buffer tank).
- Heating of the first tank can be done with an electric heater (via a contactor) and with up to 2 conventional heat sources.
- The controller can run the recirculation pump to pulse operation at a given timer settings.
- By entering the correct flow through the collectors and installing the collector return flow sensor, the controller calculates the total energy received from the collector. If a flow meter is installed, the energy calculation will be more accurate.

To monitor the operation of the solar system, it is possible to install a CM-WiFi box and monitor individual temperatures and the operation of individual pumps and valves via the web portal. It is also possible to change the set tank and collector temperatures via the web portal.

With Cm WiFi-box (additional equipment) it is possible to control/monitor the solar system with a mobile phone/tablet/computer



## Monoblock and split heat pumps



### Complete heating and cooling solution

A heat pump can be defined as a complete solution for space heating and cooling. It is an integrated system that is able to heat or cool the space and at the same time prepare domestic hot water (DHW).

It therefore offers a versatile solution for heat and cooling, usable all year round. It can replace any type of boiler or work in combination with it, in an integrated hybrid system. It is best to install heat pumps on low-temperature heating systems, but they can also be installed on radiator systems, up to 55°C flow.



Controller  
HPCU360iCM



HEAT PUMP



## Characteristics of monoblock and split heat pumps

- Air-to-water heat pumps.
- Monoblock and split models 4-16kW.
- Ecological refrigerant R32 and R410A.
- Low heating costs.
- Low CO2 emissions.
- High-efficiency heating and cooling source.
- The touchscreen controller controls the heat pump, up to two heating/cooling mixing circuits, one direct heating/cooling circuit and DHW heating (with recirculation).
- Can be connected to floor heating/cooling, fan coils and/or low temperature radiator heating.
- Possible connection to the web portal and mobile application (additional equipment).



Pump group  
HS-DKG 1"



Auxiliary heater  
2/4kW HPe2/4CM



Wired room thermostat  
HPxTouchCM



Wireless room  
thermostat HPx40cm



WiFi module  
HPnet300cm



Two heating/cooling  
circuit module HPx2kCM



## MONOBLOCK characteristics

MONOBLOCK		5 kW	7 kW	9 kW	12 kW	12 kW P3	14 kW P3	16 kW P3	
Power supply	V/Ph/Hz	220-240/1/50				380-415/3/50			
Capacity	kW	4.65	6.65	8.60	12.30	12.30	14.10	16.30	
Rated input	Heating <sup>2</sup> A7/W35	kW	0.93	1.35	1.87	2.56	2.54	3.05	3.63
COP		5.00	4.94	4.60	4.81	4.84	4.63	4.49	
Capacity	kW	4.65	6.80	8.60	11.90	11.90	14.20	16.10	
Rated input	Heating <sup>3</sup> A7/W55	kW	1.77	2.42	3.13	4.28	4.24	5.10	5.83
COP		2.63	2.81	2.75	2.78	2.81	2.79	2.76	
Capacity	kW	4.6	6.45	8.00	12.20	12.20	14.00	15.50	
Rated input	Cooling <sup>4</sup> A35/W18	kW	0.95	1.39	1.92	2.55	2.53	3.11	3.63
EER		4.82	4.65	4.16	4.78	4.83	4.50	4.27	
Capacity	kW	4.85	6.30	7.95	10.90	10.90	12.90	13.80	
Rated input	Cooling <sup>5</sup> A35/W7	kW	1.63	2.27	3.15	3.74	3.72	4.62	5.19
EER		2.98	2.77	2.53	2.92	2.93	2.80	2.66	
Seasonal energy efficiency class in heating mode <sup>6</sup>	Water flow at 35°C	A+++	A+++	A+++	A+++	A+++	A+++	A++	
	Water flow at 55°C	A++	A++	A++	A++	A++	A++	A++	
SCOP <sup>6</sup>	Water flow at 35°C	4.47	4.47	4.51	4.29	4.29	4.27	4.30	
	Water flow at 55°C	3.24	3.24	3.22	3.23	3.23	3.26	3.27	
$\eta_s$	Water flow at 35°C	%	176	176	177	169	169	168	169
	Water flow at 55°C	%	127	127	126	126	126	128	128
SEER <sup>6</sup>	Water flow at 7°C		4.71	4.99	4.92	4.85	4.85	4.73	4.54
	Water flow at 18°C		7.61	8.58	7.88	7.50	7.50	7.16	6.78

1. Eu standards: EN14511: 2016; EN14825: 2016; EN50564: 2011; EN12102: 2017; (EU) N° 811/2013; (EU) N° 813/2013; OJ 2014/C 207/02; OJ 2017/C 229/01.

2. Outdoor temperature 7°C, 85% RV.; water flow/return temperature 35/30°C.

3. Outdoor temperature 7°C, 85% RV.; water flow/return temperature 55/47°C.

4. Outdoor temperature 35°C; water flow/return temperature 18/23°C.

5. Outdoor temperature 35°C; water flow / return temperature 7/12°C.

6. Class of seasonal energy efficiency in heating regime for average climatic conditions.

7. Test standard: EN12102-1

MONOBLOCK			5 kW	7 kW	9 kW	12 kW	12 kW P3	14 kW P3	16 kW P3
Rated fuse selection current (MOP)	A		20.0			30.0	15.0		
Min. current for wire cross-section selection (MCA)	A		14.1			26.8	11.0		
Sound power level <sup>7</sup>	dB(A)		61	64	67	68	68	71	71
Sound pressure level <sup>7</sup>	dB(A)		48.8	52.3	54.5	57.6	58.0	58.1	59.0
Compressor	Type		with double rotor and DC inverter						
Outdoor fan	Air flow	m <sup>3</sup> /h	3050			6150			
Water exchanger			Plate heat exchanger						
Circulation pump	Head	m	6.0			7.5			
Expansion vessel	Volume	L	5.0			5.0			
Net dimensions (WxHxD)		mm	1210x945x402			1404x1414x405			
Dimensions of the packed device (WxHxD)		mm	1285x1090x435			1430x1475x450			
Net / gross weight		kg	92/111			158/178	172/193		
Main / return flow (water)		R	1"			5/4"			
Safety valve opening pressure (water)		bar	3						
Heat pipe water content		L	2.0			3.2			
Operating range according to outdoor temperature	Cooling	°C	-5 to 43			-5 to 46			
	Heating	°C	-25 to 35			-25 to 35			
	DHW	°C	-25 to 43			-25 to 43			
Water flow temperature range	Cooling	°C	5 to 25			5 to 25			
	Heating	°C	25 to 60			25 to 60			
	DHW	°C	40 to 60			40 to 60			
Refrigerant	Type / GWP		R32 / 675						
	Charge	kg	2.0			2.8			
Auxiliary electric heater	Built in as standard	kW	-						
	Optional		HPe 2/4						
	Auxiliary heater power	kW	2 or 4						

## SPLIT 5-16kW (with indoor unit) characteristics

SPLIT			4 kW	6 kW	8 kW	12 kW	12 kW / P3	14 kW / P3	16 kW / P3
Power supply	V/Ph/Hz		220-240/1/50				380-415/3/50		
Capacity	kW		4.20	6.50	8.40	12.10	12.00	14.00	15.50
Rated el. input	Heating <sup>2</sup> A7/W35	kW	0.82	1.35	1.73	2.74	2.66	3.26	3.79
COP			5.15	4.85	4.85	4.42	4.51	4.29	4.09
Capacity	kW		4.10	5.75	7.50	10.26	10.89	12.99	14.33
Rated el. input	Heating <sup>3</sup> A7/W55	kW	1.44	1.98	2.49	3.75	3.87	4.50	5.04
COP			2.85	2.90	3.01	2.74	2.81	2.89	2.84
Capacity	kW		4.30	6.45	8.35	11.70	12.00	13.50	14.50
Rated el. input	Cooling <sup>4</sup> A35/W18	kW	0.77	1.32	1.79	2.79	2.80	3.45	3.94
EER			5.60	4.88	4.67	4.19	4.29	3.91	3.68
Capacity	kW		4.50	6.50	7.38	11.02	11.70	12.53	12.91
Rated el. input	Cooling <sup>5</sup> A35/W7	kW	1.36	2.20	2.44	4.17	4.65	5.21	5.52
EER			3.32	2.95	3.02	2.64	2.52	2.40	2.34
Seasonal energy efficiency class in heating mode <sup>6</sup>	Water flow at 35°C		A+++	A+++	A+++	A+++	A+++	A+++	A++
	Water flow at 55°C		A++	A++	A++	A++	A++	A++	A++
SCOP <sup>6</sup>	Water flow at 35°C		4.77	4.77	4.79	4.46	4.58	4.62	4.37
	Water flow at 55°C		3.34	3.34	3.28	3.24	3.23	3.31	3.29
η <sub>s</sub>	Water flow at 35°C	%	187	187	188	175	184	179	172
	Water flow at 55°C	%	130	130	128	127	128	130	130
SEER <sup>6</sup>	Water flow at 7°C		5.06	5.25	4.80	4.90	4.95	4.75	4.70
Rated fuse selection current (MOP)	A		18		19	35	18	18	18
Min. current for wire cross-section selection (MCA)	A		14		19	30	15	15	16
Sound power level <sup>7</sup>	dB(A)		62	62	63	68	70	72	72
Compressor	Type		with double rotor and DC inverter						
Outdoor fan	Air flow	m <sup>3</sup> /h	3300		5000	6250			
Net dimensions (WxHxD)	mm		960x860x380		1075x965x395	900x1327x400			
Dimensions of the packed device (WxHxD)	mm		1040x1000x430		1120x1100x435	1030x1457x435			
Net / gross weight	kg		57/68		67/79	99/112	115/126		

SPLIT			4 kW	6 kW	8 kW	12 kW	12 kW / P3	14 kW / P3	16 kW / P3
Operating range according to outdoor temperature	Cooling	°C	-5 to 43			-5 to 46			
	Heating	°C	-25 to 35			-20 to 35			
	DHW	°C	-25 to 43			-20 to 43			
Refrigerant	Type		R32			R410A			
	Charge	kg	1.55	1.55	1.65	3.9	4.2	4.2	4.2
Pipe connections	Type		Lace joint						
	Liquid phase	mm	Ø 6.35		Ø 9.52	Ø 9.52	Ø 9.52		
	Gaseous phase	mm	Ø 15.9						
	Minimum length	m	2						
	Maximum length	m	30	30	30	50	50	50	50
Difference in installation height	Outdoor unit higher	m	20	20	20	30	30	30	30
	Outdoor unit higher	m	15	15	15	25	25	25	25

INDOOR UNIT			6 kW	8 kW	16 kW	16 kW / P3	
Compatible outdoor unit			4-6	8	12	12-14-16 P3	
Power supply			V/Ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50	380-415/3/50
Sound power level			dB(A)	43	43	45	45
Dimensions (WxHxD)			mm	400x850x427	400x850x427	400x865x427	400x865x427
Net / gross weight			kg	47/53	47/53	54/62	54/62
Water cycle	Pipe connections		R	1"	1"	1"	1"
	Safety valve		MPa	0.3	0.3	0.3	0.3
	Volume of water in the unit		L	2.0	2.0	5.0	5.0
	Outlet		mm	Ø16	Ø16	Ø16	Ø16
	Expansion vessel		L	5.0	5.0	5.0	5.0
	Water heat exchanger	Type		Plate heat exchanger	Plate heat exchanger	Plate heat exchanger	Plate heat exchanger
		Volume	L	0.7	0.7	1.0	1.0
Pump head		m	8.5	8.5	7.5	7.5	
Refrigerant circle	Liquid phase	mm	Ø 9,52	Ø 9,52	Ø 9.52	Ø 9.52	
	Gaseous phase	mm	Ø 15.9	Ø 15.9	Ø 15.9	Ø 15.9	
Auxiliary electric heater	Built in as standard		kW	-	-	4.5	4.5
	Optional			HPE 2/4			
	Auxiliary power heater		kW	2 or 4			
Water flow temperature range	Cooling	°C	7 to 25			7 to 25	
	Heating	°C	25 to 60			25 to 60	
	DHW	°C	40 to 60			40 to 60	
Room temperature range			°C	5 to 35			



## WATER PRESSURE TANKS (HYDROPHORES)

### Accumulation of fresh drinking water

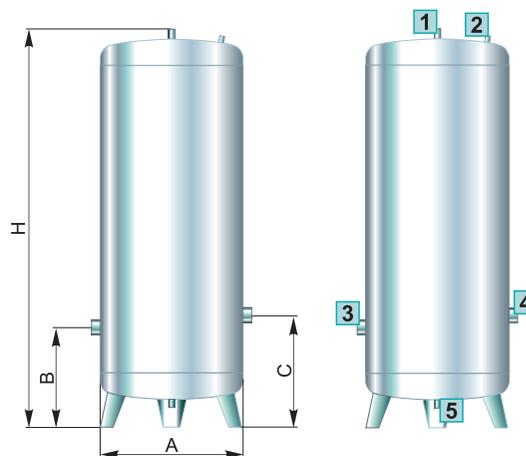
Water pressure tanks **CH** (Hydrophore vessels) with a volume of **90 to 300** liters are intended for the accumulation of fresh drinking water in households, catering and other facilities where it is necessary to have a larger amount of water at a certain pressure. They are often used for water accumulation in various technological processes in industry.

They are made of stainless steel using modern technologies, which guarantees high hygienic conditions and reliability in operation and long service life.



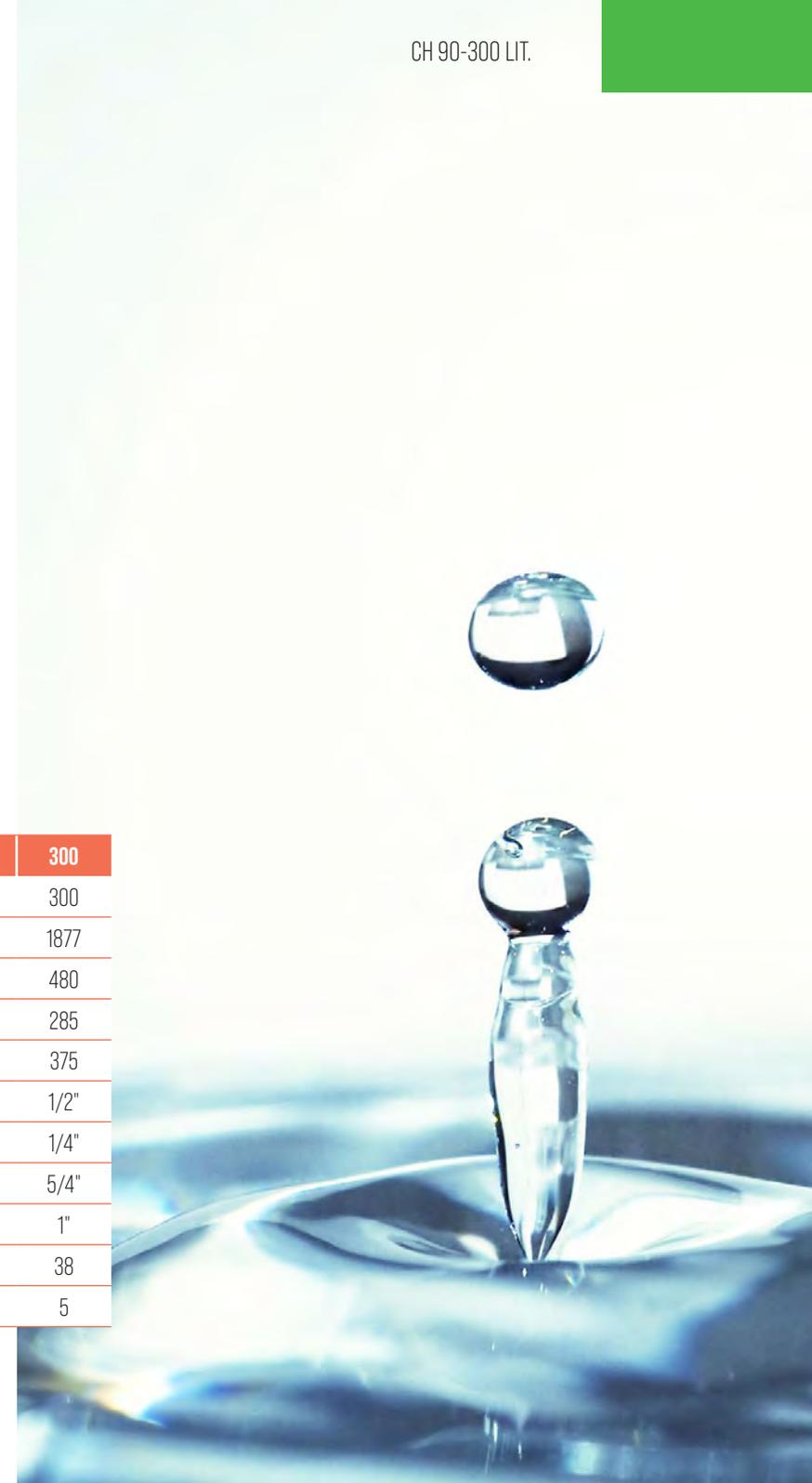
## Characteristics of CH hydrophore vessels:

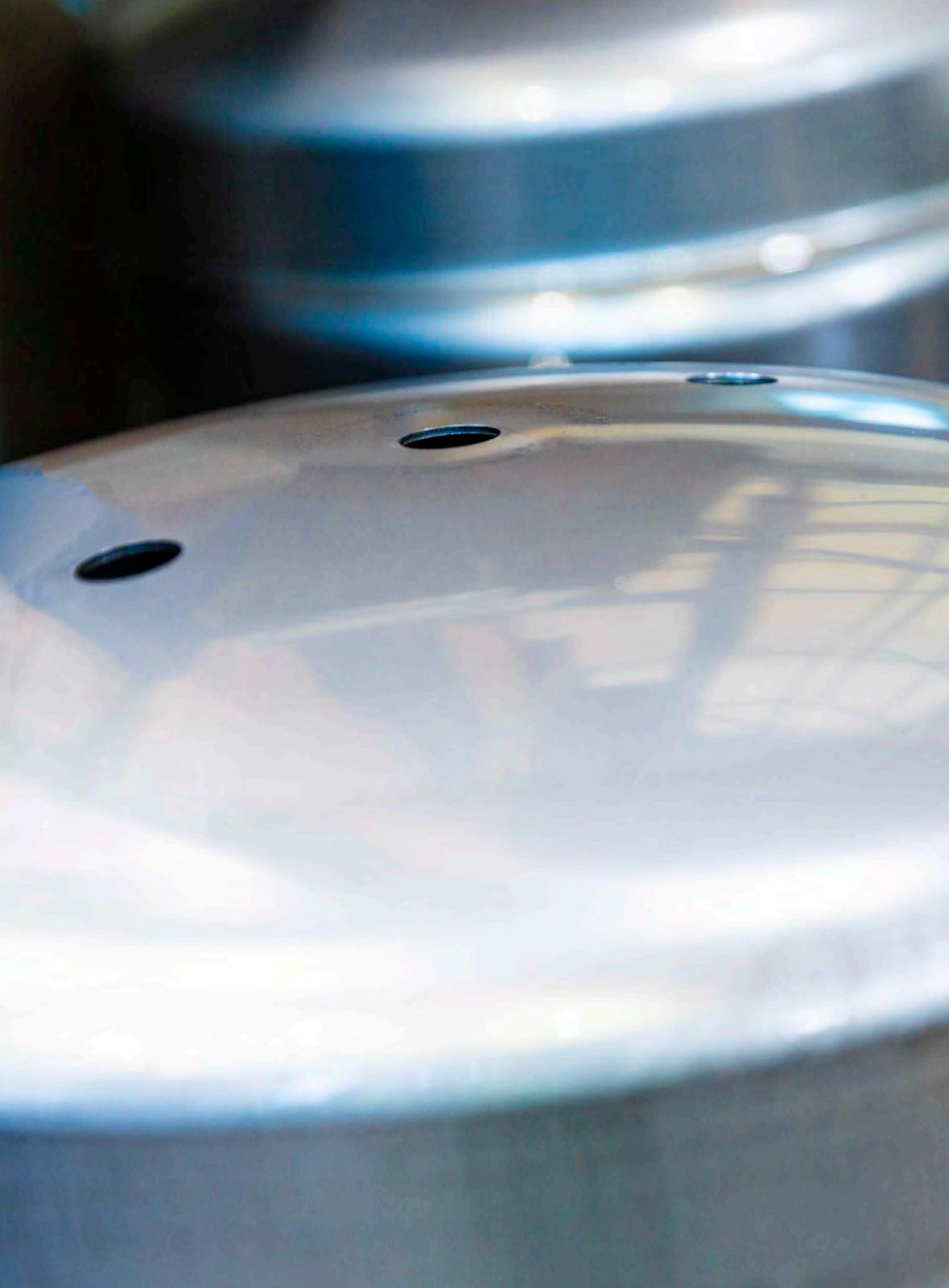
- Hydrophore vessel volumes: 90, 140, 180, 260 and 300 liters.
- Material: stainless steel.
- Max. operating overpressure: 5 bar.
- Prepared fittings with internal thread for all necessary equipment.
- They are made in accordance with the ISO 9001 standard.
- They have all the necessary certificates.



- 1 Connection - pressure switch
- 2 Connection - manometer
- 3 Connection - water inlet
- 4 Connection - water outlet
- 5 Drain

CH		90	140	180	260	300
Volume	(l)	90	140	180	260	300
Vessel height H	(mm)	689	977	1197	1627	1877
Vessel diameter A	∅ (mm)	480	480	480	480	480
Water inlet height B	(mm)	285	285	285	285	285
Water outlet height C	(mm)	375	375	375	375	375
Pressure switch connection	(R)	1/2"	1/2"	1/2"	1/2"	1/2"
Manometer connection	(R)	1/4"	1/4"	1/4"	1/4"	1/4"
Water inlet/outlet connection	(R)	5/4"	5/4"	5/4"	5/4"	5/4"
Drain connection	(R)	1"	1"	1"	1"	1"
Vessel mass	(kg)	17	22	25	38	38
Max. operating overpressure	(bar)	5	5	5	5	5







Centrometal d.o.o. is a family company that has grown up in a region with hard working people, surrounded by beautiful nature and with all its precious fruits. One of the fruits is certainly a good wine. The Zidarić family is extraordinarily proud of their own vineyard and vine cellars, which, without any doubt, are central to their spare time activities.

A high appreciation of sporting spirit and of a healthy life-style is expressed by the Zidarić family's sponsorship of sport teams and other outgoing activities. This is a demonstration that development of the company brings with it the development of the quality of life and the environment.



OKM Centrometal, Super League



NK Centrometal Macinec, the first county football league

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