Centrometal

HEATING TECHNIQUE

PRODUCT CATALOGUE

Dear Colleagues, dear present and future users of our products

A high quality product, effective use of the energy, protection of the environment and very satisfied customer are basic guidelines of Centrometal company today. This philosophy of our company is continuously present starting from evelopment, the production, use, up to maintenance of our products and includes also the training of our personnel.

If we could by any chance turn back into the past, in front of us we could see the 45-years old tradition of warm water boilers constructing. The tradition of the rest of our production program has almost the same age.

At the beginning of 1965. we opened the manufactory for assemblage and maintenance of central heating systems and we stepped into the world of the construction and development which in 1990 became a part of our company Centrometal d.o.o.

Traditionally hard-working people from Međimurje, cooperation with leading scientific institutes in many different fields, especially with the Faculty of engineering of the University of Zagreb, brought in the past few years a huge expansion of the company which today, with its own know-how, employs 236 workers. The company has also its own training center, testing station, a modern technological center as well as very developed range of service centers in the whole country.

"Centrometal" - view from air

The quality of products and management of the company are guaranteed by ISO 9001/2008 certificate and ISO 14001: 2004 Environmental Management System. The presence on many european markets are confirmed by locally issued certificates in accordance of the standards of each country.

Today Centrometal d.o.o. operates on about thirty european markets. The company has its own organized service net in 5 countries, which confirms not only the high quality of products but also the high level customer care.

We shall be very happy if some of our products in the future bring the warmth in your homes.

Davor Zidarić

Employees of Centrometal in front of the headquarters

Centrometal d.o.o. manufactures using up to date machines and technology, which assure high quality and consistency. Production of equipment in stainless steel is separated from the rest of the operations, in order to satisfy the particularly demanding quality standards of such work. Continuous modernizing of production methods supports the call for growth in capacity, simplifies the work itself and maintains the quality of our products. Our goal is total customer satisfaction.

Cutting of metal sheets using modern laser technology

Robotic welding of the boilers

Forming of metal sheet with hydraulic presses

Bending and perforation of metal sheet with modern CNC machines

Robotic welding of stainless steel water heaters

Automated welding of stainless steel water heaters

ISO certificate / labels

TÜV NORD

CERTIFICATE

Management system as per
EN ISO 9001 : 2008

In accordance with TÜV NORD CERT procedures, it is hereby certified that

Centrometal TEHNIKA GRIJANJA

Centrometal d.o.o.
Glavna 12
40306 Macinec
Croatia

applies a management system in line with the above standard for the following scope

Development and production of equipment and accessories for heating and sanitary water preparation: hot water boilers and electric boilers, sanitary water heaters and water supply pressure vessels

Certificate Registration No. 44 100 087121
Audit Report No. 10014560

Valid from 2014-12-14
Valid until 2017-11-25
Initial certification 2008

Certification Body
at TÜV NORD CERT GmbH

Zagreb, 2014-12-14

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH Langemarckstraße 20 45141 Essen www.tuev-nord-cert.com

DAkkS Deutsche Akkreditierungsstelle D-ZM-12007 01 01

CERTIFICATE TÜV NORD

Management system as per
EN ISO 14001 : 2004

In accordance with TÜV NORD CERT procedures, it is hereby certified that

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Glavna 12
40306 Macinec
Croatia

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Development and production of equipment and accessories for heating and sanitary water preparation: hot water boilers and electric boilers, sanitary water heaters and water supply pressure vessels

Certificate Registration No. 44 104 087121
Audit Report No. 10413129

Valid until 2017-01-14

Certification Body
at TÜV NORD CERT GmbH

Zagreb, 2014-01-15

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH Langemarckstrasse 20 45141 Essen www.tuev-nord-cert.com

IAF

TGA-ZM-07-06-60

We posses next labels:

CE

GOST-R

MCS

DIN Geprüft

WOOD FIRING MULTIPLE STAGES BOILERS
BIO-CET B 17-29 18/24/30 kW....6
BIO-PEK B 17-29 18/24/30 kW....8

COMBINED BOILERS (SOLID FUEL, PELLETS, OIL, GAS FIRING)
EKO-CK P 14-110 kW....10
EKO - CKB P 20-50 kW....12

SOLID FUEL FIRING BOILERS
EKO - CKS 150-380 kW....14
EKO - CKS 500 500 kW....16
Cyclone CC for boiler power 150 to 380 kW....18

BOILER WITH TWO COMBUSTION CHAMBERS
Centroplus /Centroplus-B 5-49kw 20
Equipment forCentroPlus /-B Pellet-set, oil set....22

WOOD FIRING BOILERS
BioSolid 17/26/34 kW....24
Bio-Tec 25/35/45 kW....26
BioTec-L 25/34/45 kW....28

BOILERS WITH TWO COMBUSTION CHAMBERS AND LAMBDA PROBE
BioTec-Plus 25/31/35/45 kW....30

BOILER RETURN LINE PROTECTION
ESBE VTC 512,513 32
ESBE LTC 261,271, CRA 111/121 33

ROOM PELLET STOVES
CentroPelet Z,ZR 6,42/9,05 kW....34
CentroPelet ZS 9 kW....36
CentroPelet ZV 12-30 kW....38

WOOD PELLET FIRING BOILERS
CentroPelet ZVB 14-29 kW....40
PelTec 12-48 kW....42
Pellet firing equipment Cm Pelet set 14 - 90 kW....44
EKO-CKS P UNIT 140 - 560 kW....46

ADDITIONAL EQUIPMENT FOR PELLET SYSTEMS
CPSP, CentroPelet box....48
Vacuum pellet supply....49
Pellet supply by a screw 50
Pellet supply from an impermeable outdoor silo....51

EQUIPMENT FOR WOOD CHIPS FIRING
BIO-CK P Unit 25-100 kW....52
EKO-CKS Multi 160-550 kW....54
EKO-CKS Multi Plus 170-580 kW....56
Wood chips storage and supply systems....58

ACCUMULATION TANKS FOR CENTRAL HEATING SYSTEMS
CAS-PBS 850 lit....59
CAS,-S,-B,-BS 475-5.055 lit....60

OIL / GAS FIRING BOILERS
EKO - CUP M3, EKO-CUP M3 Bg 18-80 kW....62
EKO - CUP S3 125-600 kW....64
EKO - CUP V3, EKO-CUP SV3 600-2.500 kW....66

FLUE GAS TUBES AND ELBOWS
Flue gas tubes and elbows ø118-ø300 mm....68

BOILER REGULATIONS WITH HEATING REGULATORS
Room thermostats 69
Boiler regulations Elfaterm E8....70
Merlin 5064V3 digital control....71

ELECTRIC BOILERS
El-Cm Compact 6-27 kW....72
El-Cm 30-51 kW....74

CONTAINER BOILER ROOMS (SOLID FUEL, PELLET, OIL, GAS FIRING)
EKO-CKK 18-1500 kW....76

INOX DOMESTIC WATER HEATERS
SKB Digi / LKB Digi 80-120 lit....78
TB 120-800 lit....80
STEB 200-600 lit....82

SOLAR COLLECTORS AND PUMP GROUPS
CPK-7210N Alu (flat)....84
CVSKC-10 (vacuum tube)....86
CSPG-279 HE / 3-way zone valve....88

SOLAR REGULATION AND DIFFERENTIAL THERMOSTAT
Solar regulation....89

WATER PRESSURE TANK
CH 90-300 lit....90

OTHER
Certificating Centrmetal products / Other activities....91


wood logs
up to 0,33m long


wood briquettes

BiO-CET B

BIO-CET B steel hot water boilers for solid fuel firing are engineered for central heating and for cooking. Heat output transferred to heating water is 12, 19 and 25 kW, and 5-6 kW is transferred to the surrounding space through the upper heating plate. The name "floor" does not exclude heating of more than one floor if the heating requirement is matched to output. They can be connected to closed and open central heating systems, with and without the accumulation tank. The boiler is easily adapted to requirements for space heating by changing the position of the firebox grate. Modern design and dimensions in line with usual furniture standards enable good integration into a kitchen space, as well as into any other room inside the house, that has a direct connection to the chimney. Boilers are manufactured to the EN 12815 standards and in accordance with ISO 9001 and ISO 14001.

CHARACTERISTICS OF BIO-CET B BOILERS:

- Hot water boilers for central heating systems and cooking produced for solid fuel firing.
- Some of the heat energy is transferred to the surrounding space through the upper heating plate.
- A carefully sized combustion chamber and a number of flue gas passes enable high performance temperature exchange and cooking on the upper plate.
- The option of changing the position of the firebox grate by an integrated mechanism enables cooking all year round.
- Standard form includes the heat exchanger and connection to the thermal safety valve which enables the installation to a closed central heating systems.
- The big door enables firing with big pieces of wood (33cm long), as well as easy cleaning and maintenance.
- Economically and ecologically highly acceptable.
- Standard delivery also includes the draught regulator and thermomanometer.
- The central heating circulation pump is controlled by a built-in thermostat.
- Integrated accumulation tank CAS/-B/-S/-BS enables easy cooking all year round.

LAYOUT:

Boiler BIO-CET B 23 i 29

Produced in two version:
- **BIO-CET B – D made in right version**
- **BIO-CET B – L made in left version**

Boilers can be connected to the chimney at the rear, lateral or top right side of the boiler - the right design or the rear, lateral or top left side of the boiler – left design.

Boiler BIO-CET B 17

Boilers are connected to the chimney from the upper side to the flue gas connector.


Stainless steel frame of heating panel


Three alternative connections to the chimney.


Boiler doors, Thermomanometer, Draught regulator

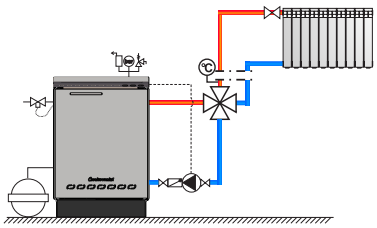

Connections for heating system, Thermal protection connections

BIO-CET B 17,23,29 (18-30 kW)

DELIVERY AND ADDITIONAL EQUIPMENT:

Delivery:

- Boiler with casing, a built-in thermal pressure gauge, draft regulator, pump thermostat, the cleaning kit and a handle for lifting the grate on a wooden pallet



Directly to the heating system

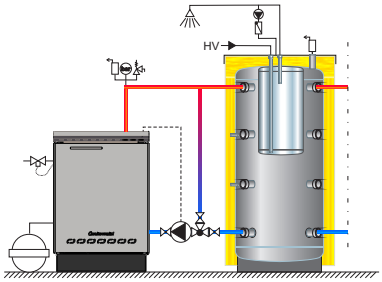
- manual 4-way mixing valve;

Closed heating system

- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system

- open expansion vessel



With CAS accumulation tank

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

Closed heating system

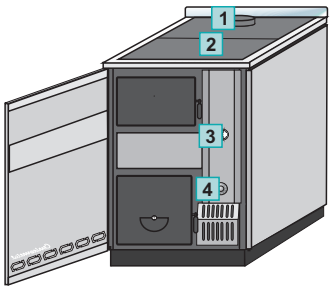
- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system

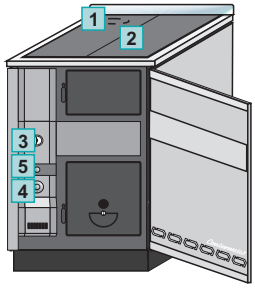
- open expansion vessel

BASIC DIMENSIONS:

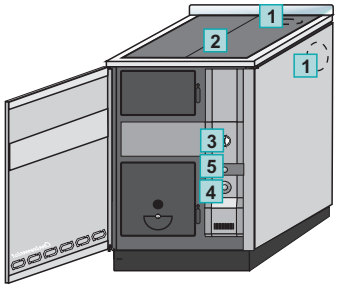
1 - Flue gas exhaust opening
2 - Upper plate
3 - Thermomanometer
4 - Draught regulator
5 - Opening for cleaning
6 - Boiler water inlet
7 - Connection for the installation of the thermal valve temperature sensor
8 - Heat exchanger connection
9 - Boiler outlet



BIO-CET B 17



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



BIO-CET B 23/29
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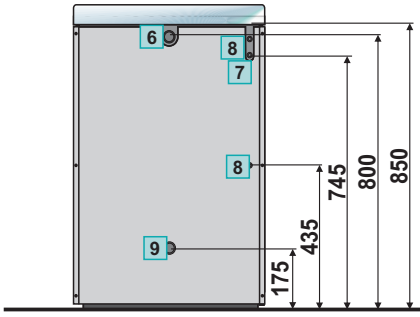
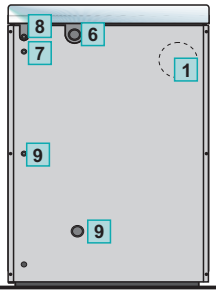
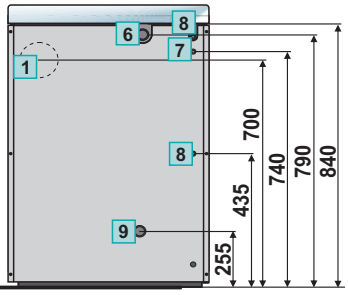


BIO-CET B 17



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



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

		BIO-CET B 17	BIO-CET B 23	BIO-CET B 29
Total thermal output	(kW)	18	24	30
Rated thermal output (water)	(kW)	12	19	25
Rated thermal output to the surrounding area	(kW)	6	5	5
Boiler water content	(lit.)	26	33	40
Boiler flue gas exhaust diameter	(mm)	118	150	150
Chimney draught	(Pa)	10	13	15
Depth of the boiler	(mm)	635	635	635
Width of the boiler	(mm)	460	600	715
Height of the boiler	(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
Boiler water inlet	(R)	1"	5/4"	5/4"
Boiler water outlet	(R)	1"	5/4"	5/4"
Max. operating temperature	(°C)	90	90	90
Max. operating pressure	(bar)	2,5	2,5	2,5
Boiler mass	(kg)	121	176	201

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.

wood logs
up to 0,33m long

wood briquettes

BIO-PEK B

BIO-PEK B steel hot water boilers for solid fuel firing are engineered for heating of smaller premises and for cooking and baking. Heat output transferred to heating water is 12, 19 and 25 kW, and 5-6 kW is transferred to the surrounding space through the upper heating plate. There is the option of a boiler with right or left connection to the chimney. If the heating output is sufficient, the boiler can produce the heating energy for more than a single floor. They can be connected to closed and open central heating systems, with and without the accumulation tank. The boiler is easily adapted to requirements for space heating by changing the position of the firebox grate. Modern design and dimensions in line with normal furniture standards enable integration into a kitchen space, as well as into any other room inside a house, that has a direct connection to a chimney. Boilers are manufactured to the EN 12815 standards and in accordance with ISO 9001 and ISO 14001.

CHARACTERISTICS OF BIO-PEK B BOILERS:

- **Hot water boilers for central heating systems, cooking and baking, that are produced for solid fuel firing.**
- **Additional thermal output is achieved through the upper heating plate.**
- **An appropriately sized combustion chamber and a number of flue gas passes enable high performance temperature exchange and cooking on its upper plate, as well as baking in the oven.**
- **The option of changing the position of the firebox grate by an integrated mechanism enables cooking and baking all year round.**
- **The wide oven permits the use of standard dishes.**
- **Fire-proof glass and a thermometer on the oven door enables checking of food in the oven.**
- **Standard delivery includes the heat exchanger and connection to the thermal valve which enables the installation also to closed central heating systems.**
- **The big door enables firing with large pieces (33cm long) of solid fuel, as well as easy cleaning and maintenance.**
- **The circulation pump of the central heating system is controlled by a factory fitted thermostat.**
- **Boilers can be connected to the chimney at the rear, lateral or top right side of the boiler - the right design or the rear, lateral or top left side of the boiler – left design.**
- **Standard delivery includes also the draught regulator and thermomanometer.**
- **Economical in use and ecologically acceptable.**
- **Integrated accumulation tank CAS/-B/-S/-BS enables easy cooking all year round.**

LAYOUT:

- **The boilers are produced in two versions:**
  - **BIO-PEK B – D made in right version**
  - **BIO-PEK B – L made in left version**

Stainless steel frame of heating panel

Three alternative connections to the chimney

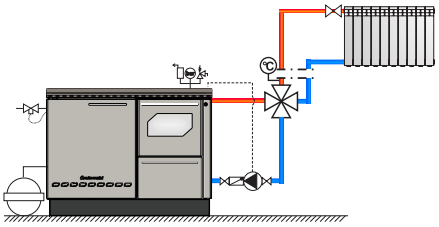
Integrated wood storage.

Boiler doors, thermomanometer, draught regulator

Connections for heating system, thermal protection connections

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:

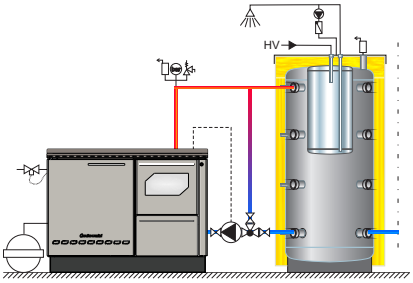
Delivery:
- Boiler with casing, built-in thermal pressure gauge, draft regulator, pump thermostat, the cleaning kit and a handle for lifting the grate on a wooden pallet



Directly to the heating system:
- manual 4-way mixing valve;

Closed heating system
- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system:
- open expansion vessel



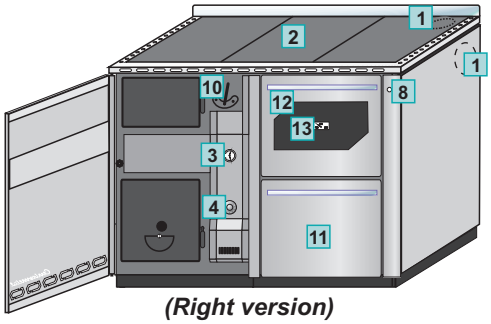
With CAS accumulation tank:
- accumulation tank CAS/-B/-S/-BS, 3-way thermostatic mixing valve LTC, VTC .. (60°C)

Closed heating system
- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system
- open expansion vessel

BASIC DIMENSIONS:

1 - Flue gas exhaust opening
2 - Upper plate
3 - Thermomanometer
4 - Draught regulator
5 - Boiler water inlet
6 - Connection for the installation of the thermal valve temperature sensor
7 - Heat exchanger connection
8 - Firing handle
9 - Boiler outlet
10 - Functioning regime handle
11 - Wood storage
12 - Oven
13 - Oven thermometer



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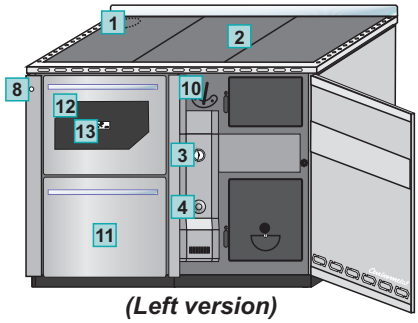

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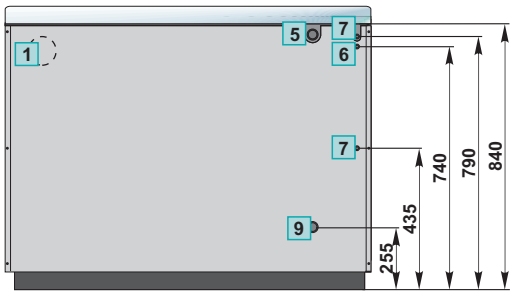
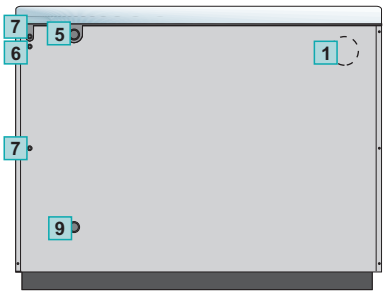




		BIO-PEK 17 B	BIO-PEK 23 B	BIO-PEK 29 B
Total thermal output	(kW)	18	24	30
Rated thermal output (water)	(kW)	12	19	25
Rated thermal output to the surrounding area	(kW)	6	5	5
Boiler water content	(lit.)	23	30	38
Boiler flue gas exhaust diameter	(mm)	150	150	150
Chimney draught	(Pa)	10	13	15
Depth of the boiler	(mm)	635	635	635
Width of the boiler	(mm)	1000	1100	1150
Height of the boiler	(mm)	885	885	885
Oven dimensions (wxhxd)	(mm)	400x260x415	400x260x415	400x260x415
Upper boiler door opening	(mm)	240 x 150	240 x 150	240 x 150
Boiler water inlet	(R)	1"	1"	5/4"
Boiler water outlet	(R)	1"	1"	5/4"
Max. operating temperature	(°C)	90	90	90
Max. operating pressure	(bar)	2,5	2,5	2,5
Boiler mass	(kg)	205	234	258

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.


wood logs
up to 0,5m long


wood briquettes


charcoal


wood pellets

with additional equipment

oil/gas

with additional equipment

EKO-CK P

The **EKO-CK P** steel hot water boilers (with nominal heat output 14 - 110 kW) are engineered for solid fuel, wood pellet, oil or gas firing to meet heating demands from the smallest to the largest premises, as a main or as an alternative heat source. This product can be easily recognized by its modern design, by its synthesis of modern technologies and its quality of material, as well as through its simple and easy assembly and its straightforward operation and control. The application of well developed and thoroughly tested technical solutions makes these boilers safe and reliable. A particular feature of these boilers is the ease of integration of any suitable burner and boiler controls. Boilers are manufactured to the EN 303-5 standard.

CHARACTERISTICS OF EKO-CK P BOILERS:

- **Hot water boiler for central heating systems is produced for solid fuel, pellets, oil or gas firing (nominal heat output 14 - 110 kW).**
- **A carefully sized combustion chamber with triple pass flue gas flow assure boiler operation at high efficiency. This makes the boilers very economical to use.**
- **The combustion chamber is made out of high quality 5 mm thick steel sheet.**
- **The large door and combustion chamber enable firing with big pieces of wood, as well as easy cleaning and maintenance. The direction the upper and lower doors swing is easily reversed.**
- **If required a thermal safety system can be built in through already prepared apertures.**
- **A thermostat for pump control is built in.**
- **The body of the boiler is delivered separately from the casing and the thermal insulation which enables easier transportation and assembly with reduced risk of damage.**
- **The basic standard boiler is delivered with a boiler water temperature gauge as well as a cleaning set with an ashtray.**
- **In the Cm Pelet-set of the boiler fired with wood pellets, there is a set for installation of a pellet burner on the lower boiler door, turbulators, a pellet burner, pellet container, pellet feeder and boiler regulation.**
- **If it is fired with oil or gas, a set for installation of an oil/gas burner and turbulators (their number depends on the power of the boiler) are required.**
- **The basic boiler regulator control unit of the burner (for oil/gas firing) is delivered separately. It can be connected via the upper casing lid of the boiler.**
- **The boiler is tested and certified to the European standard EN 303-5 and EN 304 and manufactured in accordance with ISO 9001 and ISO 14001 standard.**


Thermometer, Opening for draught regulator


The direction the lower door swing is easily reversed to the left or right.


Heat pump thermostat connector and connection for installation of thermal protection.

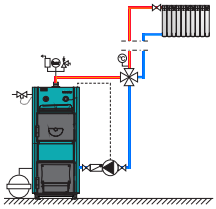

Set for cleaning


Boiler delivery

EKO-CK P 14-110 kW

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:

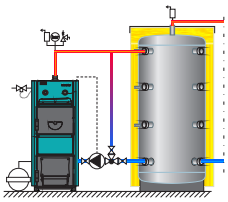
Delivery:
- Boiler body with the boiler door;
- Outer casing with thermal insulation and the heat pump thermostat, set (screws, dowels, plug, rosettes), cleaning accessories (scraper, poker, brush, accessories holder).



Solid fuel firing, without CAS accumulation tank:
- draught regulator, manual 4-way mixing valve;

Closed heating system
- thermal safety valve, heat exchanger, safety-air vent group (2.5 bar) and expansion vessel;

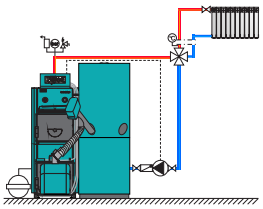
Open heating system
- open expansion vessel



Solid fuel firing, with CAS accumulation tank:
- draught regulator, CAS accumulation tank (min. 30 l/kW), 3-way thermostatic valve LTC, VTC, 3-way mixing valve with CRA111 motor actuator ... (60°C);

Closed heating system
- thermal safety valve, heat exchanger, safety-air vent group (2,5 bar) and expansion vessel;

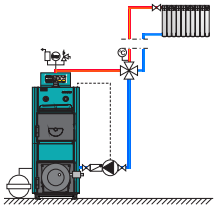
Open heating system
- open expansion vessel



Wood pellet firing:
- Cm Pelet-set;
- manual 4-way mixing valve or CAS accumulation tank (min. 10 l/kW) and LTC, VTC. (60°C);

Closed heating system
- safety-air vent group and expansion vessel;

Open heating system
- open expansion vessel



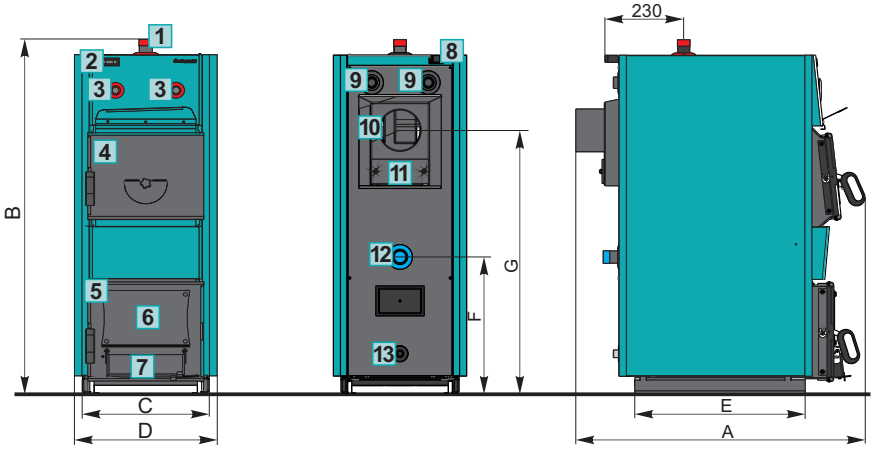
Oil/gas firing:
- boiler regulation EKO/CK/CKB;
- set for installation of the oil/gas burner with turbulators
- oil/gas burner;
- manual 4-way mixing valve

Closed heating system
- safety-air vent group and expansion vessel;

Open heating system
- open expansion vessel

BASIC DIMENSIONS:

1 - Boiler water inlet
2 - Thermometer
3 - Openings for draught reg.
4 - Upper boiler door
5 - Lower boiler door
6 - Opening for installation of the pellet/oil/gas burner
7 - Primary air door
8 - Pump thermostat connection
9 - Opening for thermal safety valves (1" inner thread)
10 - Boiler flue gas exhaust
11 - Opening for cleaning the smoke box
12 - Boiler water outlet
13 - Filling / draining



		14	20	25	30	35	40	50	60	70	90	110
Heat output range	(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
Diamet.*/height(G)of uptake tube	f(mm)	150/930	150/930	150/930	160/930	160/930	180/930	180/930	180/1025	200/1085	200/1085	200/1085
Opening for the burner (hxw)	(mm)	170x165	170x165	170x165	170x165	170x165	210x165	210x165	210x165	210x165	210x165	210x165
Upper door opening (hxw)	(mm)	321x273	321x273	321x273	371x273	421x273	471x273	471x273	471x273	471/275	521/275	521/275
Lower door opening (hxw)	(mm)	321x322	321x322	321x322	371x322	421x322	471x322	471x322	471x322	471/422	521/422	521/422
Chimney draught	(Pa)	15	16	18	19	20	21	23	25	26	29	31
Boiler water Inlet/Outlet	(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 temp. (o / g)	(°C)	170	170	170	170	170	170	180	180	190	200	200
Flue gas temp. (wood)	(°C)	190	190	190	190	190	190	220	220	230	240	240
Max. operat. temperature	(°C)	90	90	90	90	90	90	90	90	90	90	90
Max. operat. pressure	(bar)	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5
Depth boiler A	(mm)	985	985	1020	1020	1020	1020	1142	1142	1250	1250	1350
Height of the boiler B	(mm)	1255	1255	1255	1255	1255	1255	1255	1355	1430	1430	1430
Width of the body C	(mm)	420	420	420	470	520	570	570	570	570	620	620
Total width of the boiler D	(mm)	470	470	470	520	570	620	620	620	640	690	690
Depth of boiler base E	(mm)	565	565	600	600	600	600	725	725	815	815	915
Height of return line F	(mm)	485	485	485	485	485	485	485	485	630	630	630
Max. length wood piece	(mm)	500	500	500	500	500	500	500	500	500	500	500

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.


wood logs
up to 0,5m long


wood briquettes


charcoal


wood pellets

with additional equipment

oil/gas

with additional equipment

EKO-CKB P

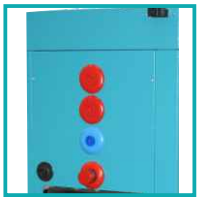
Steel hot water boilers EKO-CKB P (nominal heat output 20 - 50 kW) are engineered for solid fuel, wood pellet, oil or gas firing. They are members of the EKO-CK P boilers' family. Their additional special feature is a **stainless steel water heater** situated inside the boilers water. This makes this product particularly interesting, because it guarantees constant temperature of domestic hot water without further investment. This product can be easily recognized by its modern design, by its synthesis of modern technologies and its quality of material, as well as through its simple and easy assembly and its straightforward operation and control. The application of well developed and thoroughly tested technical solutions makes these boilers safe and reliable. A particular feature of these boilers is the ease of integration of any suitable pellet, oil or gas burner and boiler controls. Manufactured in compliance with European standards EN 304 and EN 303-5.

CHARACTERISTICS OF EKO-CKB P BOILERS:

- **Hot water boilers for central heating systems produced for solid fuel, wood pellet, oil or gas firing (nominal heat output 20 - 50 kW).**
- **The domestic hot water heater is made of a high quality stainless steel, which guarantees its high hygienic standard. Its position inside the boiler water allows the whole domestic water quantity to be hot in a short time.**
- **This built-in hot water heater does not require the application of an additional circulating pump, which otherwise would be connected when water heater is outside the boiler.**
- **A carefully sized combustion chamber with triple pass flue gas flow assure boiler operation at high efficiency. This makes the boilers very economical to use.**
- **The combustion chamber is made out of high quality 5 mm thick steel sheet.**
- **The large door and combustion chamber enable firing with big pieces of wood, as well as easy cleaning and maintenance. The direction the upper and lower doors swing is easily reversed.**
- **If required a thermal safety system can be built in through already prepared aperture.**
- **A thermostat for pump control is built in.**
- **The body of the boiler is delivered separately from the casing and the thermal insulation which enables easier transportation and assembly with reduced risk of damage.**
- **The basic standard boiler is delivered with a boiler water temperature gauge as well as a cleaning set with an ashtray.**
- **In the Cm Pelet-set of the boiler fired with wood pellets, there is a set for installation of a pellet burner on the lower boiler door, turbulators, a pellet burner, pellet container, pellet feeder and boiler regulation.**
- **If it is fired with oil or gas, a set for installation of an oil/gas burner and turbulators (their number depends on the power of the boiler) are required.**
- **The basic boiler regulator control unit of the burner (for oil/gas firing) is delivered separately. It can be connected via the upper casing lid of the boiler.**
- **The boiler is tested and certified to the European standard EN 303-5 and EN 304 and manufactured in accordance with ISO 9001 and ISO 14001 standard.**


Thermometer


The direction the lower door swing is easily reversed to the left or right.

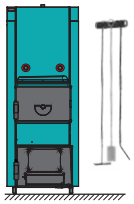

Domestic hot water connections, thermal protection sensor, Boiler water inlet


Set for cleaning

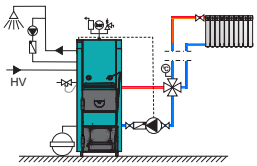

Boiler delivery

EKO-CKB P 20-50 kW

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



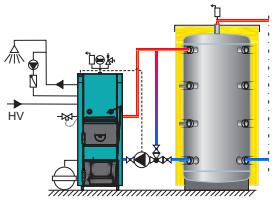
Delivery:
- Boiler body with the boiler door;
- Outer casing with thermal insulation and the heat pump thermostat, set (screws, dowels, plug, rosettes), cleaning accessories (scraper, poker, brush, accessories holder)



Solid fuel firing, without CAS accumulation tank:
- draught regulator, manual 4-way mixing valve;

Closed heating system
- thermal safety valve, heat exchanger, safety-air vent group (2.5 bar) and expansion vessel;

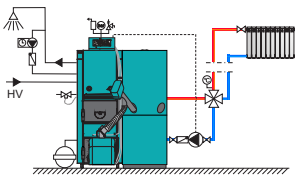
Open heating system
- open expansion vessel



Solid fuel firing, with CAS accumulation tank:
- draught regulator, CAS accumulation tank (min. 30 l/kW), 3-way thermostatic valve LTC, VTC.... (60°C);

Closed heating system
- thermal safety valve, safety-air vent group (2,5 bar) and expansion vessel;

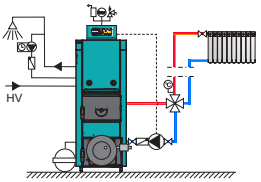
Open heating system
- open expansion vessel



Wood pellet firing:
- Cm Pelet-set;
- manual 4-way mixing valve or CAS accumulation tank (min. 10 l/kw) and LTC, VTC ... (60°C);

Closed heating system
- safety-air vent group and expansion vessel;

Open heating system
- open expansion vessel



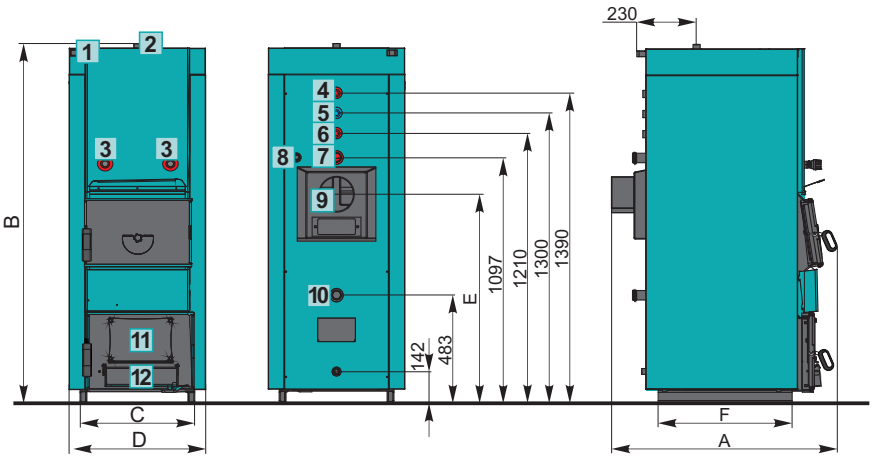
Oil/gas firing:
- boiler regulation EKO-CK/CKB;
- set for installation of oil/gas burner with turbulators
- oil/gas burner;
- manual 4-way mixing valve

Closed heating system
- safety-air vent group and expansion vessel;

Open heating system
- open expansion vessel

BASIC DIMENSIONS:

1 - Thermometer
2 - Safety line
3 - Opening for draught reg.
4 - Hot water outlet
5 - Circulation
6 - Cold water
7 - Boiler water inlet
8 - Opening for thermal safety valves (1" inner thread)
9 - Boiler flue gas exhaust
10 - Boiler water outlet
11 - Opening for installation of the pellet/oil/gas burner
12 - Primary air door



EKO - CKB P		20	25	30	35	40	50
Heat output range	(kW)	15-20	20-25	25-30	30-35	35-40	40-50
Water heater 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 exhaust (ext. diameter*)	ϕ(mm)	150	150	160	160	180	180
Opening for the burner (hxw)	(mm)	170x165	170x165	170x165	170x165	210x165	210x165
Upper door opening (hxw)	(mm)	321x273	321x273	371x273	421x273	471x273	471x273
Lower door opening (hxw)	(mm)	321X322	321x322	371x322	421x322	471x322	471x322
Chimney draught	(Pa)	16	18	19	20	21	23
Flue gas temp. (o / g)	(°C)	170	170	170	170	170	180
Flue gas temp. (wood)	(°C)	190	190	190	190	190	220
Max. operat. temperature	(°C)	90	90	90	90	90	90
Boiler water Inlet/Outlet	(R)	5/4"	5/4"	5/4"	5/4"	5/4"	54"
Filling/Draining	(R)	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Domestic water connections	(R)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Max. operat. pressure	(bar)	2,5	2,5	2,5	2,5	2,5	2,5
Width of the boiler body C	(mm)	420	420	470	520	570	570
Depth of boiler base F	(mm)	565	600	600	600	600	725
Total depth of the boiler A	(mm)	983	1020	1020	1020	1020	1140
Total width of the boiler D	(mm)	515	515	565	615	665	665
Total height of the boiler B	(mm)	1610	1610	1610	1610	1610	1610
Boiler flue gas exhaust height E	(mm)	930	930	930	930	925	925
Max. length wood piece	(mm)	500	500	500	500	500	500

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.


wood logs 1,2m long


wood briquettes


charcoal

EKO-CKS

The steel boilers **EKO-CKS** (nominal heat output **150 to 380 kW** are engineered to be connected to **open** central heating systems, for solid fuel firing and the heating of middle sized to large premises. They can be installed with direct connection to a chimney, or with connection through a cyclone and fan. They offer a successful combination of modern design and high tech and high quality materials, as well as easy assemblym and operation. The extensive application of thoroughly tested technical solutions and high quality materials, make these boilers safe and reliable.

CHARACTERISTICS OF EKO-CKS BOILERS:

- **Steel boilers for central heating systems engineered for wood/coal firing (nominal heat output 150-380 kW ...).**
- **A carefully sized combustion chamber with triple pass flue gas flow assures boiler operation at high efficiency. This makes the boiler very economical to use.**
- **The large door and combustion chamber enable firing with big pieces of wood, as well as easy cleaning and maintenance.**
- **The big upper door enables easy and quick cleaning from the front side of the boiler.**
- **The body of the boiler is delivered separately from the casing with thermal insulation enabling easier transportation and assembly with minimum risk.**
- **An advantage with these boilers is the possibility of fitting the casing after connection to the installation.**
- **These boilers are connected to open central heating systems.**
- **There is the option to build in a cyclone and flue gases exhaust fan.**
- **The boilers are manufactured in compliance with ISO 9001 and ISO 14001.**


Thermometer, Connection for draught regulator

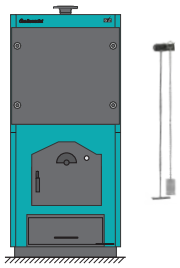

Upper and lower boiler door


Connections


Delivery of the boiler

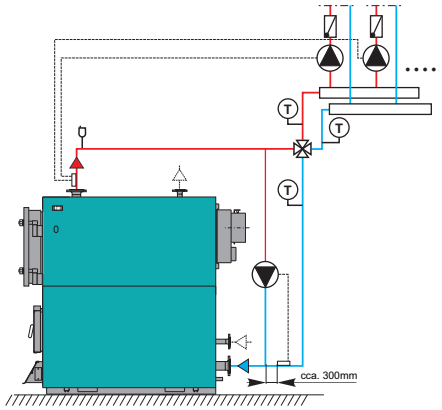
EKO-CKS 150-380 kW

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



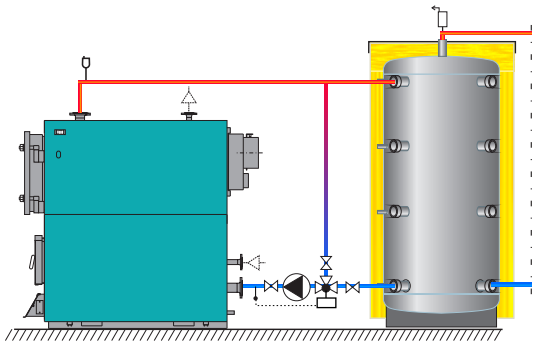
Delivery:

- Boiler body with the boiler door;
- Outer casing with thermal insulation, a thermometer, draught regulator, cleaning accessories (scraper, brush, accessories holder)



Connection to the heating system:

- Safety boiler pump and heat pump thermostat (0-65°C);
- Manual 4-way mixing valve
- Open expansion vessel



Connection to the heating system with CAS accumulation tank (recommended)

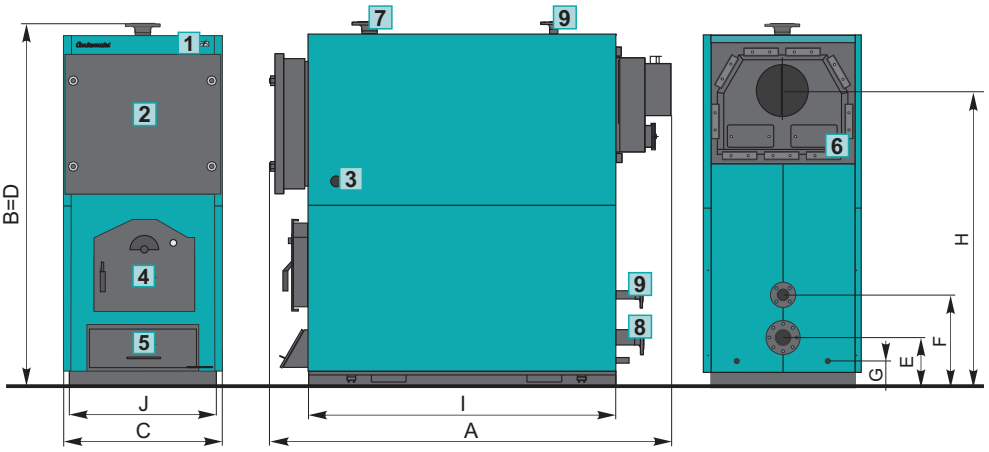
- Boiler pump;
- 3-way mixing valve with the motor actuator with controller (as ESBE CRA)
- CAS accumulation tank (min. 30 l/kW)
- open expansion vessel

Possible additional equipment:

- cyclone with the fan and controller

BASIC DIMENSIONS:

1 - Thermometer
2 - Upper door
3 - Opening for draught regulator
4 - Lower door
5 - Primary air door/ cleaning
6 - Opening for cleaning the smoke chamber
7 - Water boiler inlet
8 - Boiler outlet
9 - Connections for the open expansion vessel



EKO-CKS		150	200	250	300	380
Heat output range	(kW)	110-150	150-200	200-250	250-300	300-380
Boiler water content	(l)	380	520	790	963	1155
Boiler mass	(kg)	812	1027	1476	1757	1986
Boiler flue gas exhaust diameter*	f(mm)	250	300	300	300	300
Boiler flue gas exhaust height H	(mm)	1285	1300	1705	1705	1710
Chimney draught	(Pa)	34	38	42	45	50
Inlet/outlet	(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. operat. temperature	(°C)	100	100	100	100	100
Max. operat. pressure	(bar)	4	4	4	4	4
Total depth of the body A	(mm)	1590	1980	2000	2350	2350
Total height of the body B	(mm)	1600	1600	2100	2100	2100
Total width of the body C	(mm)	815	815	920	920	1065
Height of the inlet line D	(mm)	1600	1600	2100	2100	2100
Height of the outlet line E	(mm)	250	250	250	250	250
Height of the safety outlet line F	(mm)	500	500	500	500	500
Height filling/draining G	(mm)	155	155	155	155	155
Dimension I/J	(mm)	990x745	1390x745	1390/850	1740/850	1740/995
Combustion chamber dimensions	(mm)	450x385	450x385	500x590	500x590	600x585
Max. log length	(mm)	600	1000	1000	1350	1350

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.


wood logs 1,2m long


wood briquettes


charcoal

EKO-CKS 500

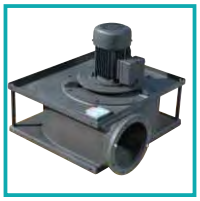
The **EKO-CKS 500** steel hot water boilers (with rated thermal output 500 kW) are engineered to be connected to **open** central heating systems, for solid fuel firing. They are constructed for connection to a chimney through a cyclone and fan. The boiler (fan) regulation controls its functioning. The successful application of modern technologies and high quality materials as well as thoroughly tested technical solutions, make these boilers safe, reliable and easy to assemble.

CHARACTERISTICS OF EKO-CKS 500 BOILERS:

- **Steel hot water boilers for central heating with rated output 500 kW.**
- **They are engineered for solid fuel firing (wood, low-calorie coal ...).**
- **Designed for connection to an open central heating system.**
- **A carefully sized combustion chamber with triple pass flue gas flow assures boiler operation at high efficiency. This makes the boiler very economical to use.**
- **The large door and combustion chamber enable firing with big pieces of wood, as well as easy cleaning and maintenance.**
- **Maximum working pressure is 4 bars, which enables connection to large heating systems.**
- **Connected to the chimney only through a cyclone and fan.**
- **The Cyclone CC 500, the fan for flue gases and the boiler regulator control comprises the required set.**
- **The Cyclone CC has a dust cleaning function from the flue gases.**
- **The fan pulls the fresh air into the combustion chamber. The flue gases are drawn out through the chimney.**
- **The regulator controls boiler operation. Linked to a thermostat, it activates the pump when the boiler temperature exceeds 75 °C and controls the protecting pump function (at 0-60 °C) and the fan. The fan switching is integrated.**
- **The large upper door enables easy and quick cleaning from the front side of the boiler.**
- **The body of the boiler is delivered separately from the casing with thermal insulation. This enables uncomplicated transport and reduces the risk of damage to a minimum.**
- **The boiler manufactured in accordance with ISO 9001 and ISO 14001.**


Lower boiler door and primary air door

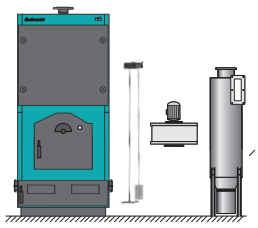

Boiler regulation


Exhaust fan

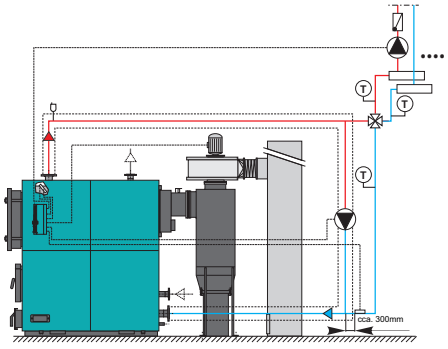

Cyclone


Boiler delivery

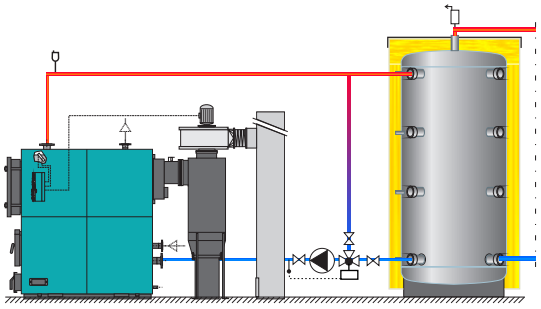
DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



Delivery:
- Boiler body with the boiler door;
- Outer casing with thermal insulation, a thermometer, cleaning accessories (scraper, poker, brush, accessories holder), cyclone CC for dust cleaning
- Fan for flue gases
- Boiler regulator control



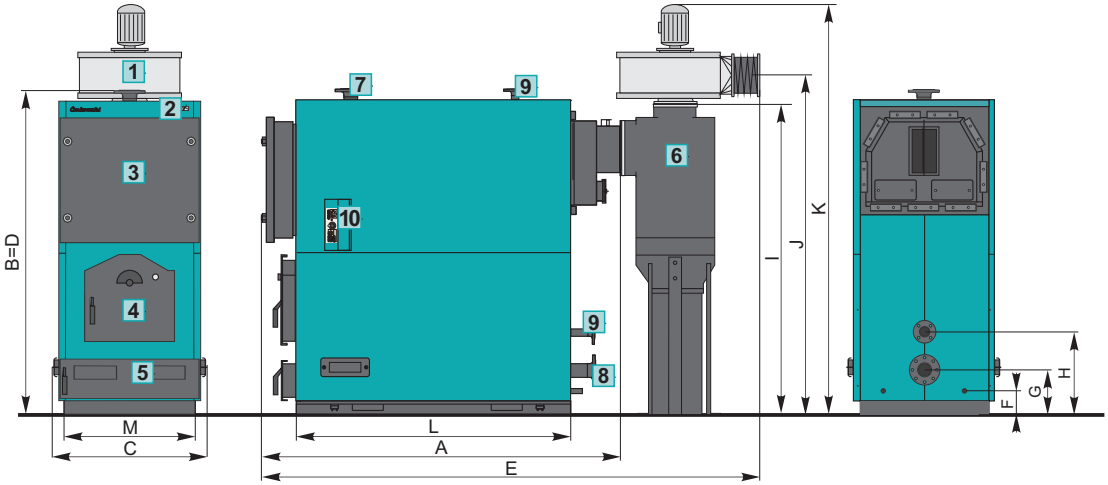
Connection to the heating system:
- Safety boiler pump
- Manual 4-way mixing valve
- Open expansion vessel



Connection to the heating system with CAS accumulation tank
- Boiler pump;
- 3-way mixing valve with the motor actuator with regulation (such as ESBE CRA)
- CAS accumulation tank (min. 30 l/kW)
- Open expansion vessel

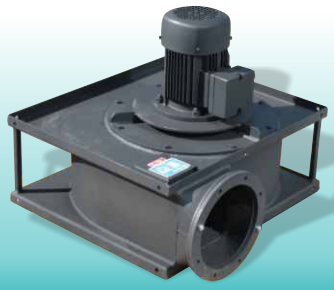
BASIC DIMENSIONS:

1 - exaust fan
2 - thermometer
3 - upper door
4 - lower door
5 - primary air door / cleaning
6 - cyclone
7 - boiler water inlet
8 - boiler water outlet
9 - Connections for the open expansion vessel
10 - boiler regulation

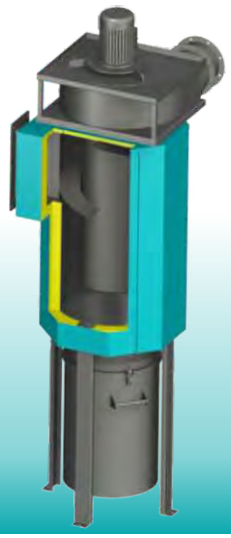


EKO-CKS 500		500
Heat output range	(kW)	380 - 500
Boiler water content	(l)	1700
Boiler mass	(kg)	2920
Cyclone mass	(kg)	165
Fan mass	(kg)	44
Boiler flue gas exhaust diameter	(mm)	f202
Boiler flue gas exhaust height J	(mm)	2505
Inlet/outlet	(DN)	100
Filling/draining	(G)	6/4"
Safety line	(DN)	50
Max. operat. temperature	(°C)	100
Max. operat. pressure	(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
Height of the inlet line D	(mm)	2540
Height of the outlet line G	(mm)	670
Height of the safety outlet line H	(mm)	920
Height filling/draining F	(mm)	600
Dimension L/M	(mm)	2000/1245
Combustion chamber dimensions	(mm)	615 x 700
Max. log length	(mm)	1500

CYCLONE CC

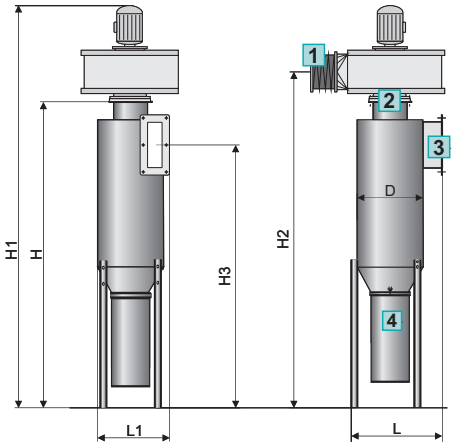


The Cyclone CC with the fan and the boiler controller are designed to be connected to EKO-CKS solid fuel firing boilers from 150 to 380 kW. Their function is to drive out the flue gases and to extract dust particles from the flue gases. The boiler controller regulates the boiler (and fan), protecting pump and heating pump. By installing the Cyclone CC, the fan and the boiler controller, the required height of the chimney can be reduced, since the boiler is not connected directly to the chimney. The Cyclone and fan are made out of high quality materials and protected by a suitable finish.



CHARACTERISTICS OF THE CYCLONE CC:

- **Designed to be connected to EKO-CKS solid fuel firing boilers from 150 to 380 kW ready prepared for their connection.**
- **The cyclone is designed to separate and collect particles from the flue gases.**
- **The fan is used to drive out flue gases (fresh air is pulled into the combustion chamber, flue gases are drawn out from the boiler and discharged through the chimney into the environment).**
- **The controller regulates boiler operation. Linked to a thermostat, it activates the pump when the boiler temperature exceeds 75°C and controls the protecting pump function (at 0-60 °C) and the fan.**
- **They reduce the height of the chimney unlike the case when the boiler is connected directly to the chimney.**
- **They are supplied exclusively for boilers EKO-CKS 150-380 kW ready prepared for their connection.**



1 - connection to the chimney
2 - connection to the fan
3 - connection to the boiler
4 - draining / cleaning damper

Cyclone type for the boiler		CC 150-200 EKO-CKS 150/200	CC 250 EKO-CKS 250	CC 300-380 EKO-CKS 300/380
Total height of the Cyclone H	(mm)	1475	1988	1940
Total height of the Cyclone and the fan H1	(mm)	1930	2440	2515
Height flue gas exhaust H2	(mm)	1605	2060	2090
Boiler connection height H3	(mm)	1284	1705	1705
Total depth of the Cyclone L	(mm)	566	612	718
Total width of the Cyclone L1	(mm)	458	498	607
Flue gas exhaust diam. AxB	(mm)	160 x 160	160 x 160	Ø 202
Cyclone diameter D	(mm)	Ø 380	Ø 426	Ø 526
Cyclone mass	(kg)	61	88	114
Fan mass	(kg)	35	35	44
Fan power	(W)	550	550	1100
Connection to the electric power net	(V/Hz)	400/50	400/50	400/50

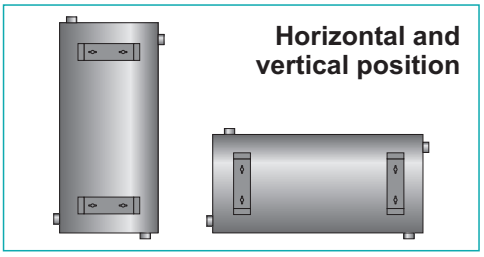
OPC

OPC Open Expansion Vessels are engineered for installation in open central heating systems. They are made of welded steel construction and painted in a basic colour. Ready to be installed on to vertical surface (wall or carrier), in a **horizontal** or **vertical** position. Standard specification does not include insulation.

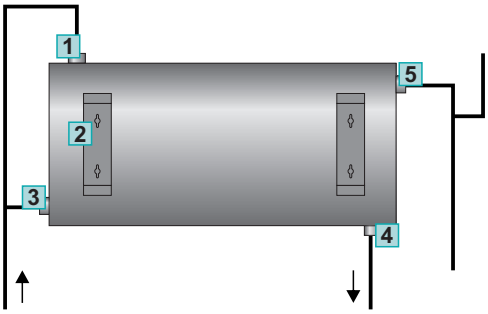
TECHNICAL CHARACTERISTICS OF EXPANSION VESSEL OPC:

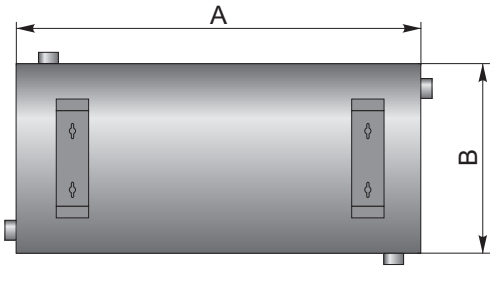
- Open expansion vessels with volumes of 30, 50, 100 or 200 litres.
- Construction material: steel HRN EN S235JRG2.
- Maximum working pressure - allocated at the highest point of an open central heating system on normal environment pressure.
- Connection elements for installation already provided.
- Standard specification does not include insulation.
- Manufactured in accordance with ISO 9001 and ISO 14001.

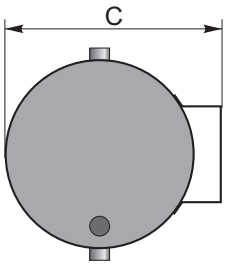
BASIC DIMENSIONS:



1 - Safety line
2 - Expansion vessel porter
3 - Circulation line
4 - Safety outlet
5 - Water and air draining point







OPC		30	50	100	200
Capacity	(lit.)	30	50	100	200
Vessel lenght A	(mm)	500	750	835	1150
Vessel diameter B	(mm)	300	300	400	480
Total width C	(mm)	350	350	455	535
Connection	(R)	1"	1"	5/4"	6/4"
Mass	(kg)	13	18	26	42


wood logs
up to 0,5m long


wood briquettes


charcoal


wood pellets

with additional equipment

oil/gas

with additional equipment

CentroPlus and CentroPlus-B

The steel hot water boilers **CentroPlus and CentroPlus-B** (nominal heat output of 25 and 35 kW) have two separate combustion chambers inside the boiler water. The left combustion chamber is used for solid or liquid fuel firing, the right combustion chamber is used for pellet or liquid fuel firing. The possibility of a combination of solid fuel firing and automatic start-up of the oil and pellet burner at a time when the solid firing does not meet the need any more, make this boiler particularly interesting. The specific quality of CentroPlus-B boilers is a built-in stainless steel hot water heater situated inside the boiler's water which makes it very interesting because it provides continuous heating of hot water in the boiler without additional investment. A successful combination of modern technologies and high-quality construction materials as well as proven technical solutions make these boilers safe, reliable and easy to assemble. They are made in accordance with the European standard EN 304 and EN 303-5.

CHARACTERISTICS OF CentroPlus and CentroPlus-B

- **Hot water boiler CentroPlus is intended for central heating and designed for solid fuel, solid and liquid fuel firing, solid fuel and pellet firing and liquid fuel and pellet firing with the rated output of 25, 35 and 49 kW.**
- **Ability to interchange the uses of combustion chambers.**
- **Only one flue exhaust connection.**
- **Ability to connect thermal safety unit into prepared openings.**
- **The body of the boiler is delivered separately from the casing with thermal insulation, and the oil burner and pellet set. This enables uncomplicated transport and reduces the risk of damage to a minimum.**
- **The delivery of the boiler includes a thermometer, cleaning accessories, ashtrays and drought regulator.**
- **The CentroPlus-B boiler has a built-in stainless steel water heater, which does not require a separate circulation pump. This would be necessary if the water heater were separated from the boiler.**
- **The boiler is tested and certified to the European standard EN 303-5 and EN 304 and manufactured in accordance with ISO 9001 and ISO 14001standard.**

<u>Solid fuel / oil combustion chamber:</u>

- **A carefully sized combustion chamber with triple pass flue gas flow assures boiler operation at high efficiency. This makes the boiler very economical to use.**
- **The large door and combustion chamber enable firing with big pieces of wood, as well as easy cleaning and maintenance.**

<u>Oil / pellet combustion chamber:</u>

- **A carefully sized combustion chamber with triple pass flue gas flow and turbulators for better heat exchange assure boiler operation at high efficiency. This makes the boilers very economical to use.**
- **The large water capacity inside the boiler reduces the number of firings, prolongs its life and saves energy.**
- **The boiler door is ready prepared for connection of the pellet/oil burner.**


Thermometer, Opening for draught regulator


Connections to the CentroPlus boiler

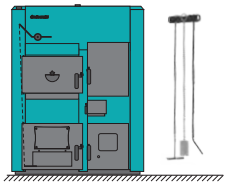

Cables holder


Set for cleaning

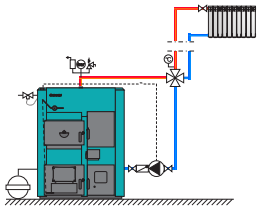

Boiler delivery CentroPlus


Boiler delivery CentroPlus-B

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



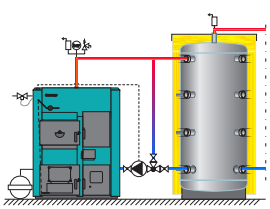
Delivery:
- Boiler body with the boiler door;
- Outer casing with thermal insulation, a heat pump thermostat, draughts regulator, set (screws, dowels, plug, rosettes), cleaning accessories (scraper, poker, brush, accessories holder).



Solid fuel firing, without CAS accumulation tank:
- manual 4-way mixing valve;

Closed heating system
- thermal safety valve, heat exchanger (only 49 kW), safety-air vent group (2.5 bar) and expansion vessel;

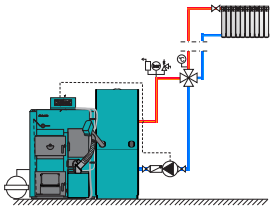
Open heating system
- open expansion vessel



Solid fuel firing, with CAS accumulation tank:
- CAS accumulation tank (min. 30 l/kW), 3-way thermostatic valve LTC, VTC....(60°C);

Closed heating system
- thermal safety valve, heat exchanger (only 49 kW), safety-air vent group (2,5 bar) and expansion vessel;

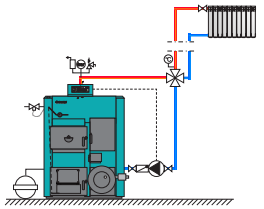
Open heating system
- open expansion vessel



Wood pellet firing only:
- Cm Pelet-set with the fan lid;
- manual 4-way mixing valve or CAS accumulation tank (30 l/kW) and LTC, VTC .. (60°C);

Closed heating system
- safety-air vent group and expansion vessel;

Open heating system
- open expansion vessel



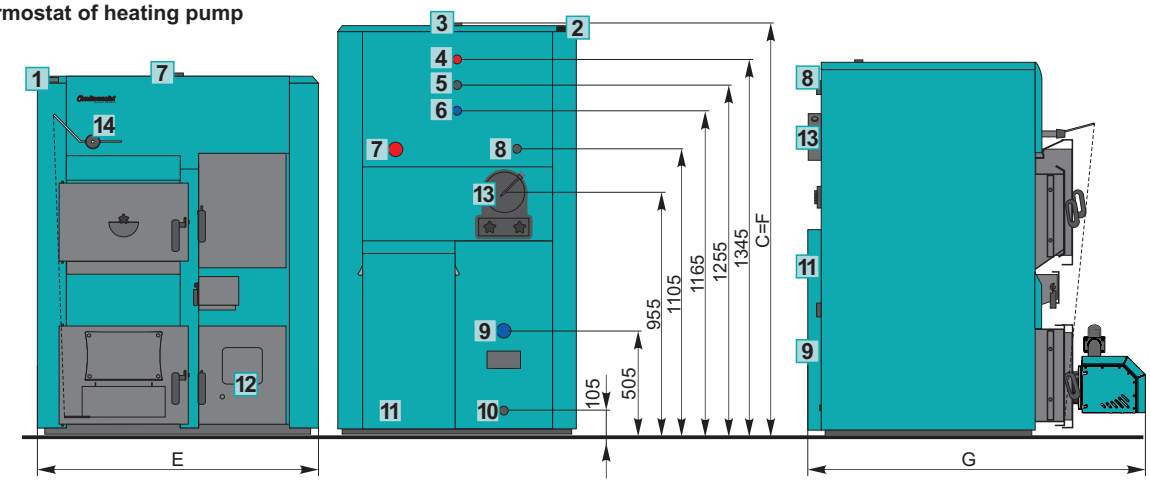
Oil/gas firing only:
- boiler regulation EKO-CK/CKB; OIL/GAS regulation
- oil burner; manual 4-way mixing valve or CAS accumulation tank and LTC, VTC ... (60°C);

Closed heating system
- safety-air vent group and expansion vessel;

Open heating system
- open expansion vessel

BASIC DIMENSIONS:

1 - Thermometer
2 - Connection to the thermostat of heating pump
3 - Safety line
4 - Hot water DHW
5 - DHW recirculation
6 - Cold water DHW
7 - Water inlet
8 - Opening for thermal safety valves
9 - Water outlet
10 - Filling/Draining
11 - Ashtray
12 - Door for installation of the pellet/oil burner
13 - Chimney
14 - Draught regulator



		Centroplus			Centroplus-B		
		25	35	50	25	35	50
Heat output range	(kW)	25	35	49	25	35	49
Boiler water content	(l)	175	190	243	192	192	243
Water heater content	(l)	-	-	-	80	80	100
Boiler mass	(kg)	464	522	650	512	522	650
Diameter*/height of uptake tube	f(mm)	150/955	160/955	180/955	150/955	160/955	180/955
Chimney draught	(Pa)	17	19	22	17	19	22
Boiler water Inlet/Outlet	(R)	5/4"	5/4"	5/4"	5/4"	5/4"	5/4"
Safety line	(R)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Filling/Draining	(R)	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Domestic water connections	(R)	-	-	-	3/4"	3/4"	3/4"
Connection for recirculation	(R)	-	-	-	3/4"	3/4"	3/4"
Max. operat. temperature	(°C)	90	90	90	90	90	90
Max. operat. pressure	(bar)	2,5	2,5	2,5	2,5	2,5	2,5
Dim. of the body AxBxC	(mm)	1065x820x1260	1065x890x1260	1140x1040x1260	1070x820x1560	1065x890x1560	1140x1040x1560
Total dim. of the body DxExF	(mm)	1065x915x1260	1065x1015x1260	1140x1145x1260	1065x915x1560	1065x1015x1560	1140x1145x1560
Depth of boiler base	(mm)	635	635	710	635	635	710
Total depth with burner G	(mm)	1350	1350	1420	1350	1350	1420

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.

CentroPlus and CentroPlus-B solid fuel and wood pellet fired boilers:

The steel hot water boiler **CentroPlus** and **CentroPlus-B** can be fired with wood pellets and with solid fuel. For wood pellet firing the **Cm Pelet-set** for **CentroPlus** must be added (volume of the pellet tank 0,37 m3 or 0,8 m3). In addition to wood pellet only and solid fuel only firing there is the availability of the prime fuel firing with automatic start-up of the secondary burner whenever the solid fuel feeding is insufficient to sustain the required water temperature.

This “mini-plant” is controlled by a digital regulator and draught regulator, if the boiler is fired by the solid fuel. The pellet tank is an integral part of the plant and it is filled up from its upper side, according to need. With pellet firing, there is a possible fuel cost saving of up to 40%, compared with the oil feeding system. Alternatively, an oil burner can be connected to the boiler and the boiler control function for CentroPlus, i.e. in the pellet/oil or oil/solid fuel version.

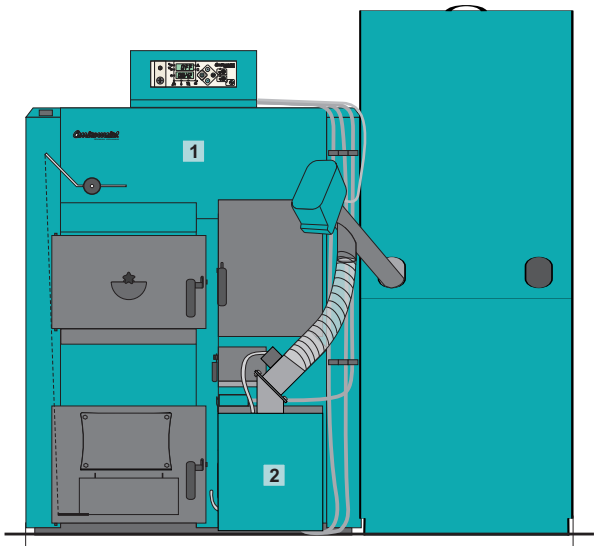
CentroPlus and CentroPlus-B for solid and oil firing

The steel hot water boilers **CentroPlus** and **CentroPlus-B** can be fired by solid fuel and oil. For this kind of firing, an **oil burner and the boiler controller** for EKO-CK/CKB should be fitted. In addition to liquid fuel only or only solid fuel only firing, there is the availability of solid fuel firing with automatic start-up of the oil burner whenever the solid fuel feeding is insufficient ti sustain the required water temperature. This “mini-plant” is controlled by a digital regulator and draught regulator, if the boiler is fired by solid fuel. Alternatively, a Cm Pelet-set for CentroPlus can be connected to the boiler i.e. in the pellet/oil or pellet/solid fuel version.

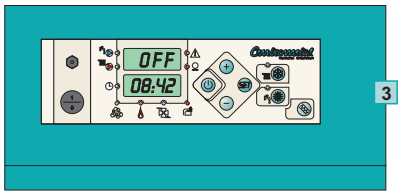
CentroPlus and CentroPlus-B for oil and wood pellet firing

The steel hot water boilers **CentroPlus** and **CentroPlus-B** can be fired by wood pellets and by oil. For this kind of firing, the **Cm Pelet-set for CentroPlus together with the boiler regulator for the pellet/oil burner** (volume of the pellet tank 0,37 m3 or 0,8 m3) must be fitted. In addition to pellet firing or oil firing alone, there is the availability of pellet firing with automatic start-up of the oil burner whenever, for example the pellets are burned out. This “mini-plant” is controlled by the integrated digital boiler regulator, which regulates both burners. The pellet tank is an integral part of the plant and it is filled up from the upper side, according to need. If the oil burner is removed, there is the option of solid fuel/pellet firing in combination. Alternatively by fitting the oil burner, there is the option of a solid/liquid firing combination.

CentroPlus and CentroPlus-B: SOLID FUEL / WOOD PELLETS



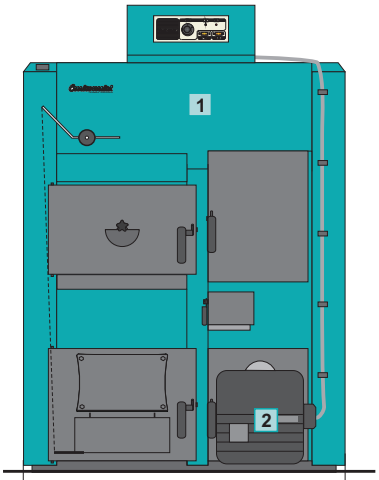
CentroPlus /-B 25 kW = 1540 mm
CentroPlus /-B 35 kW = 1640 mm
CentroPlus /-B 49 kW = 1770 mm



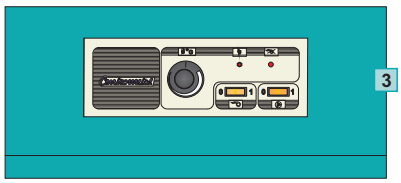
Basic parts:

1 Boiler CentroPlus /-B
2 Cm Pelet-set with a fan lid for CentroPlus:
- pellet burner
- digital pellet controller
- pellet tank (0,37 or 0,8 m^3)
- feeder screw
3 Digital pellet controller

Kotao CentroPlus nd CentroPlus-B: SOLID FUEL / OIL



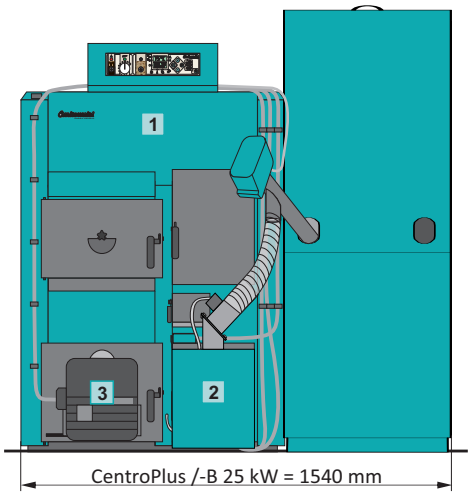
CentroPlus /-B 25kW = 915mm
CentroPlus /-B 35kW = 1015mm
CentroPlus /-B 49kW = 1145mm



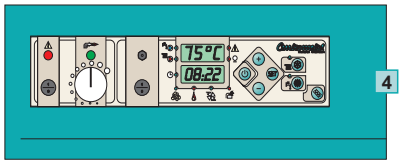
Basic parts:

1 Boiler CentroPlus /-B
2 Oil burner
3 Controller EKO-CK/CKB

Boiler CentroPlus and CentroPlus-B: OIL / WOOD PELLETS



CentroPlus /-B 25 kW = 1540 mm
CentroPlus /-B 35 kW = 1640 mm
CentroPlus /-B 49 kW = 1770 mm



Basic parts:

1 CentroPlus /-B
2 Cm Pelet-set with a fan lid for CentroPlus:
- pellet burner
- digital pellet controller
- pellet tank (0,37 or 0,8 m^3)
- feeder screw
3 Oil burner
4 Controller CentroPlus oil/wood pellets


wood logs
up to 0,33/0,5 m long

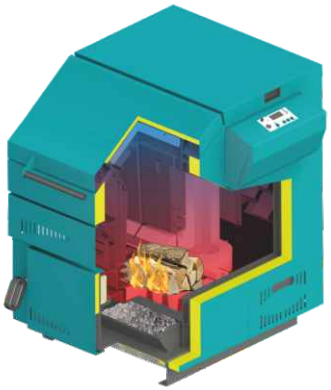

wood briquettes

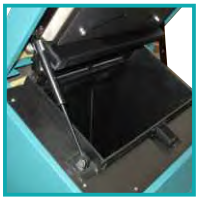
BioSolid

BioSolid steel hot water boilers, with nominal heat outputs of 17, 26 and 34 kW are designed for wood firing. They are characterized by low CO emissions and very high efficiency rates – up to 86 %. They are intended for heating of small and middle sized premises. The big combustion chambers enable the burning of wood pieces with lengths up to 500 mm (26 and 34 kW boilers) and 330 mm (17 kW boilers). The boiler is operated with a factory-fitted digital control. The boiler can be connected to the heating system indirectly through an appropriate number of CAS accumulation tanks or directly. Boiler cleaning is very simple, either from the front or one side.

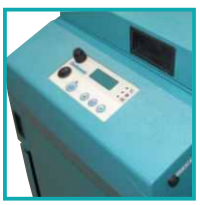
CHARACTERISTICS OF BioSolid BOILERS:

- **Steel hot water boilers for central heating designed for wood log firing, with nominal heat outputs of 17, 26 and 34 kW.**
- **A carefully sized combustion chamber and flue gases tubes with fireclay linings ensure high efficiency of the boiler (up to 86%) making it very economical.**
- **Ecologically acceptable because of low emission of harmful components (CO) in the flue gases.**
- **The large door and openings for cleaning on upper side of the boiler enables firing with big pieces of wood, as well as easy cleaning and maintenance.**
- **The large combustion chamber enables firing with wood pieces having length up to 500 mm (26 and 34 kW boilers) and 330 mm (17 kW boilers).**
- **The burning period for a single loading is at least 2 hours at full nominal boiler output and this can be extended to the whole day at lower heating demand.**
- **Thermal protection can be implemented through prepared apertures.**
- **Boilers are factory-fitted with a digital controller which regulates operation of the fan and heat pump.**
- **Delivered pre-wired, with thermal insulation casing, on a wood pallet.**
- **The boiler can be connected to the heating system via CAS accumulation tanks (recommended), or directly, through the manual 4-way mixing valve.**
- **The boiler is tested and certified to the European standard EN 303-5 and manufactured in accordance with ISO 9001 and ISO 14001 standard.**



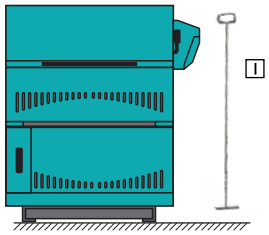

A damper for easy raising and lowering of the boiler door


Boiler connections

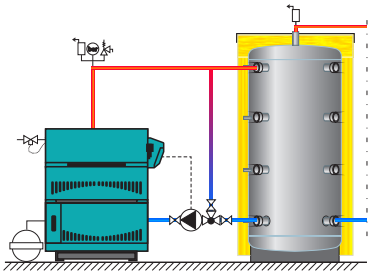

Boiler controller


Flue gases exhaust fan, connector for the pump and sensor

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



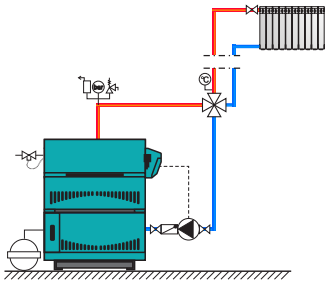
Delivery:
- Boiler with outer casing and regulation, wired with additional sensor and cleaning accessories (scraper) on wooden pallet.



Solid fuel firing, with CAS accumulation tank (RECOMMENDED):
- CAS accumulation tank (min. 30 l/kW), 3-way thermostatic valve LTC, VTC.... (60°C);

Closed heating system
- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system
- open expansion vessel



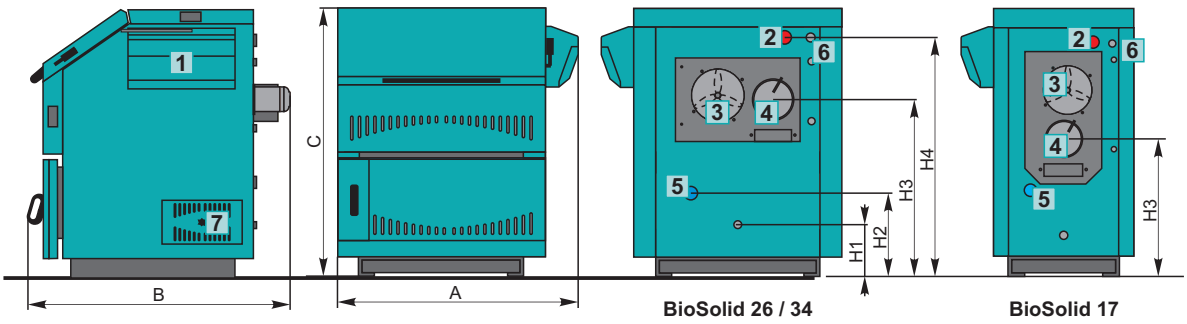
Solid fuel firing, without CAS accumulation tank:
- manual 4-way mixing valve;

Closed heating system
- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system
- open expansion vessel

BASIC DIMENSIONS:

1 - Boiler regulation
2 - Boiler water inlet
3 - Fan with a motor
4 - Chimney
5 - Boiler outlet
6 - Place for mounting heat exchanger
7 - Side opening for cleaning the smoke chamber and secondary air door



BioSolid		17	26	34
Heat output range	(kW)	17	26	34
Boiler water content	(l)	54	72	98
Boiler mass	(kg)	318	430	534
Flue gas exhaust (external diameter*)	Ø(mm)	150	150	150
Boiler water Inlet/Outlet	(R)	5/4"	5/4"	5/4"
Filling/Draining	(R)	1/2"	1/2"	1/2"
Exhaust gas temperature	(°C)	180	180	180
Max. operat. temperature	(°C)	90	90	90
Max. operat. pressure	(bar)	2,5	2,5	2,5
Max. length wood piece	(mm)	300	500	500
Wood storage volume	(lit.)	64	80	103
Total width A	(mm)	680	840	840
Total width B	(mm)	1085	1070	1140
Total width C	(mm)	1050	1050	1150
Height H1	(mm)	165	165	165
Height H2	(mm)	340	340	340
Height H3	(mm)	505	675	775
Height H4	(mm)	915	915	1015

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.


wood logs
up to 0,5 m long


wood briquettes

Bio-Tec

The **Bio-Tec** steel hot water boilers (nominal heat output 25-45kW) are designed for wood fired heating of small to medium sized premises. The wood gasification principle ensures complete burning. Thanks to the big combustion chamber wood pieces of up to 550 mm long can be inserted. The burning period for a single loading is at least 4 hours at full nominal boiler output and this can be extended to the whole day at lower heating demand. The boiler can even stay alight for up to 12 hours. The fitted boiler controls regulate the boiler's functioning. The boiler is connected directly to the central heating system through a 3-way thermostat valve and a CAS accumulation tank.

CHARACTERISTICS OF BioTec BOILERS:

- **Hot water boilers for central heating systems is designed for wood log firing (moisture content under 25%).**
- **The wood gasification principle enables total burning of the fuel, reducing cleaning of the boiler to minimum (depends on wood quality and usage of the boiler).**
- **Their construction, the flue gas solution and their additional burning enables a high efficiency rate and makes operation very economical.**
- **Ecologically acceptable because of extremely low concentration of harmful components in the flue gases.**
- **The three large doors to the combustion chamber enable particularly simple cleaning and maintaining, as well as loading with substantial logs.**
- **Delivery includes the pre-wired control system, boiler regulator and room thermostat with indication of the need of wood replenishment.**
- **The boiler regulator controls the firing process through a circulation pump in the first circuit (boiler accumulation), a circulation pump in the heating circuit (accumulation-radiators) and a sanitary water circulation pump and gives the information back to the control system and room thermostat about the need of log refills.**
- **It is engineered for installation in open or closed central heating systems only through accumulation tanks (CAS), volume min 50 l/kW and a 3-way thermostatic valve at 60°C.**
- **The boiler is tested and certified to the European standard EN 303-5 and manufactured in accordance with ISO 9001 and ISO 14001 standard.**


Boiler regulation

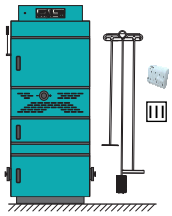

Thermal protection connections


Flue gases exhaust fan


Turbulator cleaning mechanism

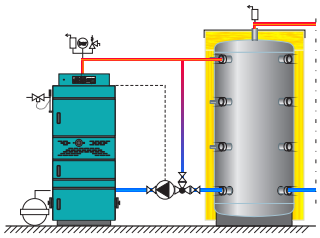

Cleaning set

DELIVERY, OBLIGATORY AND OPTIONAL ADDITIONAL EQUIPMENT:



Delivery:

- Boiler with casing, wired, with 3 additional sensors, room corrector and cleaning accessories (2 x scraper + brush + cleaning accessories holder) on wooden pallet.



Obligatory: Connection with CAS accumulation tank:

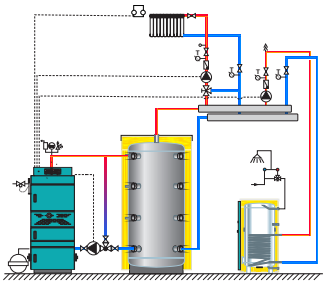
- CAS accumulation tank (min. 50 l/kW), 3-way thermostatic valve LTC, VTC.... (60°C);

Closed heating system

- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system

- open expansion vessel



Connection to the system with one direct heating circle and DHW preparation:

- CAS accumulation tank (min. 50 l/kW), 3-way thermostatic valve LTC, VTC.... (60°C);
- manual 3-way mixing valve
- DHW tank (TB, STEB)

Closed heating system

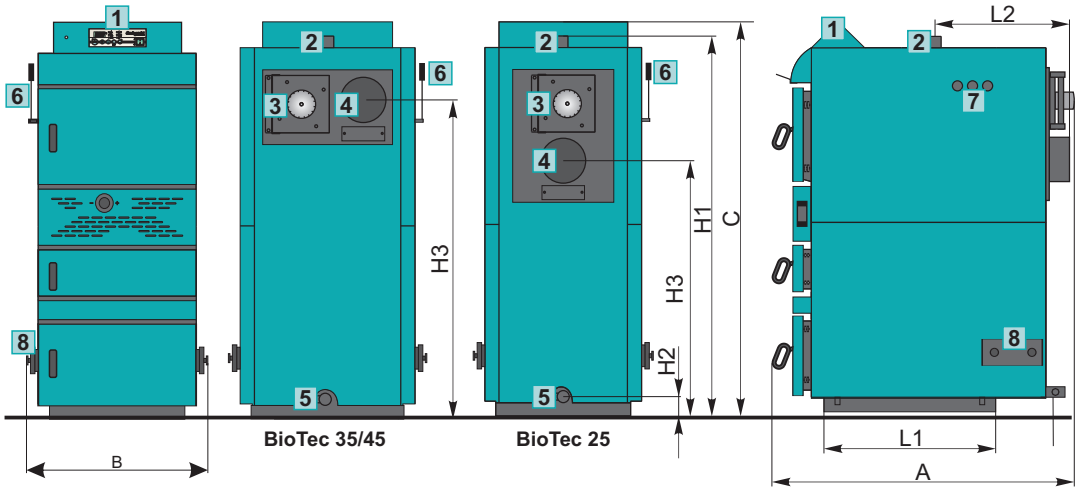
- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system

- open expansion vessel

BASIC DIMENSIONS:

1 - Boiler regulation
2 - Boiler water inlet
3 - Fan with electric motor
4 - Flue gas exhaust
5 - Boiler water outlet
6 - Lever for cleaning flue gas tubes
7 - Place for mounting the thermal valve
8 - Side opening for cleaning the smoke chamber



Bio-Tec		25	35	45
Nominal heat output	(kW)	25	35	45
Boiler water content	(l)	105	96	110
Boiler mass	(kg)	450	515	610
Flue gas exhaust diameter*	Ø(mm)	150	150	180
Boiler inlet	(R)	6/4''	6/4"	6/4"
Boiler outlet	(R)	6/4''	6/4"	6/4"
Filling/Draining	(R)	1/2''	1/2"	1/2"
Flue gases temp.	(°C)	170	190	180
Max. operating temperature	(°C)	90	90	90
Max. operating pressure	(bar)	2,5	2,5	2,5
Total boiler depth A	(mm)	1295	1290	1290
Total boiler height C	(mm)	1345	1385	1580
Total boiler width B	(mm)	595	725	725
Dimensions B1/L1	(mm)	430/685	540/685	540/685
Dimensions L2/H1	(mm)	600/1285	600/1330	600/1525
Dimensions H2/H3	(mm)	80/765	80/1040	80/1250
Max. wood piece length	(mm)	550	550	550
Wood storage volume	(lit.)	97	144	175

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.


wood logs
up to 0,5 m long

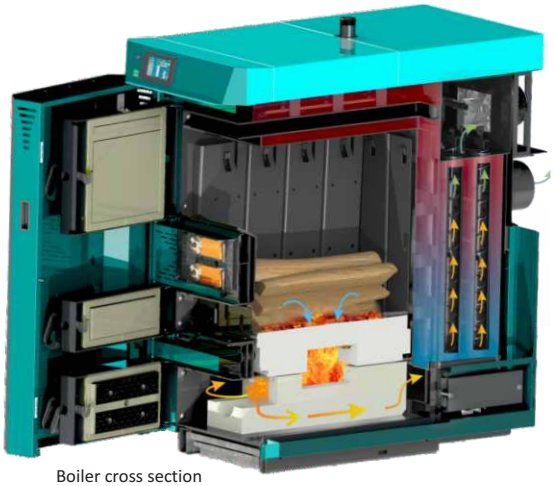

wood briquettes

BioTec-L

BioTec-L steel hot water boilers with the rated heat output of 25 to 45 kW are designed for wood fuel firing. They are intended for heating from the smallest to medium-sized premises. The wood gasification principle enables a complete fuel burning. Spacious combustion chamber allows insertion of the logs up to 550 mm long. The burning period for a single fill of logs is at least 4 hours at the rated output and can be extended to a whole day if the need for heating is reduced. The boiler can keep the glow up to 12 hours, which means that in this period it is not necessary to fire up the boiler in order to keep the heating process. Boiler operation is managed with built-in boiler control unit using the boiler sensor, lambda probe, temperature sensor in the boiler combustion chamber, the motor for managing the primary and secondary air intake and changing the rpms of underpressure fan on flue gases outlet from the boiler. The boiler is connected to the central heating system indirectly through a three-way thermostatic valve and the CAS accumulation tank. The boiler is tested and certified according to EN 303-5:2012 and meets Class 5. The boiler is manufactured in accordance with ISO 9001 and ISO 14001 standard.

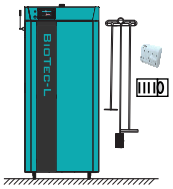
CHARACTERISTICS OF BioTec-L BOILER:

- **Boiler Class 5**
- **Hot water boiler for central heating systems is engineered for wood log firing of the moisture content under 25% (min 1 year long air dried wood).**
- **The wood gasification principle enables total burning of the fuel, reducing the cleaning of the boiler to minimum (depends on wood quality and nominal boiler load).**
- **The design and construction, including the wood gasification principle of complete burning assures high efficiency and makes the boiler extremely economical.**
- **It is environmentally friendly because of extremely low concentration of harmful components in flue gases.**
- **Three large doors and the combustion chamber enable loading with large logs as well as very simple cleaning and maintenance.**
- **It is engineered for installation in open or closed central heating systems only through accumulation tanks (CAS), volume min. 50l/kW and a 3-way thermal valve at 60°C.**
- **It is delivered pre-wired with the built-in boiler control unit to control the boiler.**
- **The built-in boiler control with the colour touch screen manages the boiler operation using the lambda probe, temperature sensor in the boiler combustion chamber, boiler sensor, motor for the management of primary and secondary air intake and changing the rpms of underpressure fan on the flue gases outlet from the boiler.**
- **Possible upgrade of the GSM alarm and the module for steering up to max.8 heating circuits via mixing valves to the outside or room temperature (additional equipment).**
- **The boiler is tested and certified according to EN 303-5: 2012 and meets Class 5. It is manufactured in accordance with ISO 9001 and ISO 14001 standard.**


Boiler cross section

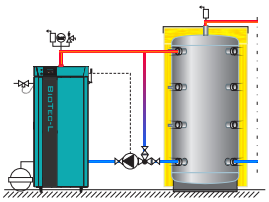

Multifunctional control with touch screen

DELIVERY, ADDITIONAL EQUIPMENT:



Delivery:

- Boiler with casing, wired, with 4 additional sensors, external temperature sensor, room corrector and cleaning accessories (2 x scraper, brush, cleaning accessories holder).



Obligatory: Connection to CAS accumulation tank:

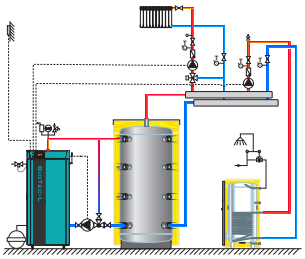
- CAS accumulation tank, 3-way thermostatic valve LTC, VTC.... (60°C); or 3-way mixing valve with a motor actuator

Closed heating system

- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system

- open expansion vessel



Connection to the system with one direct heating circle and DHW preparation:

- CAS accumulation tank, 3-way thermostatic valve LTC, VTC.... (60°C);
- 3-way mixing valve with a motor actuator
- DHW tank (TB, STEB)

Closed heating system

- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system

- open expansion vessel

GSM alarm module for mobile network // CAL

- notification of the boiler status through the mobile network text message or call (errors, warning..)
- request for the boiler status - phase of work, boiler temperature, through an SMS message in the selected language

CAL set alarm (speaker / light)

- module for error notification by sound or light signal or warning about the boiler operation.

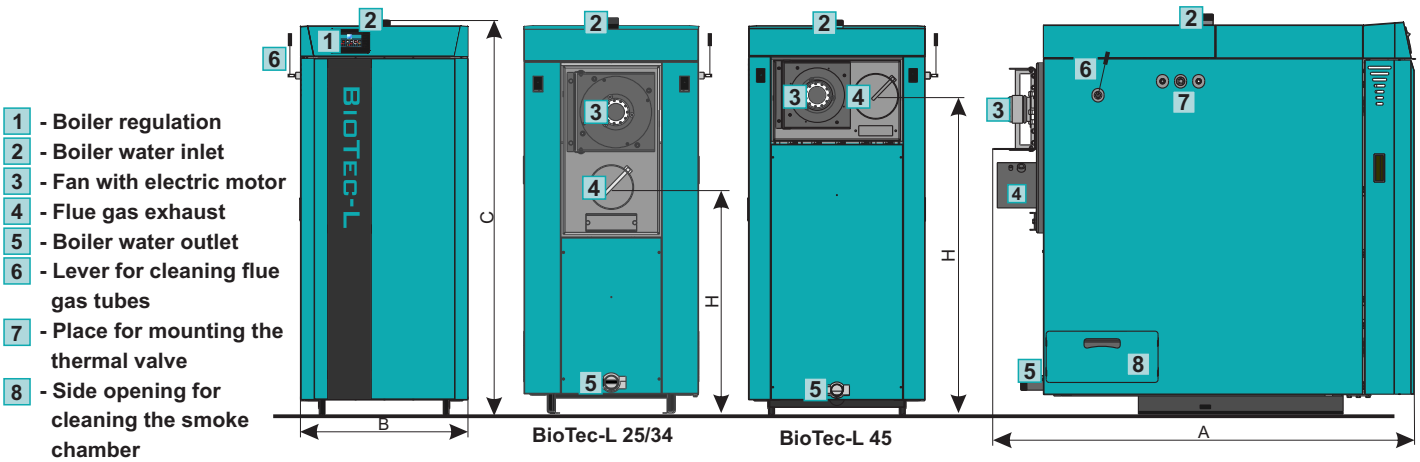
CM2K-B module for steering 2 heating circuits// CSK

- allows steering of up to 2 heating circuits to the outside temp. (up to 2 mixing valves and up to 2 heating pumps.
- possible connection to 4 CM2K-B modules (up to 8 heating circuits).
- possible connection to 2 CSK room correctors per module.

CSK

- room corrector

BASIC DIMENSIONS:



BioTec-L		25	34	45
Nominal heat output	(kW)	25	34	45
Chimney diameter*/height	Ø(mm)	150/775	160/800	180/1270
Boiler water inlet	(R)	6/4"	6/4"	6/4"
Boiler water outlet	(R)	6/4"	6/4"	6/4"
Filling/Draining	(R)	3/4"	3/4"	3/4"
Flue gases temperature	(°C)	130	130	130
Max. operating temperature	(°C)	90	90	90
Max. operating pressure	(bar)	2,5	2,5	2,5
Total boiler depth (A)	(mm)	1400	1370	1385
Total boiler height (C)	(mm)	1330	1370	1565
Total boiler width (B)	(mm)	585	700	700
Max. wood piece length	(mm)	450-550	450-550	450-550
Wood storage	(lit.)	90	144	176
Boiler water content	(lit.)	115	130	150
Boiler mass	(kg)	519	606	677

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.


wood logs
up to 0,5 m long


wood briquettes

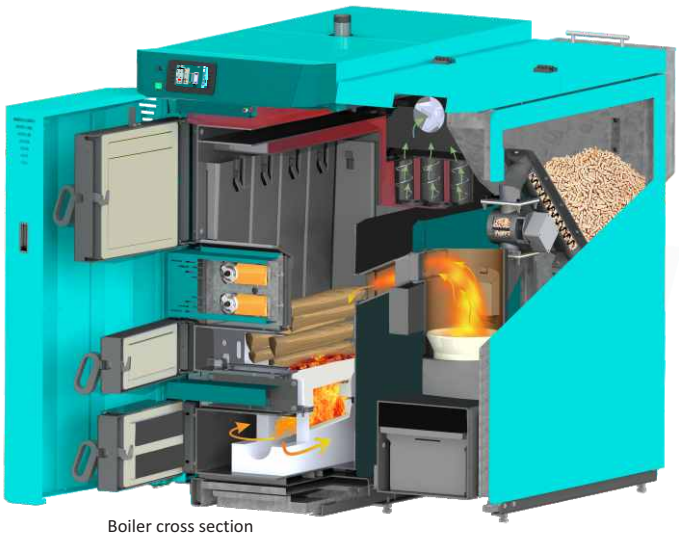

wood pellets

BioTec Plus

Steel hot water boiler with two combustion chambers is intended for firing **wood pellets** and **logs**. In the pellet combustion chamber is installed the burner for wood pellet firing with the automatic pellet firing and **automatic grate cleaning function** and in the second combustion chamber the **wood gasification** principle enables burning of logs. Multifunctional digital boiler control using lambda probe and underpressure fan optimizes combustion in both combustion chambers, which increases the efficiency of the boiler. The pellet tank is an integral part of the boiler to which the automatic vacuum pellet supply can be installed. The installation of the accumulation tank (CAS) is obligatory. It is possible to expand the boiler control with the CM2K-B module (steering of 2 heating circuits to the outside temperature, max.4xCM2K), alarm message and boiler start/stop module CMGSM.

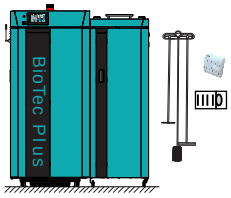
CHARACTERISTICS OF BioTec Plus BOILER:

- Boiler Class 5.
- Hot water boiler with two combustion chambers for firing logs and wood pellets, with power output 25, 31, 35 and 45 kW.
- Compact boiler of high efficiency and low maintenance (with standard built-in automatic cleaning of the grate of pellet combustion chamber it is possible to order additional automatic cleaning of flue gas tubes).
- Boiler operation is managed with built-in boiler control unit using the lambda probe, boiler sensor, temperature sensor in wood gasification boiler combustion chamber and flue gas temperature sensor by flue gas modulating fan.
- Modulating boiler operation (30 -100%).
- Filling level sensor in the pellet tank.
- Multifunctional digital controller with a colour touch screen conducts the wood gasification burning process in the log firing boiler and can automatically turn in the wood pellet firing part of the boiler when there are no more logs in the boiler.
- Using pellets the set time switch can automatically fire the wood already filled in the wood gasification part of the boiler.
- It is engineered for installation in open or closed heating systems only through the accumulation tank (CAS), volume min. 50l/kW.
- The boiler is tested and certified according to EN303-5: 2012 and meets Class 5. It is manufactured in accordance with ISO 9001 and ISO 14001 standard.

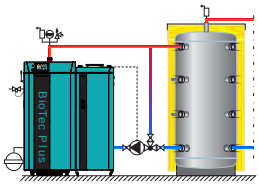

Boiler cross section


Multifunctional control with touch screen.

DELIVERY, OBLIGATORY AND ADDITIONAL EQUIPMENT:



Delivery:
- Boiler with casing on 2 wooden pallets, wired, with 4 additional sensors, external temperature sensor, room corrector and cleaning accessories (2 x scraper, brush, cleaning accessories holder).



Obligatory: Connection to CAS accumulation tank:
- CAS accumulation tank, 3-way thermostatic valve LTC, VTC.... (60°C);

Closed heating system
- thermal safety valve, safety-air vent group (2.5 bar) and expansion vessel;

Open heating system
- open expansion vessel

GSM alarm module for mobile network // CAL
- notification of the boiler status through the mobile network text message or call (errors, warning..)
- request for the boiler status phase of work, boiler temperature, through an SMS message in the selected language
- boiler start/stop by SMS

CAL set alarm (speaker / light)
- module for error notification by sound or light signal or warning about the boiler operation

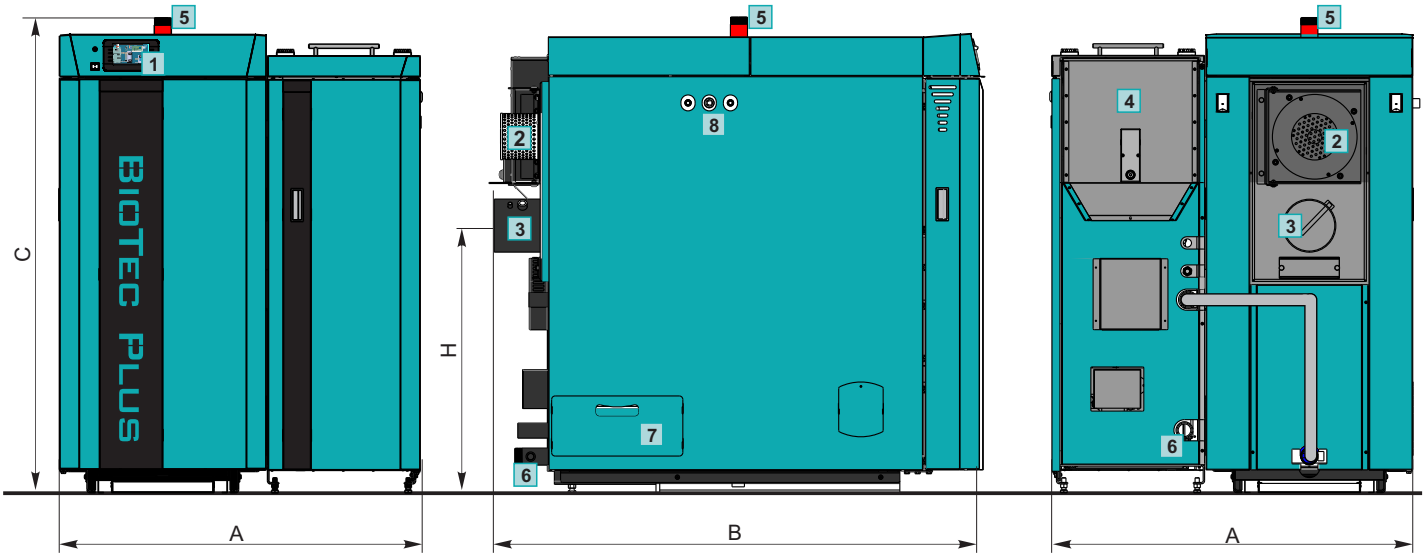
CM2K-B module for steering 2 heating circuits// CSK
- allows steering of up to 2 heating circuits to the outside temp. (up to 2 mixing valves and up to 2 heating pumps
- possible connection of up to 4 CM2K-B modules (up to 8 heating circuits)
- possible connection of up to 2 room correctors to one CM2K module

CSK
- room corrector

Vacuum wood pellet feeding:
- Vacuum wood pellet feeding with mole from the storage/room
- Vacuum pellet feeding from the large pellet tank (Centropelet box)
- Vacuum pellet feeding with the feeder screw (transporter) from the room/storage
- Max. 10 m long flex. tubes from the large storage.
- Only for pellets DINplus or ENplus A1.

BASIC DIMENSIONS:

1 - Boiler regulation
2 - Fan with electric motor
3 - Flue gas exhaust
4 - Pellet tank
5 - Boiler water inlet
6 - Boiler water outlet
7 - Side opening for cleaning the flue gas chamber
8 - Place for installation of thermal protection



BioTec Plus		25	29	31	35	45
Nominal heat output - wood	(kW)	25	29	31	35	45
Nominal heat output – pellets	(kW)	25	29	31	35	45
Boiler width A	(mm)	1025	1230	1230	1230	1230
Boiler depth B	(mm.)	1385	1445	1445	1445	1385
Boiler height C	(mm.)	1350	1395	1395	1395	1590
Outlet/Inlet	G	6/4"	6/4"	6/4"	6/4"	6/4"
Chimney* / Connection height H	Ø/mm	150/765	160/765	160/765	160/765	180/1265

3-way load valve ESBE VTC 512,531

Three-way thermostatic valves **ESBE VTC 512** and **531** are designed for installation in central heating systems with boilers with solid fuel firing (Bio-Tec, BioSolid, EKO-CK P, EKO-CKB P CentroPlus, -/B ...) and CAS accumulation tanks, in order to protect boilers from flue exhaust gas condensation. ESBE VTC 512 and 531 valves enable operating temperature to be reached very quickly and subsequently to be maintained, by regulating the flow between the boiler's outlet to the central heating system and a return connection directly back to the boiler. The ESBE VTC 512 and 531 is connected to the system together with the circulation pump.

ESBE VTC 531

ESBE VTC 512

CHARACTERISTICS OF THE ESBE VTC 512 and 531 VALVES.

- **ESBE VTC 512 is a 3-way control valve with external thread connections..**
- **ESBE VTC 531 is a 3-way control valve with 3 stop valves and internal thread connections, a pump connection, 3 thermometers and insulation.**
- **They are connected to central heating systems with solid fuel firing boilers together with CAS water accumulators.**
- **The boiler temperature is min. 60°C, which protects it from the condensation of flue exhaust gases.**
- **The built in thermostat begins to allow hot water to pass out of the outlet when the boiler temperature reaches 60°C.**
- **If the boiler temperature is below 60°C the pump turns back the water from the outlet to the inlet through the VTC valve shortcut.**
- **The circulation pump has to be chosen according to the boiler capacity, i.e. according to the recommended pump list.**

Heat output range (kW)	Connection VTC 512 (outher thread)	Connection VTC 531 (inside thread)	Circulation pump type (like Grundfos)	Volume of CAS accumulation tank for Bio-Tec / -L wood gasification boilers
14 - 20	5/4''	6/4''	UPS 25/32-40	Minimum 50 litres / kW of boiler
21 - 30	5/4''	6/4''	UPS 32-60	
31 - 40	5/4''	6/4''	UPS 32-60	
41 - 50	5/4''	6/4''	UPS 32-60	
51 - 60	6/4''	2''	UPS 32-60	
61 - 70	6/4''	2''	UPS 32-55	

ESBE LTC 261, 271

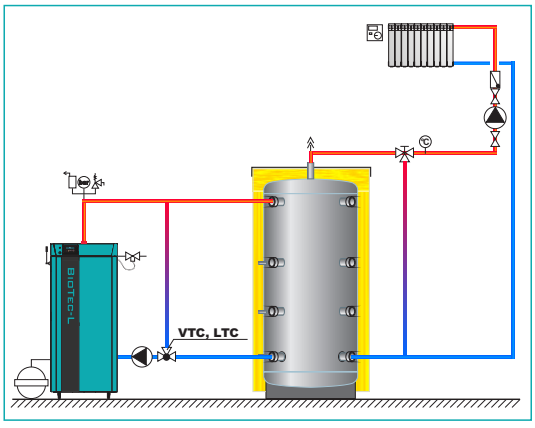
The **ESBE LTC 261** and **271** 3-way thermostatic valves are designed to be used with the solid fuel firing central heating systems (Bio-Tec, BioTec-L, BioTec-Plus, BioSolid, EKO-CK P, EKO-CKB P, CentroPlus, -/B) and CAS accumulation tanks in order to protect boilers from condensation of flue exhaust gases. ESBE VTC 261 and 271 valves enable operating temperature to be reached very quickly and subsequently to be maintained, by regulating the flow between the boiler's outlet to the central heating system and a return connection directly back to the boiler, by maintaining the return line always over 60°C. There is built-in circulation pump, thermostatic valve (60°C), stop valves and thermometers. **ESBE CRA 111/121** is a motor actuator with a controller for maintaining a constant return flow temperature (must be set at 60°C), which is intended for installation on 3way mixing valves from DN50 to DN150. They are designed for installation with bigger boilers (71-580 kW).

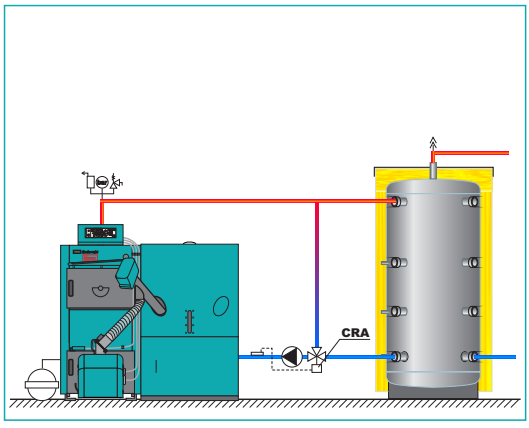
ESBE LTC 271

ESBE CRA 111

CHARACTERISTICS OF THE ESBE LTC 261, 271 / ESBE CRA 111,121

- They are designed to be built into central heating systems with solid fuel/pellet/wood chips firing boilers together with the CAS accumulation tanks.
- The set temperature is min. 60°C (ESBE LTC 261, 271/CRA 111/121 to be set to 60°C) which protects the boiler from condensation.
- If the boiler temperature is below 60°C the circulation pump turns the water back from the outlet to the inlet through the unit/valve.
- At LTC 1261 and 271 units a circulation pump is also built in as well as three stop valves and control thermometers, one for each line.
- Motor actuators CRA 111/121 must be set on 60°C, must be mounted on 3-way mixing valves and the adequate circulation pump of adequate dimensions is required.
- CRA 111 is intended for 3-way mixing valves up to DN50. They are supplied with a transformer (230V) and a temperature sensor.
- CRA121 is intended for 3-way mixing valves from DN65 to DN150. They are delivered with a detachable controller with a screen, transformer (230V) and a temperature sensor.





Recommended volumes of CAS accumulation tanks:	
with boilers for wood pellet firing	min.10 lit/kW
with boilers for wood chips firing	min.12 lit/kW
with boilers for solid fuel firing	min.30 lit/kW
With pyrolytic boilers	min.50 lit/kW

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

Heat output range (kW)	Connection LTC 261 (inside thread)	Connection LTC 271 (inside thread)	Connection VTC 512 + a pump like Grundfos MAGNA3 32-60 (a pump like Grundfos UPS 32-60)	Connection CRA111 + 3-way valve + pump	Connection CRA121 + 3-way valve + pump
14 - 40	5/4''	--	--	--	--
41 - 50	--	6/4''	--	--	--
51 - 70	--	--	6/4''	--	--
71 - 110	--	--	--	DN50	--
111-580	--	--	--	--	DN65-DN150


wood pellets

CentroPelet Z6,Z12 i ZR12

Pellet firing stoves **CentroPelet Z** are hot air wood pellet firing stoves that heat the room with hot air using a fan built in the stove. They are made of steel with modern design and high efficiency. CentroPelet **Z12** and **ZR12** are supplied with a remote control. The delivery standardly includes a digital control that can be used for controlling the operation of the stove. The main advantage is easy operation, maintenance and installation (no need for radiators, pipes ...)


CentroPelet Z6


CentroPelet Z12

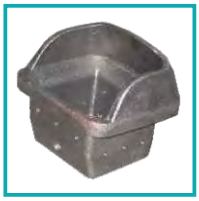

CentroPelet ZR12

CHARACTERISTICS of CentroPelet Z/ZR STOVES:

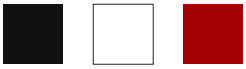
- **Pellet firing stove for hot air heating by blowing hot air into the space.**
- **It is available in three colours: white, gray, red**
- **The stove is supplied with wood pellets using a screw conveyor, and the pellets are fired by an electric heater.**
  The stove can be turned on/off automatically.
- **The function of economical operation allows automatic output reduction when the temperature room is getting closer to default.**
- **The possibility of adjusting the switching time (only using the remote control, standardly delivered with models Z12 and ZR12.**
- **Additionally you can order a Wi-Fi module which enables monitoring the temperature and controlling the stove operation by a mobile application.**
- **Built-in pellet tank.**

Stove regulation


Remote control (only for Z12 and ZR12)

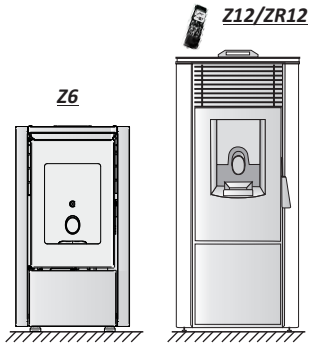

Firebox grate

Available colours:

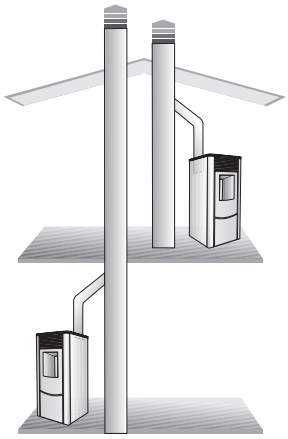


CentroPelet Z6,Z12,ZR12 (5,53 - 9,05kW)

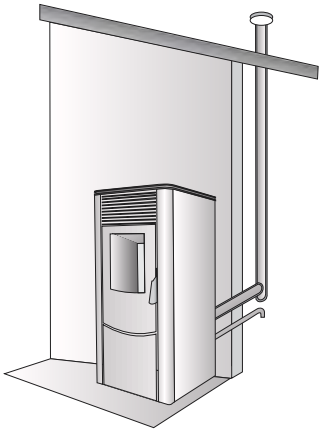
DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



Delivery:
- Stove with the regulation control.
- Remote control (only for Z12 and ZR12)



Flue gas exhaust:
- *One stove per one chimney*



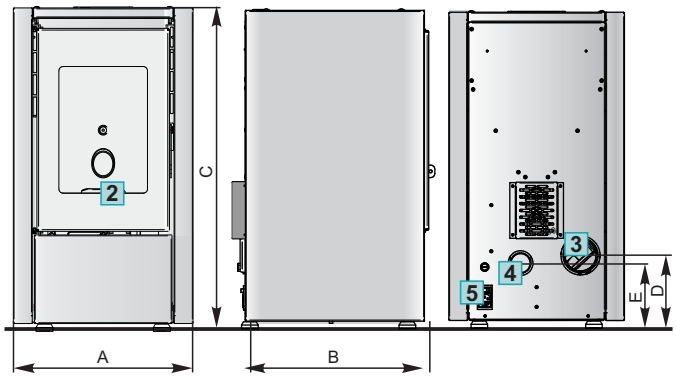
Flue gas exhaust:
- *External flue pipes that should be connected in accordance with the local regulations*

Additional equipment:
- *set of flue pipes for CentroPelet Z "for the facade connection" (1m flue pipe, 0.5m flue pipe, T- piece cover, T-piece, silicon rosette, 90° bend)*

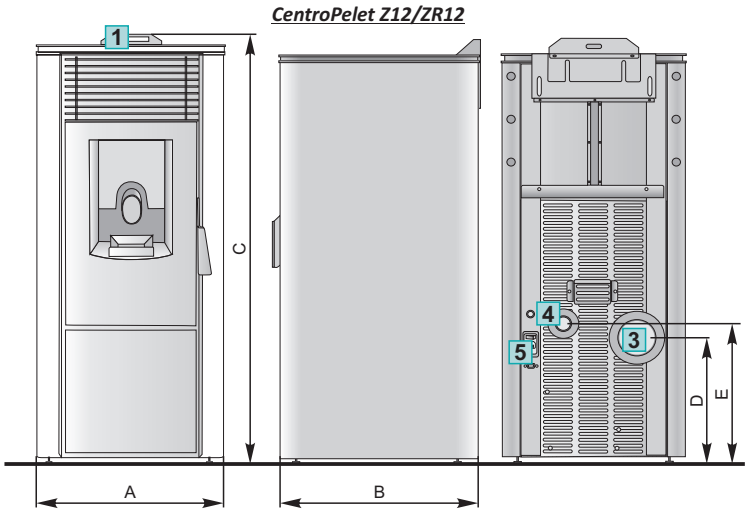
BASIC DIMENSIONS:

1 - Regulation
2 - Firebox grate
3 - Connection for flue gas exhaust
4 - Connection for fresh air intake
5 - Main switch

CentroPelet Z6



CentroPelet Z12/ZR12



CentroPelet		Z6	Z12	ZR12
Heat output	(kW)	2,5 -5,53	2,64 - 9,05	2,64 - 9,05
Pellet consume	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 connection	ømm	80	80	80
Tank capacity	lit|kg	17|11	20|13	20|13
Autonomy	h	8 - 19	6,5 - 22	6,5 - 22
Power consume at nominal power	w	100 - 300	100 - 300	100 - 300
Noise level (min-max)	dB	39 - 52	39 - 52	39 - 52
Net weight	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


wood pellets

CentroPelet ZS

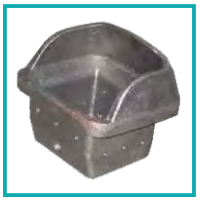
Wood pellet stoves **CentroPelet ZS** are hot air wood pellet stoves that heat the room(s) with hot air using a built-in fan. They are made out of steel and provide high efficiency heating. Due to their modern design they do not take much space in the room. They are delivered with remote control and digital control that can be used to manage the operation of the stove and select the weekly programme. The stoves have the ability of line distribution of hot air to other rooms (2 channels).

CHARACTERISTICS OF CentroPelet Z/ZR STOVES:

- **Pellet firing stove for hot air heating by blowing hot air into the space.**
- **Possibility of line distribution of hot air to other rooms. Two lines on the rear side of the stove can be connected to other rooms by tubes. The total maximum length of the line is 4m.**
- **It is possible to manually control how much air is distributed into the room, and how much by lines.**
- **It is available in three colours: white, gray, red.**
- **The stove is supplied with wood pellets using a screw conveyor, and the pellets are fired by an electric heater.**
- **The stove can be turned on/off automatically.**
- **The function of economical operation allows automatic output reduction when the temperature room is getting closer to default.**
- **The possibility of adjusting the switching time using the remote control.**
- **Additionally you can order a Wi-Fi module (ECO V9) which enables monitoring the temperature and controlling the stove operation by a mobile application.**
- **Built-in pellet tank.**

Stove regulation

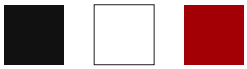

Remote control


Firebox grate


Lever for cleaning flue gas tubes


Firebox

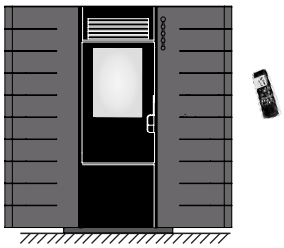
Available colours:



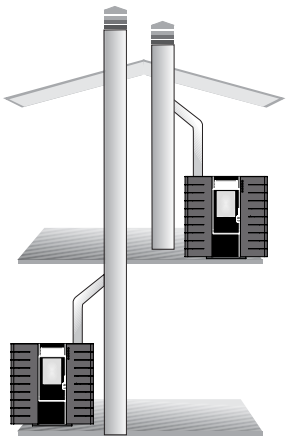

Connection to the line for hot air distribution

CentroPelet ZS10 (9,01 kW)

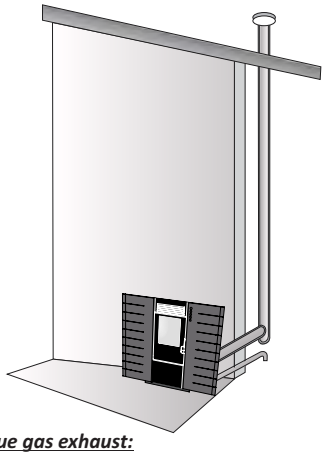
DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



Delivery:
- Stove with the regulation control in cardboard packaging.



Flue gas exhaust:
- *One stove per one chimney*

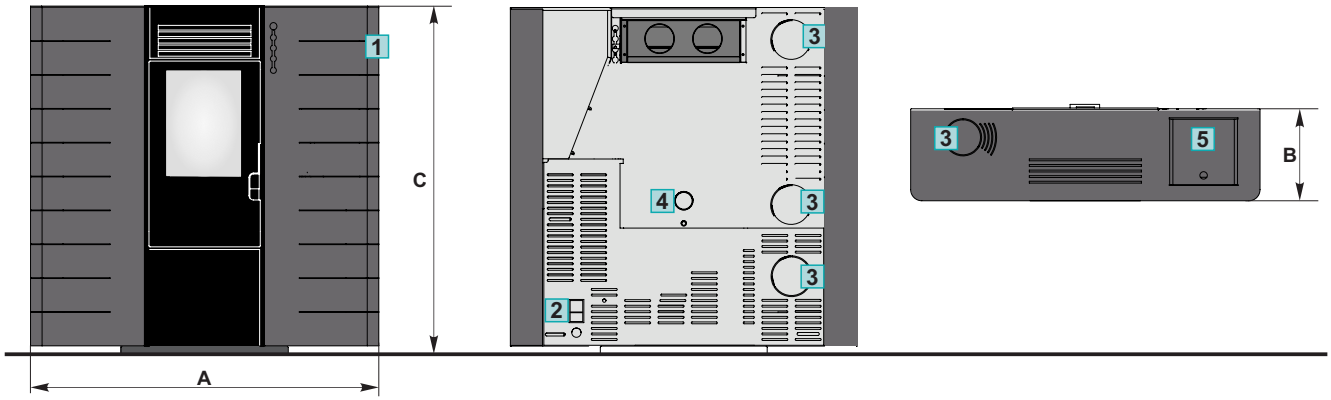


Flue gas exhaust:
- *External flue pipes that should be connected in accordance with the local regulations*

Additional equipment:
- *set of flue pipes for CentroPelet ZS for the "façade" connection (1m flue pipe, 0.5m flue pipe, T- piece cover, T-piece, silicon rosette, 90° bend)*

BASIC DIMENSIONS:

1 - Regulation
2 - Main switch
3 - Connection for flue gas exhaust
4 - Connection for fresh air intake
5 - Pellet tank



CentroPelet		ZS10
Heat output	(kW)	2,92 - 9,01
Pellet consume	kg/h	0,62 - 1,98
Efficiency	%	95,93 - 92,66
Flue gas tube connection	Ømm	80
Tank capacity	kg	17
Autonomy	h	11-24
Power consume at nominal power	w	100
Noise level (min-max)	dB	35-55
Net weight	kg	100
Dimensions (A/B/C)	mm	935x280x935


wood pellets

CentroPelet ZV

Hot water stoves **CentroPelet ZV** are wood pellet firing stoves intended for heating the room with air by means of a built-in fan and water through the radiator central heating. They are made of steel with modern design and high efficiency. They have a built-in circulation pump, safety valve, pressure switch, expansion vessel and automatic vent valve. They are standardly supplied with a remote control and digital control that can be used to manage the work of the stove and select the weekly programme.

ZV 16

ZV 20/24

ZV32

CHARACTERISTICS OF CentroPelet ZV STOVES:

- **Wood pellet stove for hot air + water heating by blowing hot air into the space and connected to radiators.**
- **It is available in three colours: white, gray, red**
- **The stove is supplied with wood pellets using a screw conveyor, and the pellets are fired by an electric heater.**
- **The stove can be turned on/off automatically.**
- **The function of economical operation allows automatic output reduction when the temperature room is getting closer to default.**
- **The possibility of adjusting the fan speed for blowing hot air into the room.**
- **The possibility of adjusting the switching time.**
- **They are supplied with a built-in circulation pump, safety valve, pressure switch, expansion vessel and automatic vent valve.**
- **Built-in pellet tank.**

Available colours:


Stove regulation


Remote control

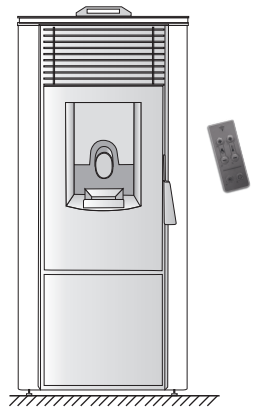

Firebox grate


Expansion vessel, flue gas exhaust fan

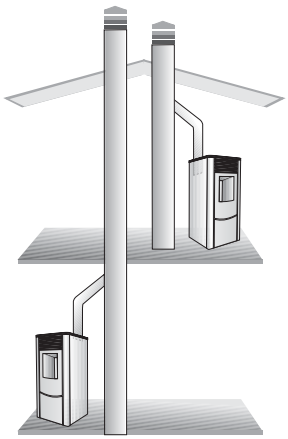

Firebox

CentroPelet ZV (12,46 - 30,48 kW)

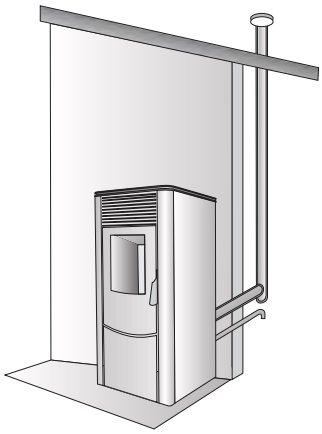
DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



Delivery:
- Stove with the regulation control in cardboard packaging.



Flue gas exhaust:
- *One stove per one chimney*

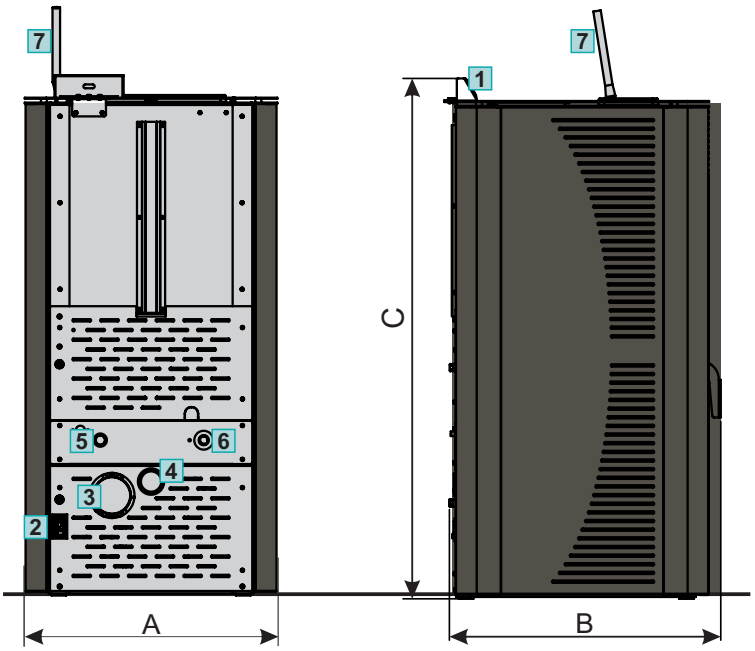


Flue gas exhaust:
- *External flue pipes that should be connected in accordance with the local regulations*

Additional equipment:
- *set of flue pipes for CentroPelet ZS for the façade connection (1m flue pipe, 0.5m flue pipe, T- piece cover, T-piece, silicon rosette, 90° bend, 0.25m flue pipe, 45° bend)*

BASIC DIMENSIONS:

1 - Regulation
2 - Main switch
3 - Connection for flue gas exhaust
4 - Connection for fresh air intake
5 - Water inlet
6 - Water outlet
7 - Lever for cleaning flue gas pipes

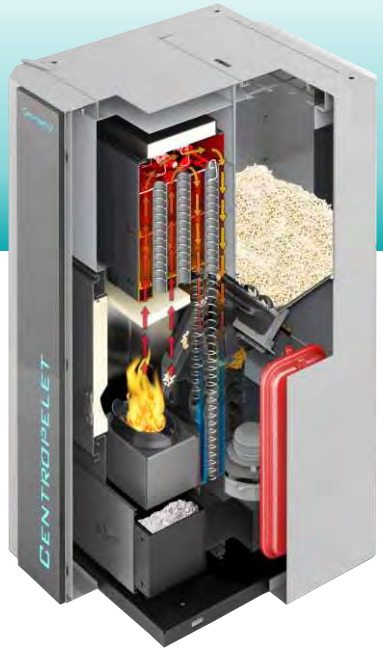


CentroPelet		ZV16	ZV20	ZV24	ZV32
Total hat output	kW	4,89 - 16,1	5,1 - 18,46	5,1 - 22,14	8,57 - 30,48
Water heat output	kW	4,04 - 12,35	3,9 - 15,05	3,9 - 18,1	6,51 - 24,38
Space heat output	kW	1,22 - 3,31	1,2 - 3,41	1,2 - 4,04	2,06 - 6,1
Pellet consume	kg/h	1,04 - 3,46	1,08 - 4,00	1,08 - 4,80	1,82 - 6,6
Efficiency	%	95,9 - 94,5	94,3 - 95,4	95,4 - 93,8	95,4 - 93,8
Flue gas tube connection	Ømm	80	80	80	100
Tank capacity	kg	30	42	42	57
Connection for air intake	Ømm	50	50	50	60
Water amount in stove	lit	31	50	50	60
Autonomy	h	8,5 - 29	10,5 - 39	9 - 39	8,5 - 31
Power consume at nominal power	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	470/535/1000	615/675/1270	615/675/1270	672/722/1384
Net weight	kg	160	230	230	280


wood pellets

Centropelet ZVB

Compact hot water boilers **CentroPelet ZVB** are **wood pellet** firing boilers. They are designed for hot water heating of the smallest up to medium sized facilities. They are made out of steel with modern design and high efficiency. The boiler has a built-in burner for combustion of wood pellets with the auto ignition and digital boiler regulation control which operates flue vent corresponding to flue and boiler water temperatures.They are supplied with a built-in circulation pump, safety valve, vent valve, pressure switch and expansion vessel. The pellet tank is an integral part of the boiler.



CHARACTERISTICS OF CentroPelet ZVB BOILERS:

- **Hot water boiler for central heating systems CentroPelet ZVB with the built-in pellet burner. output 14-29 kW.**
- **Hot water boiler CentroPelet is supplied with wood pellets using a screw conveyor, and the pellets are fired by an electric heater. The stove can be turned on/off automatically.**
- **High efficiency boiler.**
- **Low emissions of harmful compounds in flue gases.**
- **The possibility of adjusting the switching time.**
- **The compact design allows accommodation of the boiler in small boiler rooms.**
- **Built-in circulation pump, safety valve, pressure switch, expansion vessel and automatic vent valve.**
- **Built-in pellet tank.**

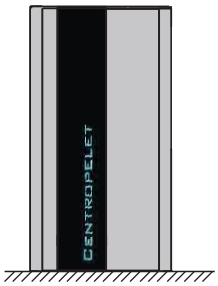

Stove regulation (Can be set to the left or right side of the boiler)


The mechanism for cleaning turbulators, boiler control

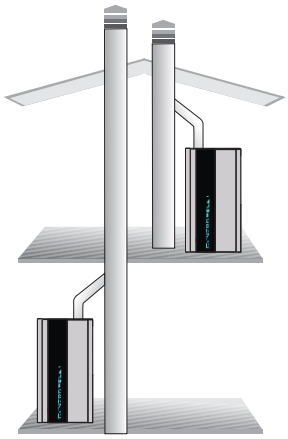

Boiler firebox


Pellet tank

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



Delivery:
- Indoor furnace with control, in cardboard packaging



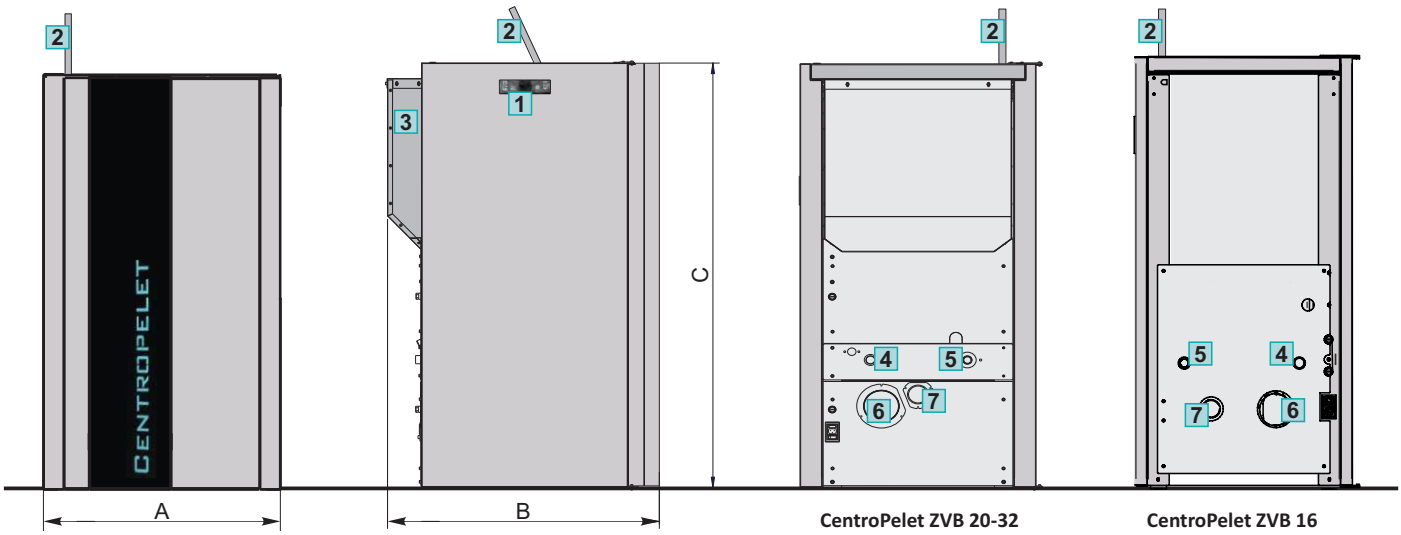
Flue gas exhaust:
- *One furnace per one chimney*

Flue gas exhaust:
- *By outer flue pipes which have to be connected according to local regulations*

Additional equipment:
- *a set of flue pipes for CentroPelet ZVB for a „facade" connection (flue pipe 1m, flue pipe 0,5m, T-part cover , T-part, silicone rosette, 90° elbow, flue pipe 0,25m, 45° elbow.*

BASIC DIMENSIONS:

1 - Regulation
2 - Mechanism for flue passage cleaning
3 - Pellet storage
4 - Boiler water inlet
5 - Boiler water outlet
6 - Flue gas exhaust connection
7 - Fresh air supply connection



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 consume	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 connection	Ømm	80	80	80	100
Tank capacity	kg	30	65	65	85
Water amount in stove	lit.	31	50	50	60
Autonomy	h	29,5 - 9	54 - 16,5	54 - 13,5	38,5 - 12,5
Power consume at nominal power	W	140 - 350	100 - 300	100 - 300	100 - 300
Dimensions (A/B/C)	mm	562x700x1081	610x785x1240	610x785x1240	670x870x1360
Net weight	kg	180	250	250	305

wood pellets

PelTec

Steel hot water boilers **Peltec** are engineered for wood pellet firing. In the boiler is installed the burner for wood pellet firing with the automatic firing and automatic self-cleaning function which enables the reliable operation also with the low quality wood pellets. The function of the automatic cleaning flue gas tubes provides the unifying exchange of the heat and high and unifying level of boiler efficiency. Multifunctional digital boiler controller in a basic version offers the possibility of modulating boiler operation and control the level of pellets in the tank. Inbuilt return flow protection ensures correct boiler operation also at the lower return flow temperatures. PelTec lambda is boiler version with factory inbuilt lambda probe for further optimization of the combustion process. The pellet tank is the integral part of the boiler. The boiler is delivered in sections for easier transport into the boiler room.

PelTec 12

PelTec 18

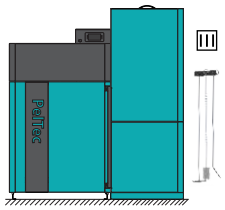
PelTec 24-48

CHARACTERISTICS OF PelTec BOILER

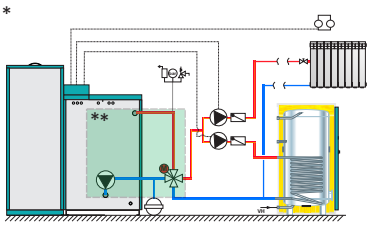
- **Class 5 boiler.**
- **Hot water boiler for central heating systems, PelTec, with integrated pellet burner, nominal heat output 12, 18, 24, 36 and 48 kW.**
- **High boiler efficiency and low maintenance requirements.**
- **Low emission of harmful compounds in the flue gases.**
- **Modulating operation of the boiler (30% -100%).**
- **Automatic cleaning of the burner grid and flue passages.**
- **Flue gas temperature sensor and level sensor pellets in the tank.**
- **Integrated return flow protection with 4way mixing valve with actuator for direct heating or buffer (storage) tank systems (in systems with several heating circuits required hydraulic crossover).**
- **Multifunctional digital control with color touch screen display regulates the boiler function and can direct 2 pumps (e.g. one direct heating circuit and a plumbing circuit...).**
- **Emptying the ash box, after having spent 2-3 pellet tanks (400-600kg).**
- **Additional equipment: module for directing 2 (max 8) heating circuits according to the outdoor temperature, room corrector, GSM alert for boiler and pellet storage status, automatic pellet storage filling, controlling boiler functions by an outer controller, cascade manager..**
- **PelTec lambda is a version of PelTec with factory inbuilt lambda probe, PelTec-lambda.**
- **The boilers are tested and certified in accordance with the standard EN303-5:2012. They satisfy the class 5 and are manufactured in accordance with the standard ISO 9001 and ISO 14001.**

Multifunctional control with a touch screen display.

DELIVERY, OBLIGATORY AND OPTIONAL ADDITIONAL EQUIPMENT:



Delivery:
- Boiler with casing and control, pre-wired, with 3 additional sensors, pump group with pump and motor powered mixing valve, flue fan, grate cleaning mechanism, cleaning set (scraper, brush, poker, set holder).
- Pellet container in cardboard packaging + transporter.



Connection to one circuit heating system and domestic water heating (DHW)
- DHW container (TB, STEB...)
- room thermostat
- pumps for heating circuit and DHW

Closed heating system
- safety air-vent group (2,5 bar) and expansion vessel;

Open heating system
- open expansion vessel

*one of 15 different connection options is shown in the diagram
**pump group (constituent part of boiler delivery).

GSM module for alert through mobile network // CAL // CMNET
- SMS or phone call alert about boiler status (errors, warnings).
- inquiry about boiler status - operation phase, boiler temperature, by SMS in a chosen language
- turning boiler on/off by SMS

CAL alarm set (speaker/lamp)
- module for error alert by sound or light signal or warnings concerning boiler operation

CMNET
- cascade manager to control up to 8 boilers in a cascade

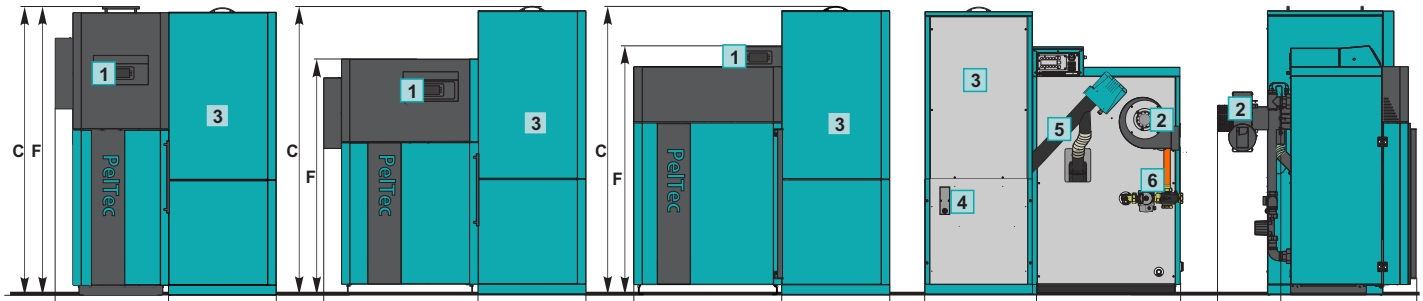
CM2K-P module for steering 2 heating circuits + CSK
- enables steering 2 heating circuits using outdoor temperature (control of up to 2 mixing valves and up to 2 heat pumps
- it is possible to connect up to 4 CM2K-P modules (up to 8 heating circuits)
- it is possible to connect up to 2 CSK room correctors per one module

CSK
- room corrector

CVT vacuum pellets supply:
- Vacuum pellets supply with mole from a room (pellets storage)
- Vacuum pellets supply from a large tank (CentroPelet box).
- Vacuum pellets supply by screw feeder from a storage room.
- Maximum length of the flexible pipe from a bigger storage is 10m.
- exclusively for ENPlus A1 and DINplus pellets.

BASIC DIMENSIONS:

1 - Boiler regulation
2 - Flue fan
3 - Pellets container
4 - Sensor of the pellet level in the container
5 - Screw transporter
6 - Pump group with pump and motor operated 4-way mixing valve



PelTec 12 **PelTec 18** **PelTec 24-48**

PelTec		12	18	24	36	48
Nominal 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 *	Ø(mm)	130	130	130	150	150
Inlet / outlet	(R)	1"	1"	5/4"	5/4"	5/4"
Filling/ Draining	(R)	1/2"	1/2"	1/2"	1/2"	1/2"
Max. operation temperature	(°C)	90	90	90	90	90
Max. operation pressure	(bar)	2,5	2,5	2,5	2,5	2,5
Pellet tank volume	(lit.)	340	340	340	340	340
Total length (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
Length to enter the room (D)	(mm.)	765	765	735	795	795
Width to enter the room (E)	(mm.)	650	880	880	965	965
Height to enter the room (F)	(mm.)	1560	1275	1345	1345	1495
Boiler mass	(kg)	328	349	402	455	478

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.

wood pellets

Cm Pelet set

Cm Pelet-set central heating equipment is meant to be installed on new or previously installed EKO-CK P and EKO-CKB P hot water boilers with nominal heat output 20 to 110 kW or EKO-CK and EKO-CKB boilers with nominal heat output 20 to 50 kW. The **Cm Pelet-set** and the boiler together make a functional unit, i.e. a mini heating system for pellet firing. The automatic functioning of such a mini heating system offers a high level of convenience and makes them suitable for a wide range of users. It is manufactured in accordance with the standards EN 303-5 and ISO 9001. From an operational point of view, such systems do not fall behind compared to oil or gas powered heating systems and if we compare fuel consumption, they are 40% more cost effective than the ones powered by oil. Pellets are a renewable energy source and an ecologically very acceptable fuel.

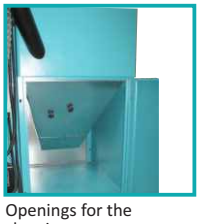
CHARACTERISTICS OF Cm Pelet Set EQUIPMENT:

- **It is delivered ready to be installed on new or previously installed EKO-CK P and EKO-CKB P hot water boilers with nominal heat output 20 to 110 kW or EKO-CK and EKO-CKB boilers with nominal heat output 20 to 50 kW.**
- **Together with the boiler it creates a functional unit, a mini heating system for pellet firing.**
- **The mini heating system is controlled by the digital boiler regulator which automatically activates and deactivates the system and keeps heating very comfortable.**
- **It is possible to connect the mini heating system directly to heating system or through accumulation tank (CAS) with a minimum volume of 10 l/kW and 3-way thermal valve on 60°C or motor powered 3-way mixing valve.**
- **The fan and the electric heater installed inside the burner, digitally regulated, automatically fires the pellets and keeps the fire in.**
- **Up to 40% fuel cost-savings comparing with oil fired systems.**
- **Cleaning, depending on the power of the boiler and the quality of pellets, after one consumed container (200/400 kg) lasts 5 minutes.**
- **Pellets container (volume 370/800 l) is a constituent part of the system and it is being filled from the upper side, according to need.**
- **It is possible to install equipment for automatic supply of pellets from a bigger tank through flexible pipes up to 10 metres in distance and up to 4 meters in height, exclusively for ENPlus A1 and DINplus pellets.**
- **It is possible to install a flap on the burner fan to prevent air from circulating through the boiler when the burner is not working.**
- **It is possible to install air-cleaning of the burner.**
- **Option to link several units in a cascade.**
- **It is delivered dismantled which makes it easier to transport and house.**

Digital regulation CPREG and feeder screw CPPT

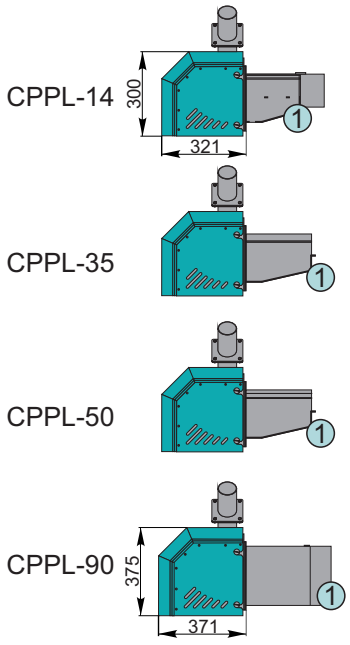
Pellet burner CPPL

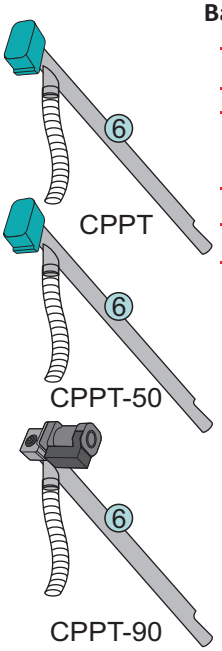
Pelet tank CPSP



Openings for the cleaning

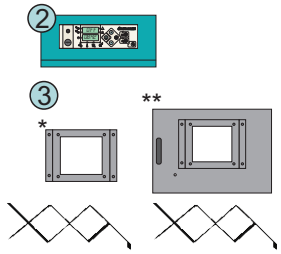
BASIC PARTS AND ADDITIONAL EQUIPMENT:



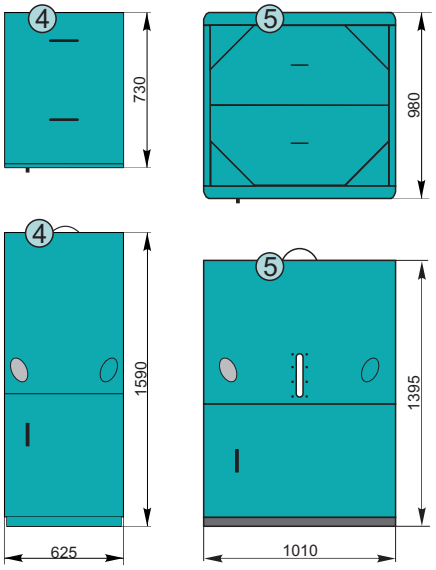


Basic parts:

- Pellet burner (1)
- Digital controller (2)
- Set for pellet burner installation* or lower boiler door** with turbulators (3)
- Pellet tank CPSP (4)
- Pellet tank CPSP 800 (5)
- Feeder screw (6)



* New models of boilers (must be added pellet burner bracket on existing lower boiler doors)
** The old models of boilers (changing the lower boiler door)

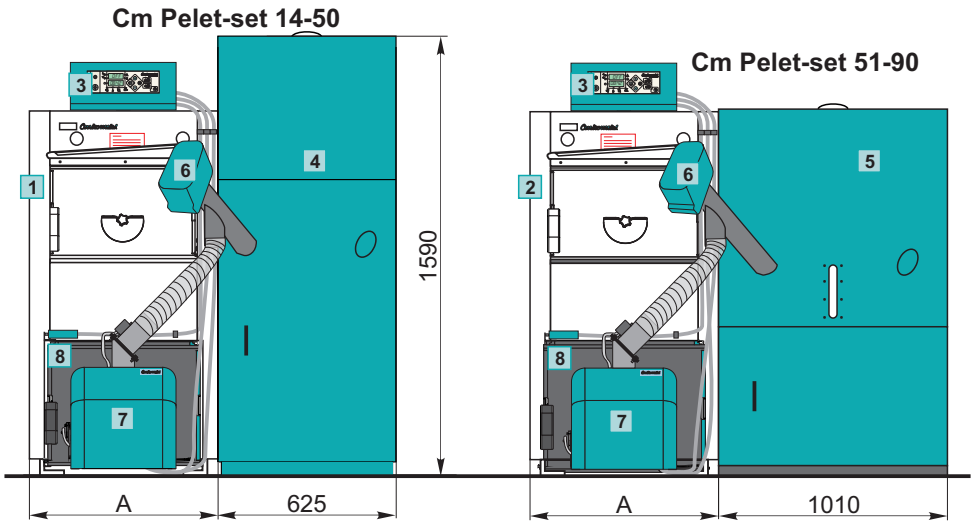


Additional equipment:

- Burner with fan flap (7)
- Air-cleaning of burner (using compressed air)
- CVT vacuum pellet supply: (8)

BASIC DIMENSIONS:

1 - Boiler (EKO-CK P, EKO-CKB P)
2 - Boiler (EKO-CK P 70,90,110)
3 - Digital controller
4 - Pelet tank CPSP
5 - Pellet tank CPSP 800
6 - Pellet burner CPPL
7 - Pellet transporter CPPT
8 - pellet burner installation set / lower boiler door

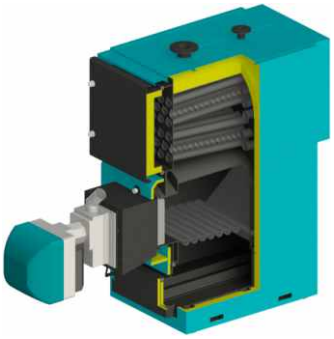


Cm Pelet-set		14	20	25	30	35	40	50	60	70	90
Type of the burner		CPPL-14	CPPL-35	CPPL-35	CPPL-35	CPPL-35	CPPL-50	CPPL-50	CPPL-90	CPPL-90	CPPL-90
Nominal heat output of set (set + boiler)	(kW)	14	20	25	30	35	40	50	60	70	90
Type of the boiler - EKO-CK/-B P		20	25	30	35	40	50	60	70	90	110
Volume of the pellet peleta CPSP	(lit.)	370	370	370	370	370	370	370	-	-	-
Volume of the pellet tank CPSP-800	(lit.)	800	800	800	800	800	800	800	800	800	800
Power supply	(V/Hz)	230/50									
Širina kotla A	(mm)	470	470	470	520	570	620	620	620	640	690
Set for pellet burner installation*		14-25	14-25	14-25	30/35	30/35	40/50	40/50	-	-	-
Lower boiler door** (only old models of boilers)		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 90-110


wood pellets

EKO-CKS P UNIT

EKO-CKS P UNIT hot water central heating boiler is designed for burning wood pellets. It consists of EKO-CKS P boiler body in welded steel design and equipment for combustion of wood pellets: **Cm Pelet-set 200-600 kW**. It is necessary to upgrade the EKO-CKS P UNIT boiler with a pellet tank (e.g. CentroPelet box), and EKO-CKS P UNIT 560 boiler's standard delivery includes cyclone and fan. Standard version is equipped with a pellet burner prearranged for automatic air-cleaning of the grate while the boiler can be additionally equipped automatic ash removal set and air-cleaning of flue passages in the boiler. Digital control manages the operations of the burner (boiler), pellet transporter and additional equipment and all mentioned parts compose a functional unit.



CHARACTERISTICS OF EKO CKS P UNIT BOILER:

- **Class 5 boilers.**
- **Steel hot water boilers with a pellet burner with nominal heat output: 140, 180, 230, 280, 320, 430, 499, 560 kW.**
- **Boiler must be connected to accumulation tank (min. 10 l/kW) or hydraulic separator.**
- **Multifunctional digital control with colour touch screen display.**
- **Additional equipment: air-cleaning of flue passages, ash removal, cyclone with fan, CM2K, CAL, CM-GSM, system for monitoring the boiler operation via PC, tablet or mobile phone.**
- **They are meant to be installed in open or closed heating systems.**
- **It is possible to order a boiler with a lambda probe, EKO-CKS P-L Unit.**
- **The boiler is manufactured in accordance with the standards EN 303-5:2012 as well as ISO 9001:2015 and ISO 14001:2015.**


Pellet tank CentroPelet box.

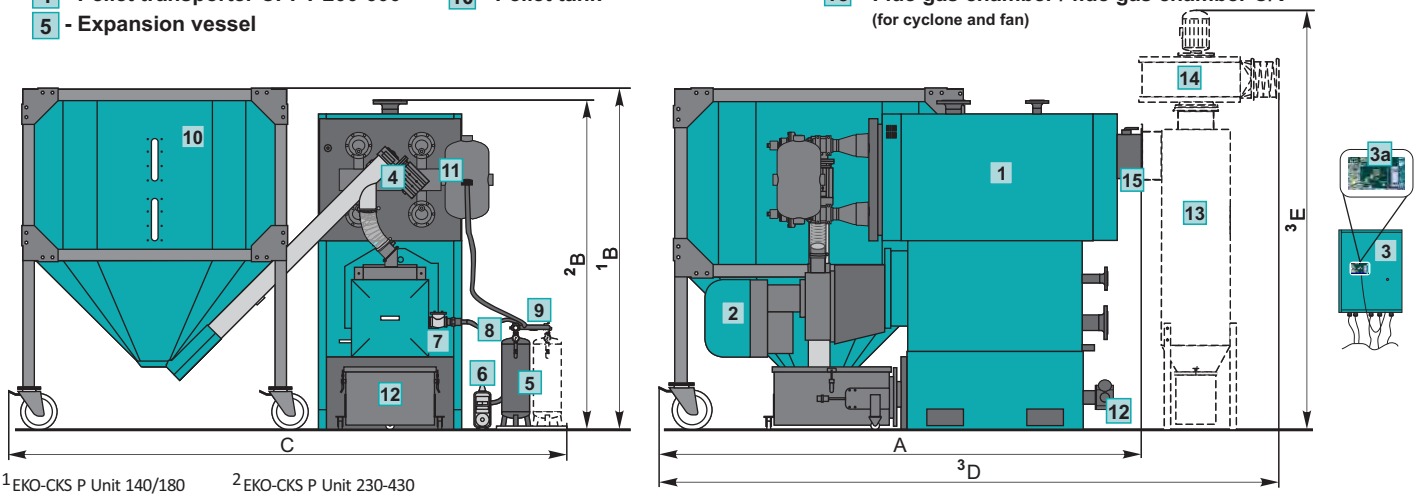

Pellet burner


Motor with a gearbox of the pellet feeder

EKO-CKS P UNIT		140	180	230	280	320	430	499	560
Depth (A)	(mm)	2620	3020	3020	3330	3330	4225	-	-
Height(B)	(mm)	[1]2105	[1]2105	[2]2105	[2]2300	[2] 2400	[2]2565	-	-
Width (C)	(mm)	3300	3300	3300	3345	3420	3900	3600	4775
Depth (D)	(mm)	[3]3265	[3]3650	[3]3650	[3]3985	[3] 4160	[3]4690	5200	5200
Visina (E)	(mm)	[3]2210	[3]2210	[3]2210	[3]2580	[3] 2725	[3]2895	2870	3230
Connections inlet/outlet	(R)/DN	2"	2"	DN80	DN80	DN80	DN100	DN100	DN100

BASIC DIMENSIONS

1 - Boiler EKO-CKS P 140-560
2 - Burner CPPL 200-600
3 - Electrical distribution box
3a - Control unit
4 - Pellet transporter CPPT 200-600
5 - Expansion vessel
[4] 6 - Compressor
[4] 7 - Electromagnetic valve
[4] 8 - Air feeding tube
[4] 9 - Air feeding tube 1
[4] 10 - Pellet tank
11 - Automatic boiler cleaning (additional equipment)
12 - Automatic ash removal (additional equipment)
[3] 13 - Cyclone CCP
[3] 14 - Fan
15 - Flue gas chamber[3]/ flue gas chamber C/V (for cyclone and fan)



[1] EKO-CKS P Unit 140/180 [2] EKO-CKS P Unit 230-430
[3] EKO-CKS P Unit 140-430 - with cyclone and fan **(additional equipment)**
EKO-CKS P Unit 499-560 - with cyclone and fan **(standard delivery)**
[4] EKO-CKS P Unit 140-320 - expansion vessel 50 lit. - 1 kom, electromagnetic valve - 1 kom, air supply pipe - 1 kom
EKO-CKS P Unit 430-560 - expansion vessel 23 lit. - 2 kom, electromagnetic valve - 2 kom, air supply pipe - 2 kom

EKO-CKS P UNIT (140-560 kW)

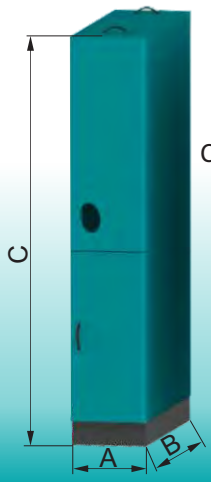
	Basic delivery				Obligatory additional equipment	Additional equipment
	Cm Pelet-set		Boiler	Output range (kW)		
EKO-CKS P UNIT 140	**Cm Pelet-set 200:** - pellet burner CPPL-200 inv (with automatic cleaning) - expansion vessel 50 lit. - compressor	- boiler control - pellet screw conveyor CPPT-200 - electromagnetic valve - air feeding tube	EKO-CKS P 150	42 - 140	- 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	- 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	**Cm Pelet-set 300:** - 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	**Cm Pelet-set 350:** - 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		- 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 380, fan CVX 200
EKO-CKS P UNIT 430	**Cm Pelet-set 600:** - pelet burner CPPL-600 inv (with automatic cleaning) - 2 pcs of expan. vessel 23 lit. - air compressor - boiler control	- pellet screw conveyor CPPT-600 - 2 pcs of electromag. valve - air feeding tube - air feeding tube 1	EKO-CKS P 500	129 - 430		- 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 500, fan CVX 200
EKO-CKS P UNIT 499	**Cm Pelet-set 600:** - pellet burner CPPL-600 inv (with automatic cleaning) - 2 pcs of expan. vessel 23 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	**Cm Pelet-set 600:** - pelet plamenik CPPL-600 inv (sa automatskim čišćenjem) - 2 posude pod tlakom 23 lit. - kompresor - kotlovska regulacija - pelet transporter CPPT-600	- 2 elektromag. ventila - air feeding tube - air feeding tube 1 - cyclone, fan CVX200	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-B module for steering 2 heating circuits using outdoor temperature (max. 4x CM2K), supply transporters from other storages, pellet silos					

Pellet tanks CPSP

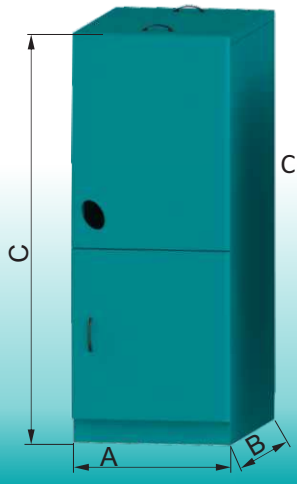
Pellet tanks CPSP are intended for storage of wood pellets (230, 370, 800 l) and are installed into boiler rooms next to the boiler, where there is a possibility to connect the tank to the pellet burner by the means of screw feeder. The containers are made from powder-coated steel. The screw transporter is installed into the tanks at an angle of 45°, and into the CPSP-800 tank it can also be installed on the upper side at an angle of 60°. It is possible to install two screw feeders into one tank (with the exception of CPSP-M). They are to be filled by hand (from bags) or using special equipment, automatic refill. Tanks are delivered dismantled which makes it easier to transport them and house.

Pellet tank		CPSP-M	CPSP	CPSP-800
Volume	(lit.)	230	370	800
Capacity	(kg)	142	260	520
Height A	(mm)	300	625	1010
Depth B	(mm)	730	730	980
Height C	(mm)	1585	1585	1395

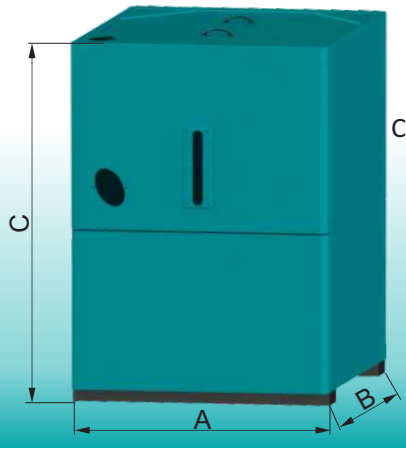
For Cm pellet set 12-50 kW		Optional	**Standard** (CPSP 14-50)	Optional (feeder angle 45°)
For Cm pelet set 51-90 kW		X	Optional (CPSP 70/90/110)	**Standard** (feeder angle 45°)
For Cm pelet set 91-560 kW		X	X	Optional (+boiler feeder set EKO-CKS P UNIT)



CPSP-M



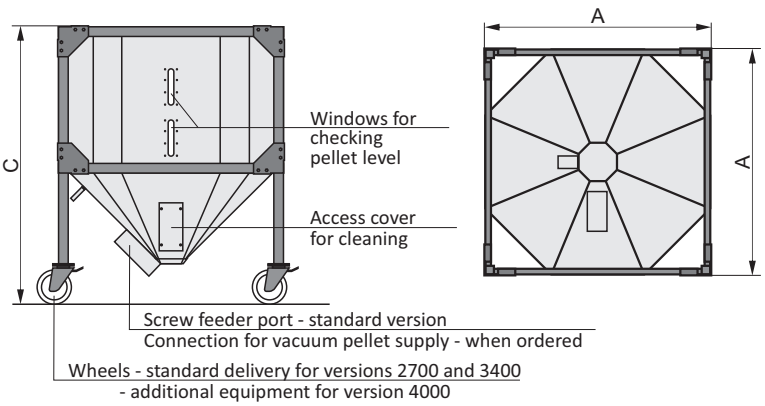
CPSP



CPSP-800

Pellet tanks CentroPelet box

CentroPelet boxes are designed for storing larger quantities of wood pellets (2,7 m^3, 3,4 m^3, 4,0 m^3) and are installed either in boiler rooms next to boilers, where connection of the tank to the pellet burner with the feeding screw is possible, or as remote containers to fill intermediate tanks using a flexible coil. The pellet tank casing is made of steel. On one side there are windows for checking the pellet level.

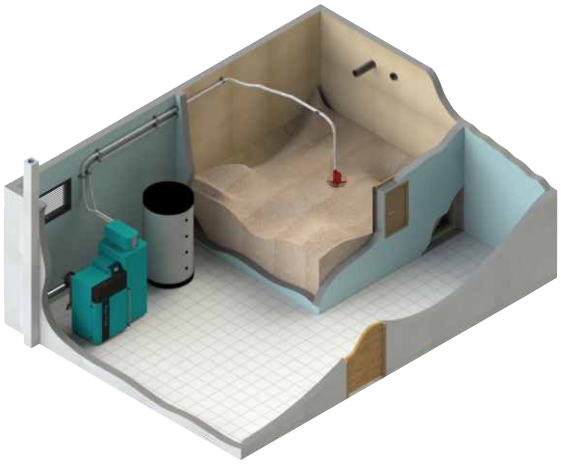


CentroPelet box		2700	3400	4000
Volume	(m^3)	2,7	3,4	4,0
Capacity	(t)	1,75	2,2	2,6
Width=Depth A	(mm)	1570	1570	1995
Height C	(mm)	2150	2490	2250

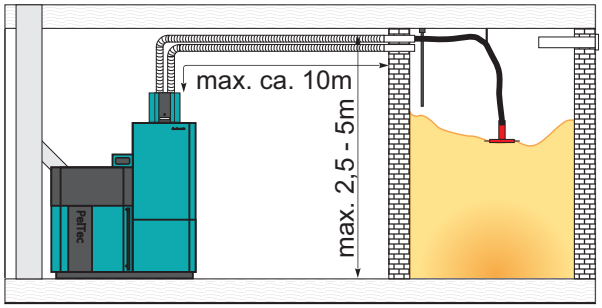
For 2700 and 3400 tanks the screw feeder is installed on the feed outlet at an angle of 45° while for the 4000 tank it can also be installed on the upper side at an angle of 60°. They are to be filled by hand (from bags or jumbo bags). Tanks are delivered dismantled which makes it easier to transport them and house. For 4000 tank the wheels are additional equipment.

Vacuum pellet suction system:

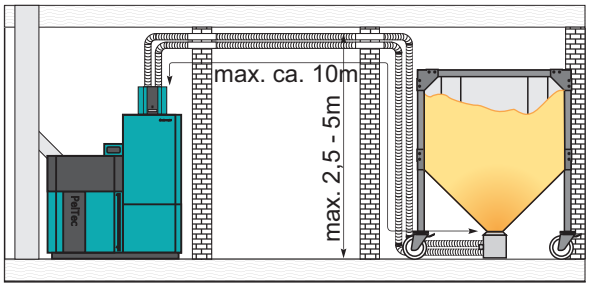
Vacuum pellet suction system is meant for pellet systems up to 90 kW heat output where the storage room does not directly adjoin the room where the boiler is installed and an automatic transport is necessary. In order to ensure a continuous pellet supply, pellets are transported from bigger storage to the storage next to the boiler through flexible pipes up to 10 metres long. Supply system can be connected to three different pellet storage types: pellet storage with mole, large pellet tank CentroPelet Box and pellet tank with the feeder screw (transporter). The system has been tested for wood pellets supply sized 6 mm in diameter, manufactured according to DINplus or ENplus, with a maximum share of dust < 0,7%.

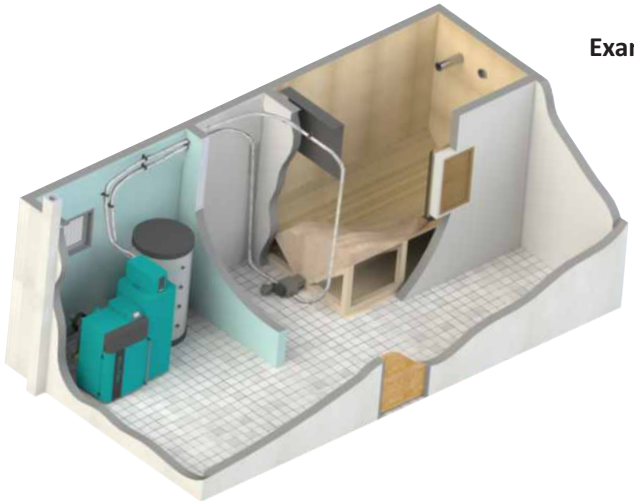


Example: Vacuum suction system with mole from a pellet storage / room

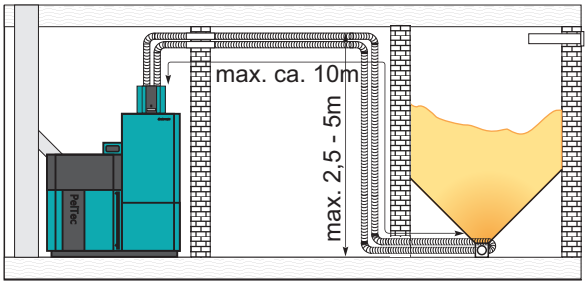


Example: Vacuum suction system from a large tank (CentroPelet box)



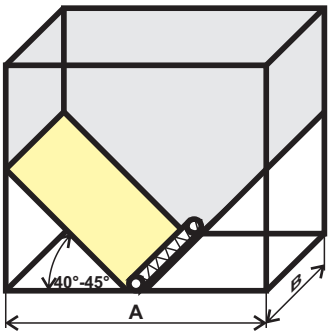


Example: Vacuum suction system by screw feeder from a storage room



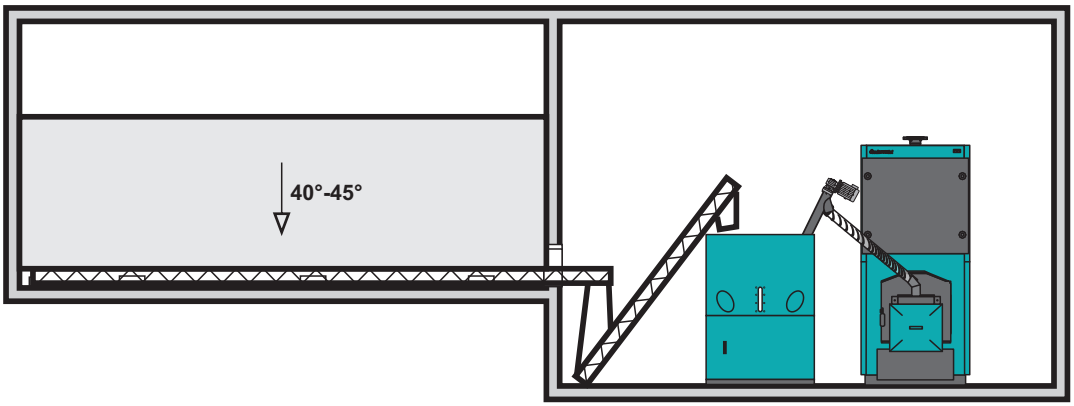
Pellet supply from a room by a screw transporter

Filling a smaller pellet container from a room with sloping sides is possible by using a screw transporter. The slanting sides in the room have to be made at an angle of 40° to 45° towards the screw transporter. The recommended room dimensions span from 1,5 x 2,5m to 4 x 8m while larger rooms have to be adapted to these dimensions. This kind of transport is intended for high output systems due to its robustness and reliability.



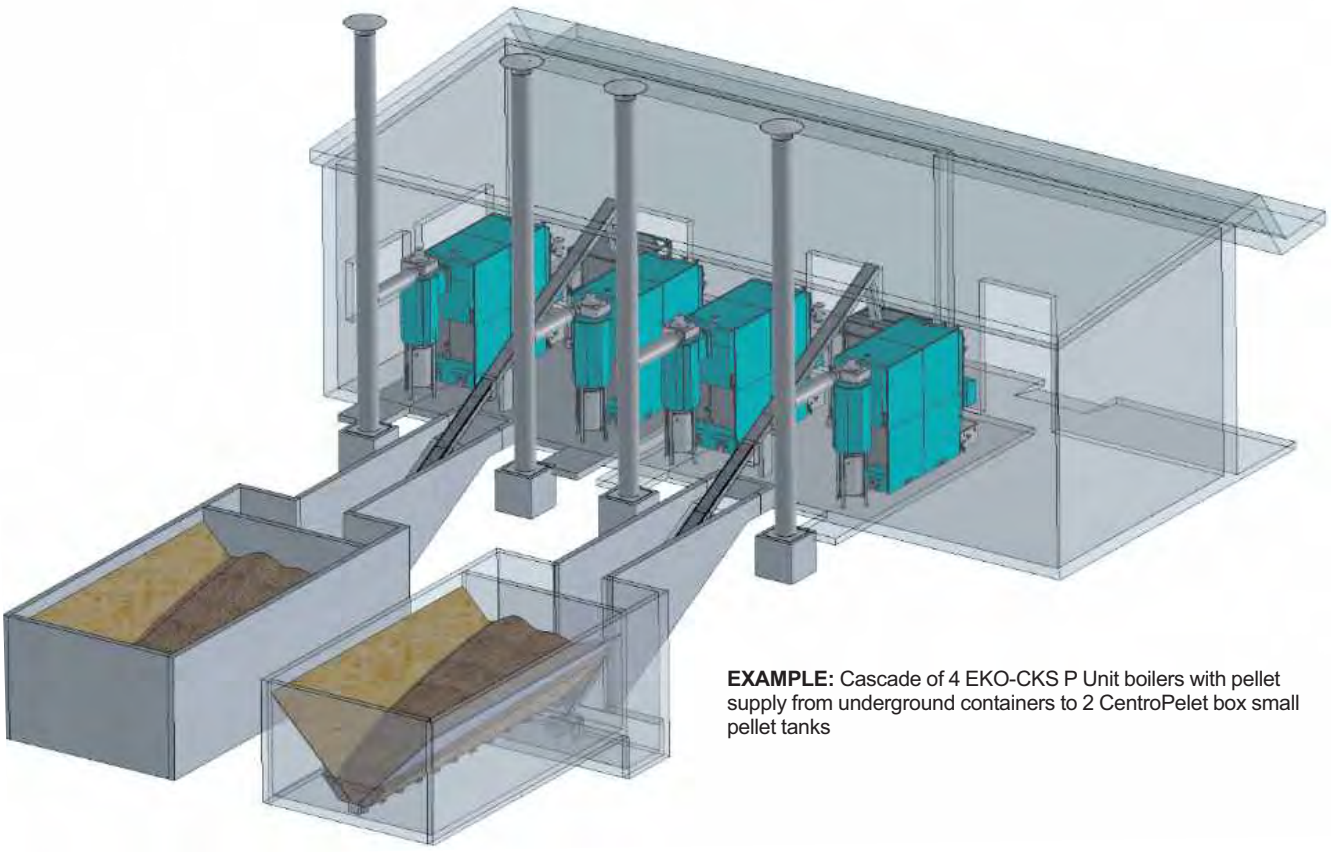
recommended
min.-max.room
dimensions:

AxB = 1,5 x 2,5 m
4 x 8 m



Example: pellet supply from the room into small pellet tank CPSP-800 for boiler EKO-CKS P Unit (140-560 kW).

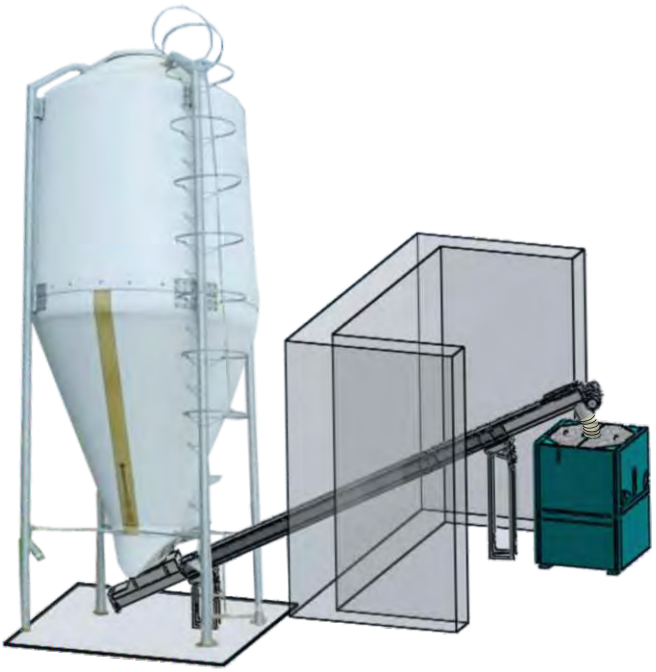
Possibility of installation 2 boilers in cascade with one pellet tank CPSP-800



EXAMPLE: Cascade of 4 EKO-CKS P Unit boilers with pellet supply from underground containers to 2 CentroPelet box small pellet tanks

Pellet supply from an waterproof outdoor silo:

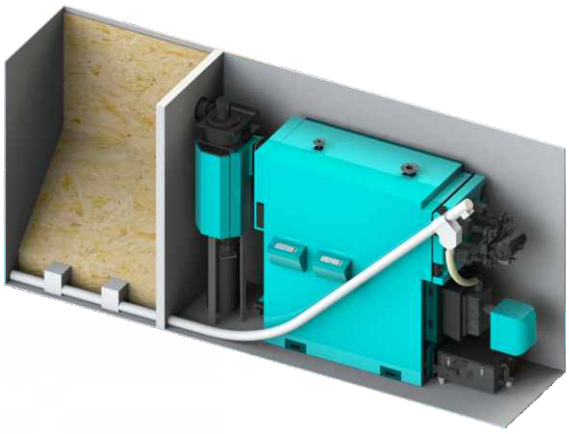
Filling a smaller container from outside is possible to do from the outdoor silo by using a screw transporter. The silo is made of very solid „fiberglass“, glass fiber commonly used for production of boats and yachts. This kind of transport is intended for high output systems because of their robustness and reliability. Silo capacity from 2,4 tons to 45 tons of pellet, height from3,7m to 13m, and 1,6 to 3m in diameter.

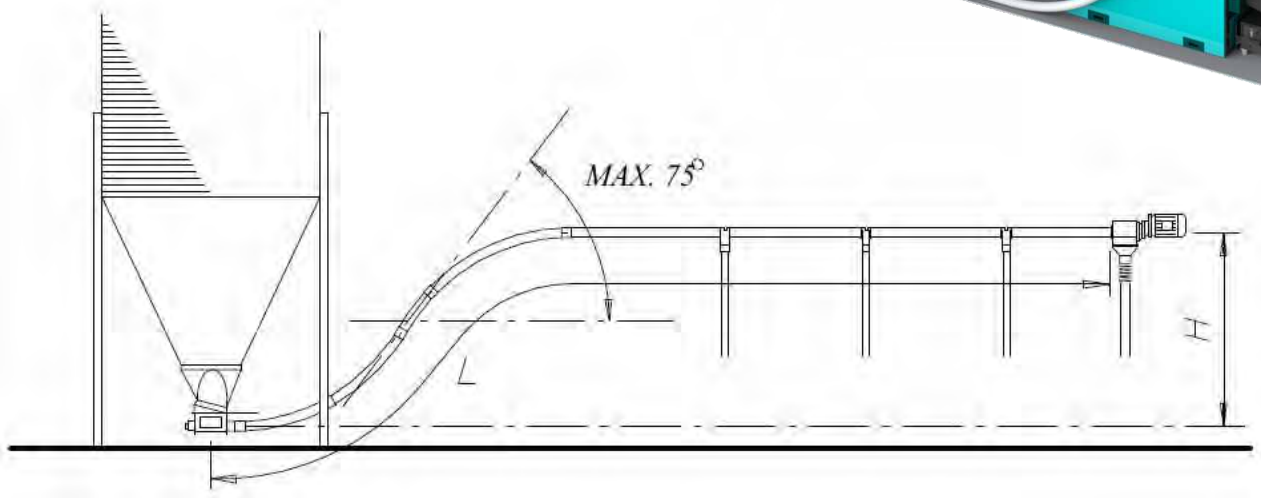


Pellet supply from a room by using a flexible coil:

Pellets can also be transported from a pellet room/depository to the boiler (pellet burner) by using a flexible coil, in the distance of up to 30m and height difference of 6m. It is used only for transportation of wooden pellets ø 6mm in diameter. The flexible coil is placed in a PVC tube 90mm in outside diameter and powered by an electric motor with gearbox. Boiler control controls the supply.

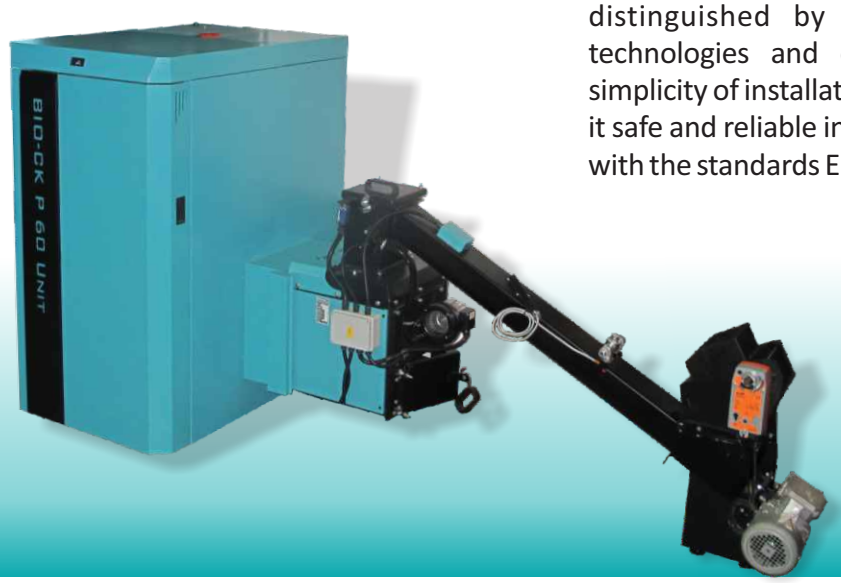
The advantage of this supply system is that the pellets can be transported directly to the burner, and there is no need for a small pellet tank for relatively large distances. Furthermore, it doesn't require a large amount of space, as the sturdy screw transporters do.






wood chips

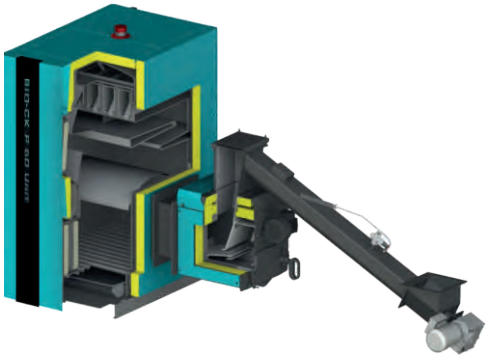
Bio-CK P Unit



Equipment for central heating systems **BIO-CK P Unit** (nominal heat output from 25 to 100 kW) is designed for burning wood chips. It consists of a hot water boiler BIO-CK P, a burner with the fuel transporter and digital boiler control. A fuel tank with a transporter and mixer should be added to the BIO-CK P Unit. This equipment is designed for small and medium sized premises, as a main or, nowadays more often, as an alternative heat source. It is distinguished by a successful combination of modern technologies and quality construction materials s well as simplicity of installation and use. Proven technical solutions make it safe and reliable in operation. It is manufactured in accordance with the standards EN 303-5 and ISO 9001; ISO 14001.

CHARACTERISTICS OF BIO-CK P Unit BOILER:

- Central heating equipment designed for wood chips and wood shavings burning sized P16A-P45A (G30-G50) and with nominal heat output from 25 to 100 kW.
- Maximum permitted fuel moisture content is 35% (M35).
- A fuel tank with a transporter and mixer should be added to the BIO-CK P Unit.
- Available as additional equipment is woodchips storage to be installed indoors or outdoors as well as a wood chips mixer with a transporter to be installed inside into existing storage/room.
- Optionally the boiler can be ordered with burner mounted on left or right side.
- The fan and electrical heater positioned in the burner, operated by the controller, ignite automatically and maintain the flame.
- A carefully sized combustion chamber with triple pass flue gas flow assure boiler operation at high efficiency. This makes the boiler very economical in use.
- The combustion chamber is made out of a high quality sheet metal (5 mm thickness).
- Thermal safety system can be connected in through pre-prepared apertures.
- The body of the boiler is delivered separately from the casing with thermal insulation, the burner with fuel feeder and the boiler digital controller which enables easier transportation and assembly with minimum risk.
- Basic boiler delivery includes a thermometer and cleaning set.
- Required power supplies: 380/400 V.
- BIO-CK P Unit can be installed directly to heating system or through accumulation tank (CAS) with a minimum volume of 12 l/kW and 3-way thermal valve on 60°C.
- Option of additional installation of flue gas extraction fan to boiler's flue gas exhaust.




Boiler digital controller

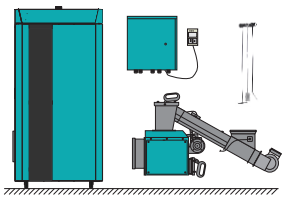

Burner for wood chips and olive tree remains


Against return flame protection


Connection of the burner with the tank feeder

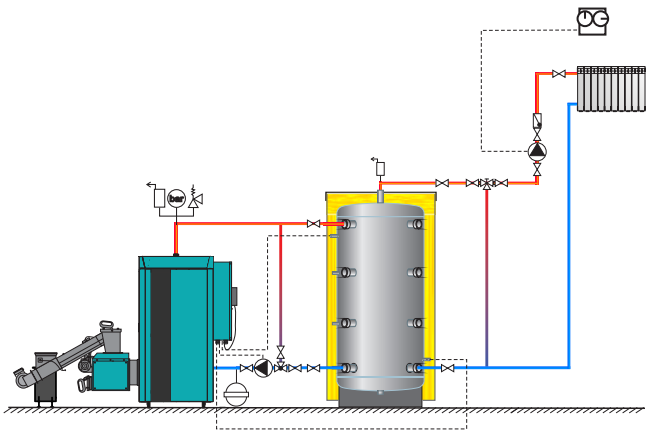
BIO-CK P Unit 25-100kW

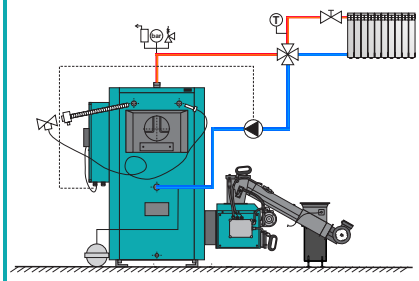
DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



Delivery:

- Boiler body BIO-CK P with casing
- Wood chips burner
- Digital boiler control with power distribution cabinet and control unit
- Burner extension (only on BIO-CK P Gotfire Unit 25, 40 and 60)
- Cleaning set

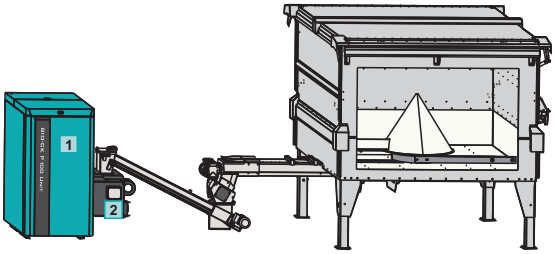




COMPONENTS:

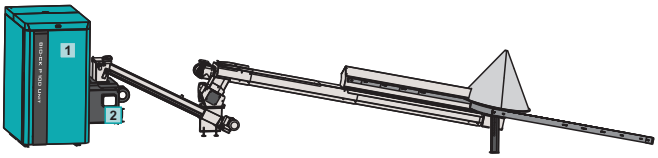
ADDITIONAL EQUIPMENT A

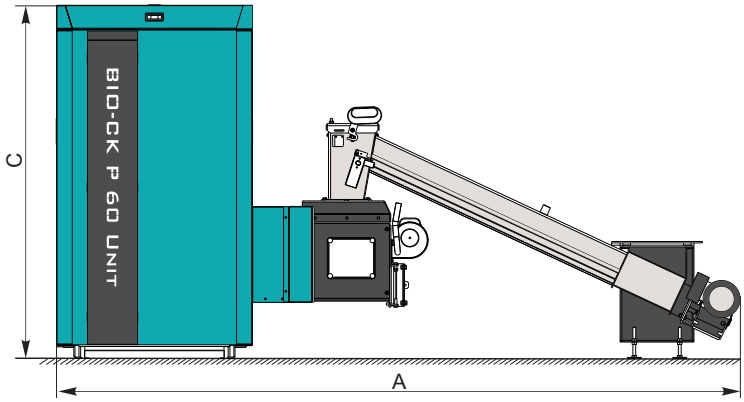
- Wood chips storage with mixer attached to transporter for indoor/outdoor installation



ADDITIONAL EQUIPMENT B

- Transporter with mixer for supply of wood chips from storage/room



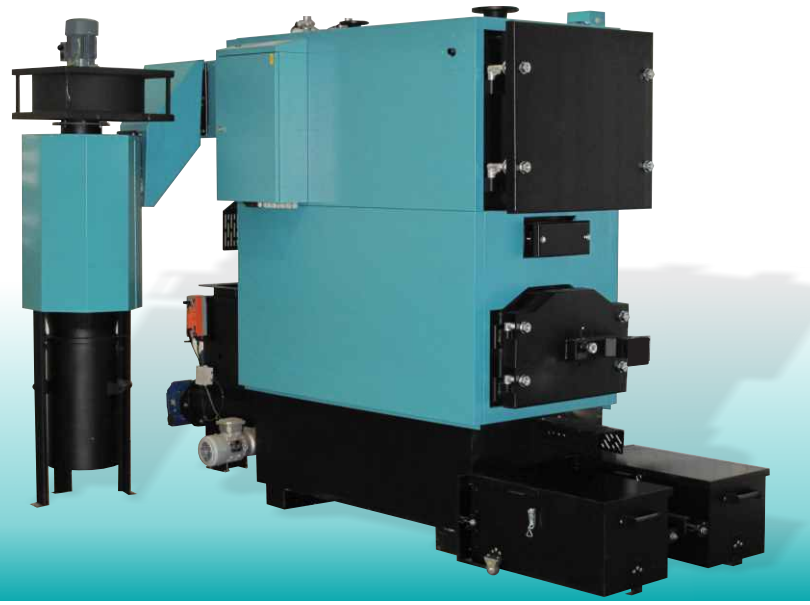


BIO-CK P Unit		25	40	60	100
Heat output range	(kW)	7,5-25	12-40	18-60	30-100
Boiler water content	(l)	78	118	140	227
Boiler mass	(kg)	293	355	450	680
Boiler flue gas exhaust diam.* / height	Ø(mm)	180/930	180/1025	200/1085	200/1215
Chimney draught	(Pa)	20	25	30	31
Boiler water Inlet / Outlet	(R)	5/4"	5/4"	2"	2"
Filling / Draining	(R)	1/2"	1/2"	1"	1"
Safety line	(R)	5/4"	5/4"	2"	2"
Flue gas temp.	(°C)	133	175	175	162
Max. operat. temperature	(°C)	90	90	90	90
Max. operat. pressure	(bar)	2,5	2,5	2,5	2,5
Depth boiler	(mm)	1055	1250	1250	1345
Height of the boiler H	(mm)	1255	1355	1435	1615
Width of the body	(mm)	670	670	730	830
Total width D	(mm)	2360	2380	2690	2860

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.


wood chips

EKO-CKS Multi



Steel hot water boilers for central heating systems **EKO-CKS Multi** with rated output **160-580 kW** are designed to burn wood chip. They are designed for installation in closed or open heating systems for medium and large objects. Automatic operation of the system provides the user with an enviable comfort and makes the system suitable for widespread use. Boilers have inbuilt lambda probe, automatic fire start, thermal protection, automatic cleaning of ash and cyclone with the fan for separation of particles from the flue gases. They are recognizable by the successful combination of modern technology and high quality building materials and simple installation and use. A series of proven technical solutions makes these boilers safe and reliable in operation. Used fuel is one of the renewable energy resources and is very environmentally friendly.

CHARACTERISTICS OF EKO-CKS Multi BOILER:

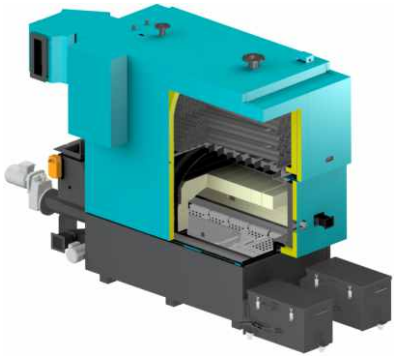
- They are designed to be powered by wood chips sized P16A-P45A (G30-G50).
- The maximum permissible moisture content of the fuel is 35% (M35).
- They are designed for installation in closed or open central heating systems.
- Heat output range: 160-580 kW.
- After changing the type, size, or fuel moisture, necessary is to make correct adjustment of the system, there is a possibility of presetting parameters for different types of fuels.
- Requires electricity 380/400 V.

- Boilers are equipped with:
  - Digital boiler controller that controls boiler operation, conveyors for fuel supply to the boiler and ability to manage up to two additional conveyors and fuel mixer in the fuel tank.
  - Lambda probe.
  - Automatic fuel supply to the burner with conveyor, automatic start and ash extraction from the boiler.
  - Flue gas exhaust fan and separation of particles from flue gases using a cyclone.
  - Turbulators in the flue gas pipes, boiler thermal protection against overheating, protection from return flame to the fuel tank (backfilling sensor, flap).

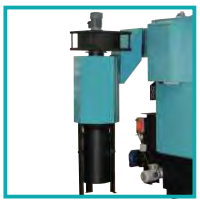
- Required (obligatory) accessories:
  - wood chips storage with mixer connected to the transporter

- Accessories:
  - System for automatic cleaning of flue gas pipes (pneumatic).
  - Additional control unit to monitor the operation of the boiler, it is possible to connect to PC
  - Connecting screw conveyor between the fuel tank conveyor and boiler conveyor.

- Corresponding burner provides for high boiler efficiency level which makes it economical.
- Maximal work pressure of the boiler is 3 bar which makes it possible to be installed in bigger heating systems.
- Separate delivery of boiler body, cyclone with fan, automatic ash removal boxes, thermally insulated casing, power distribution cabinet with digital boiler control and cleaning set which enables easy transport, installation in the boiler room and lower damage risk.
- The boiler is manufactured in accordance with the standard EN 303-5.




Fuel transporter connection with return flame protection


Cyclone with a fan for flue gases


Gearmotor of automatic ash removal system


Ash box of automatic ash removal system

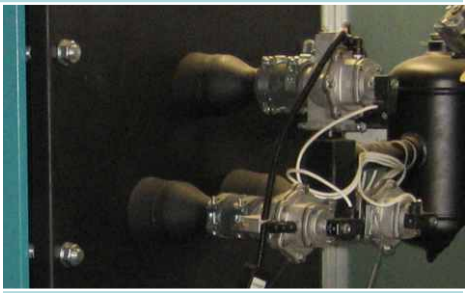
DELIVERY AND ADDITIONAL EQUIPMENT:

EKO-CKS Multi (160-580 kW)

Basic delivery	Required equipment	Additional equipment
- body of the boiler with burner and retort - supply fuel screw transporter into the boiler with a connection for an external supply fuel transporter, return flame protection and backfilling sensor - Steel casing with thermal insulation - Cyclone with an ash box - Cyclone fan - Automatic ash removal system with ash box (screw conveyor) - Electrical distribution panel with digital boiler controller - Control unit	- wood chip tank with a mixer and feeder	- System for automatic cleaning of the flue gas pipes (pneumatic) - Additional control unit to monitor the operation of the boiler, possible to connect to PC - Connecting screw transporter between the tank transporter and boiler transporter

Wood chips storage (room) with the mixer connected to the transporter

Wood chips storage with the mixer connected to the screw conveyor



Automatic flue pipes cleaning system

BASIC DIMENSION:

1 - Body of the boiler with burner with moving grate and thermal insulation

2 - fuel screw conveyor in the boiler with connection to the outher fuel conveyor, return flame protection and backfilling sensor

3 - Ports for thermal protection of the boiler

4 - Cyclone with ash box (can be installed on left or right side)

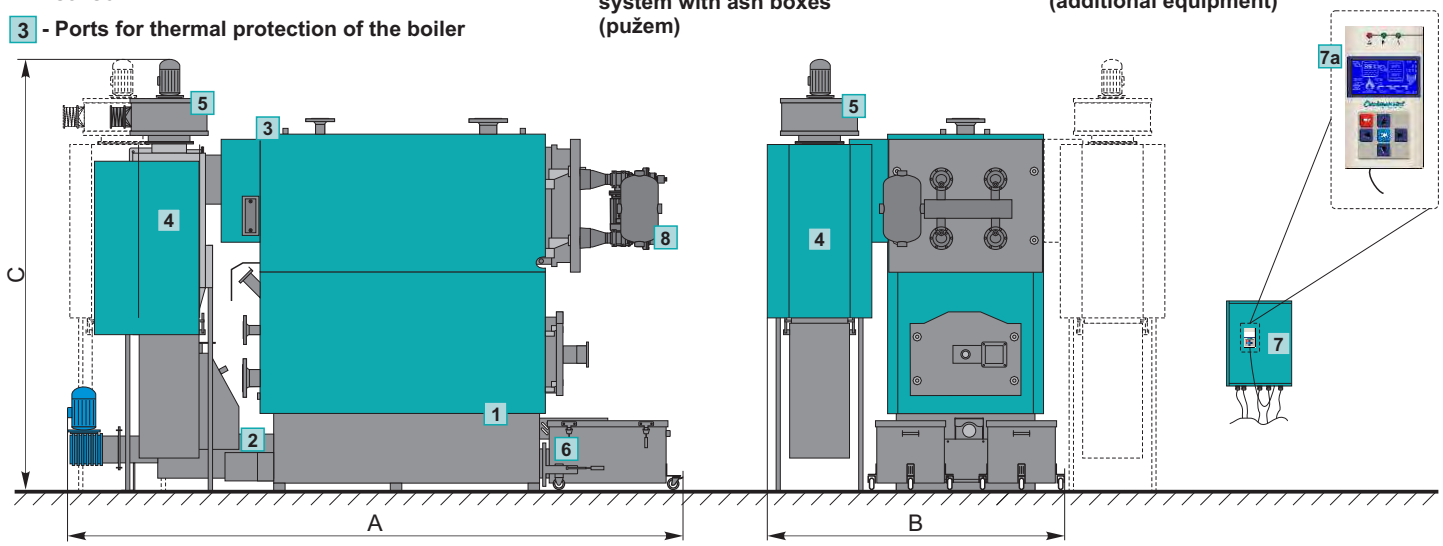
5 - Cyclone fan

6 - Automatic ash extraction system with ash boxes (pužem)

7 - Electric box with digital boiler controller

7a - Control unit

8 - System for automatic cleaning of flue gas pipes (pneumatic) (additional equipment)

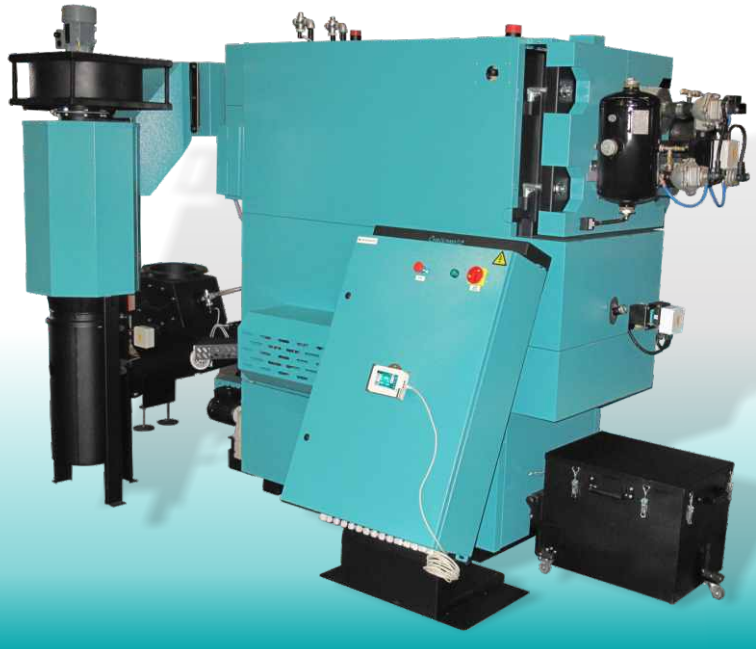


EKO-CKS Multi		160	210	260	320	440	580
Nominal heat output	(kW)	160	210	260	320	440	580
Heat output range	(kW)	48 - 160	63 - 210	78 - 260	96 - 320	132 - 440	174 - 580
Inlet / Outlet	(R)/(DN)	2"	2"	80	80	100	100
Max. working temperature	(°C)	90	90	90	90	90	90
Max. working pressure	(bar)	3	3	3	3	3	3
Total depth A	(mm)	3670	3670	4020	4020	4500	4500
Total width B	(mm)	1800	1905	2000	2145	2470	2470
Total height C	(mm)	2140	2400	2460	2460	2570	2870

 *wood chips*

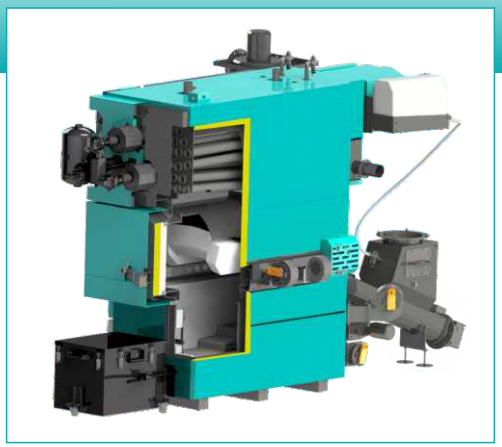
 *wood pellets*

EKO-CKS Multi Plus



Steel warm water boilers **EKO-CKS Multi Plus** with 170 - 580 kW efficiency are designed to be fired by wood chips and wood pellets. They can be installed in both closed and open central heating systems in medium and large facilities. Automatic operation of these systems provides the user with enviable comfort and makes the system suitable for wide application.

Boilers are equipped with a moving grate for fuel burning, a lambda probe, an automatic fuel feeding system, automatic ignition, thermal protection, automatic ash removal from the combustion chamber and cyclone to extricate particles from flue gasses. They are distinguished by a successful combination of modern technologies and quality construction materials s well as simplicity of installation and use. Proven technical solutions make these boilers safe and reliable in operation.



CHARACTERISTICS OF EKO-CKS Multi Plus BOILER:

- Class 5 boiler.
- They are designed to be powered by P16A/P16B - P45A, M35 (G30-G50, W35) class wood chips and E ENplus A1 and A2 class wood pellets.
- They can be installed in both closed and open central heating systems.
- After a change in type, size or moist content of the fuel it is necessary to adjust the settings of the system. There is an option of pre-adjusting the parameters for some fuel types.
- Required power supplies: 380/400 V.

- Equipped with:
  - digital boiler control with a touch screen display which controls the operations of the boiler, fuel supply transporter and has an option to control up to two additional fuel transporters and a mixer in fuel storage.
  - moving grate for fuel combustion.
  - lambda probe.
  - automatic fuel supply to burner by means of screw transporter, automatic ignition and automatic ash removal from the boiler.
  - Flue gas extraction fan and cyclone for flue gas particles extrication.
  - Flue pipes turbulators, thermal protection against overheating, protection against backfire into the fuel storage (overfilling sensor, flap).

- Obligatory additional equipment:
  - connecting fuel transporter.
  - fuel storage: wood chips with mixer and transporter / wood pellets with transporter.
  - hydraulic separator or accumulation tank.

- Additional equipment:
  - automatic flue pipes cleaning system (pneumatic).
  - CM2K (module for steering 2 heating circuits using outdoor temperature, max. 4 x CM2K), CMNET (cascade manager) CAL (light and sound alarm), CMGSM (alarm message and boiler start/stop by SMS).
  - system for monitoring the boiler operation via PC, tablet or mobile phone.

- Corresponding burner with moving grill provides for high boiler efficiency level which makes it economical.
- Maximal work pressure of the boiler is 4 bar which makes it possible to be installed in bigger heating systems.
- Separate delivery of boiler body, cyclone with fan, automatic ash removal boxes, thermally insulated casing, power distribution cabinet with digital boiler control and cleaning set which enables easy transport, installation in the boiler room and lower damage risk.
- The boiler is manufactured in accordance with the standard EN 303-5:2012.

EKO-CKS Multi Plus 170-580 kW

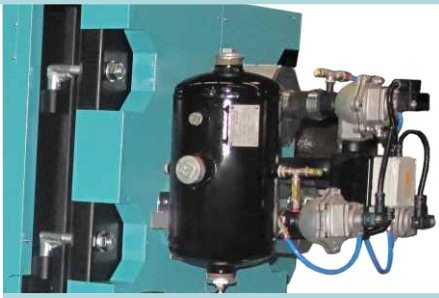
DELIVERY AND ADDITIONAL EQUIPMENT:

EKO-CKS Multi (170-580 kW)

Basic delivery	Required equipment	Additional equipment
- body of the boiler with burner and retort - supply fuel screw transporter into the boiler with a connection for an external supply fuel transporter, return flame protection and backfilling sensor - Steel casing with thermal insulation - Cyclone with an ash box - Cyclone fan - Automatic ash removal system with ash box (screw conveyor) - Electrical distribution panel with digital boiler controller - Control unit	- wood chip tank with a mixer and feeder	- System for automatic cleaning of the flue gas pipes (pneumatic) - CM2K (module for steering 2 heating circuits using outdoor temperature, max. 4 x CM2K), CMNET (cascade manager), CAL (light and sound alarm), CM-GSM (alarm message and boiler start/stop by SMS). - Connecting screw transporter between the tank transporter and boiler transporter

Wood chips storage (room) with the mixer connected to the transporter

Wood chips storage with the mixer connected to the screw conveyor



Automatic flue pipes cleaning system

BASIC DIMENSIONS:

1 - Body of the boiler with burner with moving grate and thermal insulation

2 - Supply screw transporter of fuel to boiler with a port for connecting supply transporter 2, protection against backfire and overfilling sensor

3 - Ports for thermal protection of the boiler

4 - Cyclone with ash box (can be installed on left or right side)

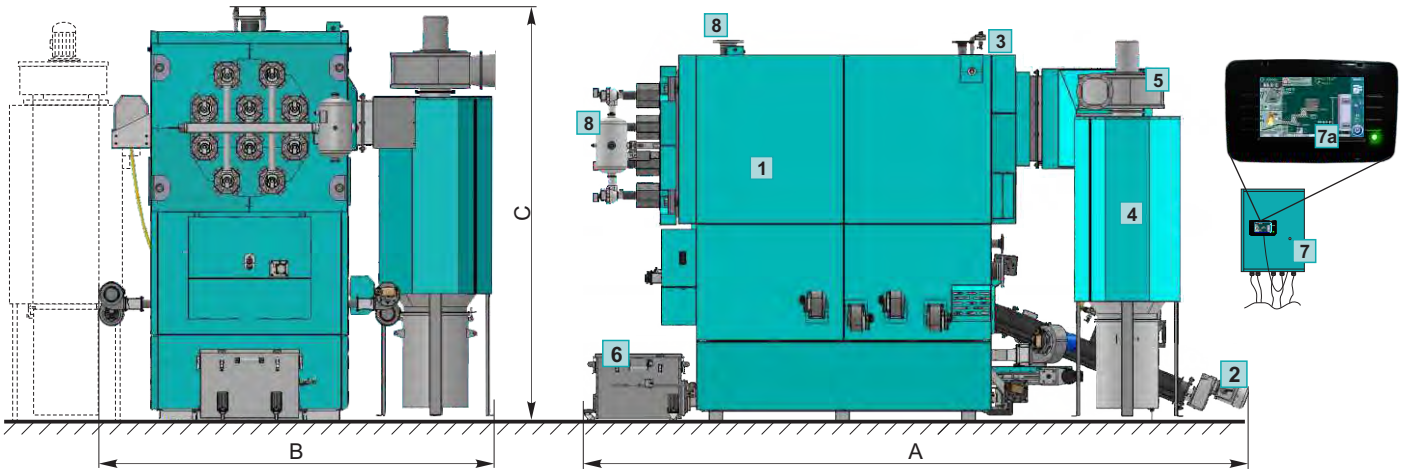
5 - Cyclone fan

6 - Automatic ash extraction system with ash boxes (pužem)

7 - Electric box with digital boiler controller

7a - Control unit

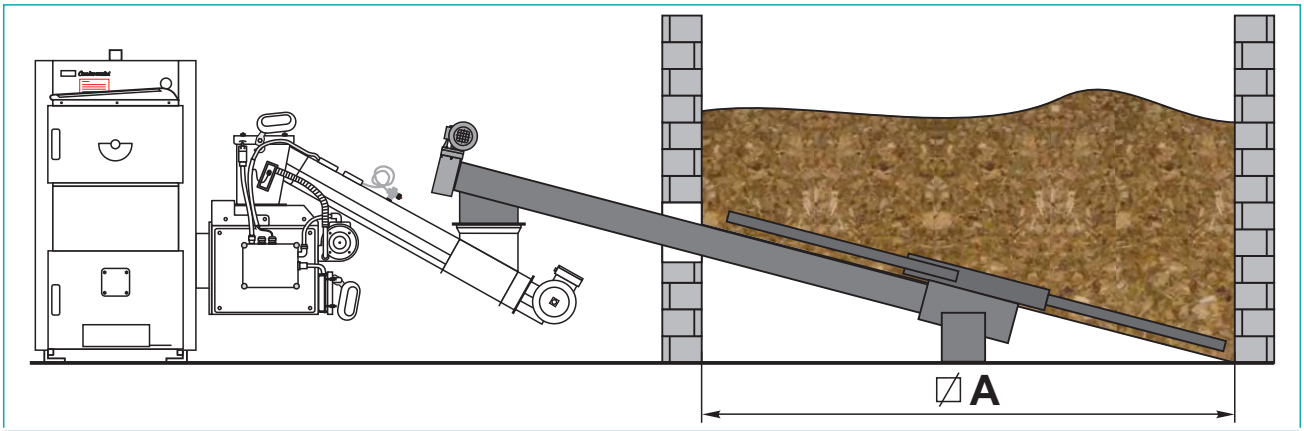
8 - System for automatic cleaning of flue gas pipes (pneumatic) (additional equipment)



EKO-CKS Multi Plus		170	250	340	450	580
Nominal heat output	(kW)	170	250	340	320	580
Heat output range	(kW)	51 - 170	75 - 250	102-340	135 - 450	174 - 580
Inlet / Outlet	(R)/(DN)	2"	80	80	100	100
Max. working temperature	(°C)	95	95	95	95	95
Max. working pressure	(bar)	4	4	4	4	4
Total depth A	(mm)	3885	3885	4235	4720	4720
Total width B	(mm)	2010	2170	2260	2555	2655
Total height C	(mm)	2270	2520	2520	2595	2775

Wood chip feeding systems from a storage – room (enclosed space)

These systems are designed for wood chip transfer (max. moisture content up to 35 %) from a storage room to the firing equipment BIO-CK P Unit, EKO-CKS Multi, EKO-CKS Multi Plus. They are equipped with a rotating plate with springs for wood chip mixing (Ø 1,2 - 5m) connected to a screw transporter (2,5-8m) which is driven by an electric motor with gearbox. The system is operated by the digital control of the boiler in its standard configuration.



Wood chip feeding systems from storage - room

Wood chips storage with the mixer connected to the transporter

Wood chip tanks with a mixer and feeder

These systems are designed for storage and transportation of wood chips to the firing equipment of BIO-CK P Unit, EKO-CKS Multi, EKO-CKS Multi Plus. They are manufactured so that they can be placed both indoors and outdoors. They are equipped with a screw transporter, an electric motor with gearbox and a wood chips mixer. Tanks are filled from the upper side after opening the lid and wood chips may contain up to 35% moisture. The system is operated by the digital control of the boiler in its standard configuration.

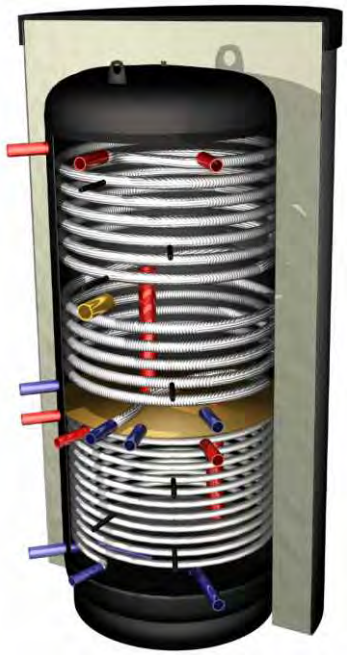
Storage tanks are produced in following dimensions: 2,8m³, 5,5m³, 9m³, 18m³.

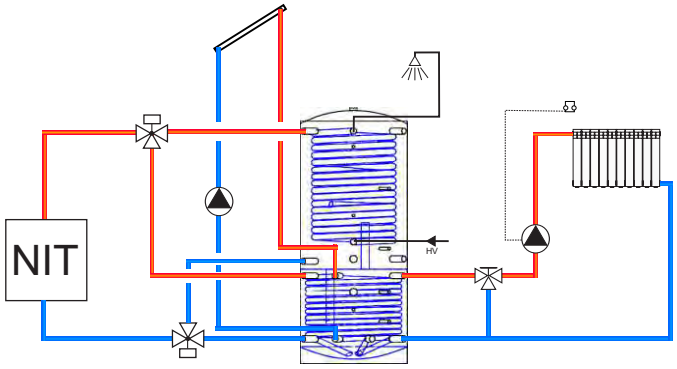
CAS-PBS

CAS-PBS accumulation tanks are designed for installation in **low temperature heating systems** and sanitary water heating systems supported by a solar heating system. The special design ensures rapid heating of the upper part of the tank by solar collectors, which provides faster and more efficient heating of domestic hot water. In the lower part of the tank there is a solar heat exchanger, and in the upper part a ribbed stainless steel pipe for instantaneous heating of domestic hot water. An electrical heater can be installed in the upper part of the tank which can provide supplementary heating to sanitary water if there is not enough energy from the collector or any other conventional system. The accumulation tank has thick insulation to minimize heat losses. Thanks to the multiple ports, several independent systems for reheating of heating water and domestic hot water can be connected to the tank which makes it highly ecologically and energetically acceptable. Accumulation tanks are manufactured in accordance with the standardISO 9001/2008.

CHARACTERISTICS OF ACCUMULATION TANK CAS-PBS

- **The accumulation tank is made of quality black steel.**
- **Rapid heating of sanitary water by the ribbed stainless steel pipe in the upper part of accumulation tank.**
- **Tube heat exchanger in the bottom of the tank to connect to the solar system or other heat source.**
- **The distribution plate with tubes that allows better temperature distribution from top to bottom of the tank.**
- **The option to connect an electrical heater to the 2'' connector provided for this purpose.**
- **130mm thermal insulation to minimize heat loss from the tank.**
- **It is meant for connecting to low temperature heat sources.**



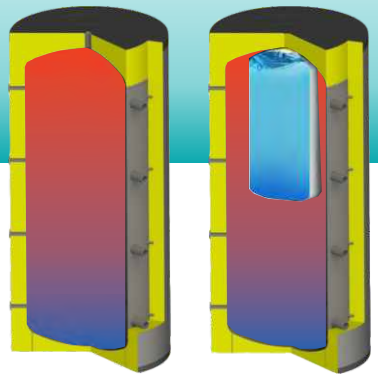


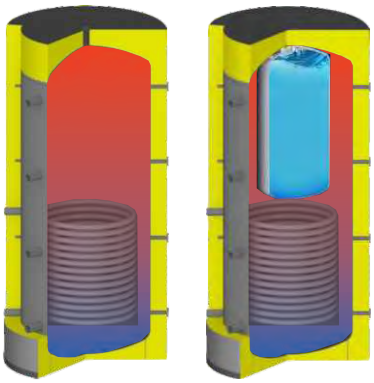
NIT= low temperature heat source

CAS-PBS		850
Volume	(lit)	855
Tank body diameter	(mm)	790
Outer diameter	(mm)	1050
Total height (without/with insulation)	(mm)	1875 / 2005
Connections	(R)	5/4"
Max. operat. pressure	(bar)	3
Min. height of the room	(mm)	2100
Empty tank mass	(kg)	195
Total tank mass	(kg)	210
Finned tube volume DHW	(lit.)	29
Finned tube surface DHW	(m^2)	4,76
Max. working pressure of finned tube:	(bar)	6
Conections DHW	(R)	6/4
Tube exch. heat. surface	(m^2)	2,6
Tube exchanger content	(lit.)	14
Insulation	(mm)	130

CAS

CAS accumulation tanks are meant to be integrated into central heating systems, mostly with biomass fired boilers (BioTec, BioTec-L, BioTec Plus, BioSolid, EKO-CK P, PelTec, EKO-CKS Multi, EKO-CKS Multi Plus..) in order to store heat energy and enable a more economical and efficient functioning of the boiler. They are produced in a range of sizes (475, 740, 940, 1450, 2160, 2960, 3820 i 5055 litres) and types: as an accumulation tank (CAS), with a built in stainless steel boiler for heating domestic water (CAS-B), with an built in tube exchanger for connecting solar collectors (CAS-S) and with a built in stainless steel boiler and a tube exchanger (CAS-BS). These options enable simultaneous use of different renewable energy sources, making them ecologically and energetically acceptable. When CAS accumulation tanks are connected to the system, it is possible to plan firing at an acceptable time, and, in case of milder outdoor temperatures, it is possible to heat rooms and domestic water throughout several days without the need of firing the boiler. The production and materials of the accumulation tanks are manufactured in accordance with the standards ISO 9001 and ISO 14001.





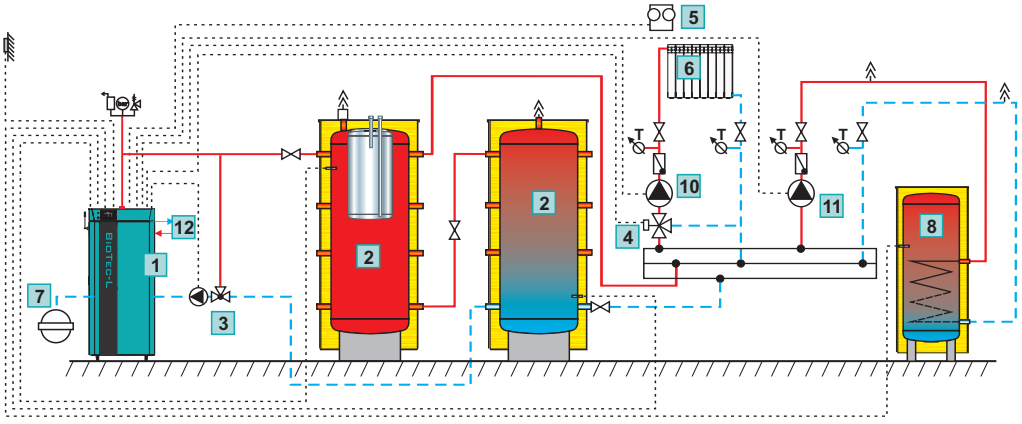
CHARACTERISTICS OF THE CAS ACCUMULATION TANK:

- Designed to be connected to central heating systems in order to store heat energy.
- Increase solid fuel fired boilers' efficiency and cost-effectiveness.
- Made out of tested steel sheet in accordance with ISO 9001 and ISO 14001.
- With good insulation in leatherette housing
- Accumulation tanks can also be connected to each other as modules, in order to increase the total accumulation.
- Produced in following size and types:
  - CAS 501 (475 lit.), CAS 801 (740 lit.), CAS 1001 (940 lit.), CAS 1501 (1435 lit.), CAS 2001 (1920 lit.), CAS 3001 (2960 lit.), CAS 4001 (3820 lit.), CAS 5002 (5055 lit.) - accumulation tank;
  - CAS-S 501 (475 lit.), CAS-S 801 (740 lit.), CAS-S 1001 (940 lit.) - accumulation tank with an built in tube exchanger for connecting the solar collector;
  - CAS-B 501 (475 lit.), CAS-B 801 (740 lit.), CAS-B 1001 (940 lit.) - accumulation tank with a built in stainless steel water heater;
  - CAS-BS 501 (475 lit.), CAS-BS 801 (740 lit.), CAS-BS 1001 (940 lit.) - accumulation tank with the built in stainless steel water heater and an tube exchanger for solar collectors.
- It is also possible to order custom made accumulation tanks with regard to size, connections and volumes (up to 200 000 l).

Suggested sizing criteria for CAS:

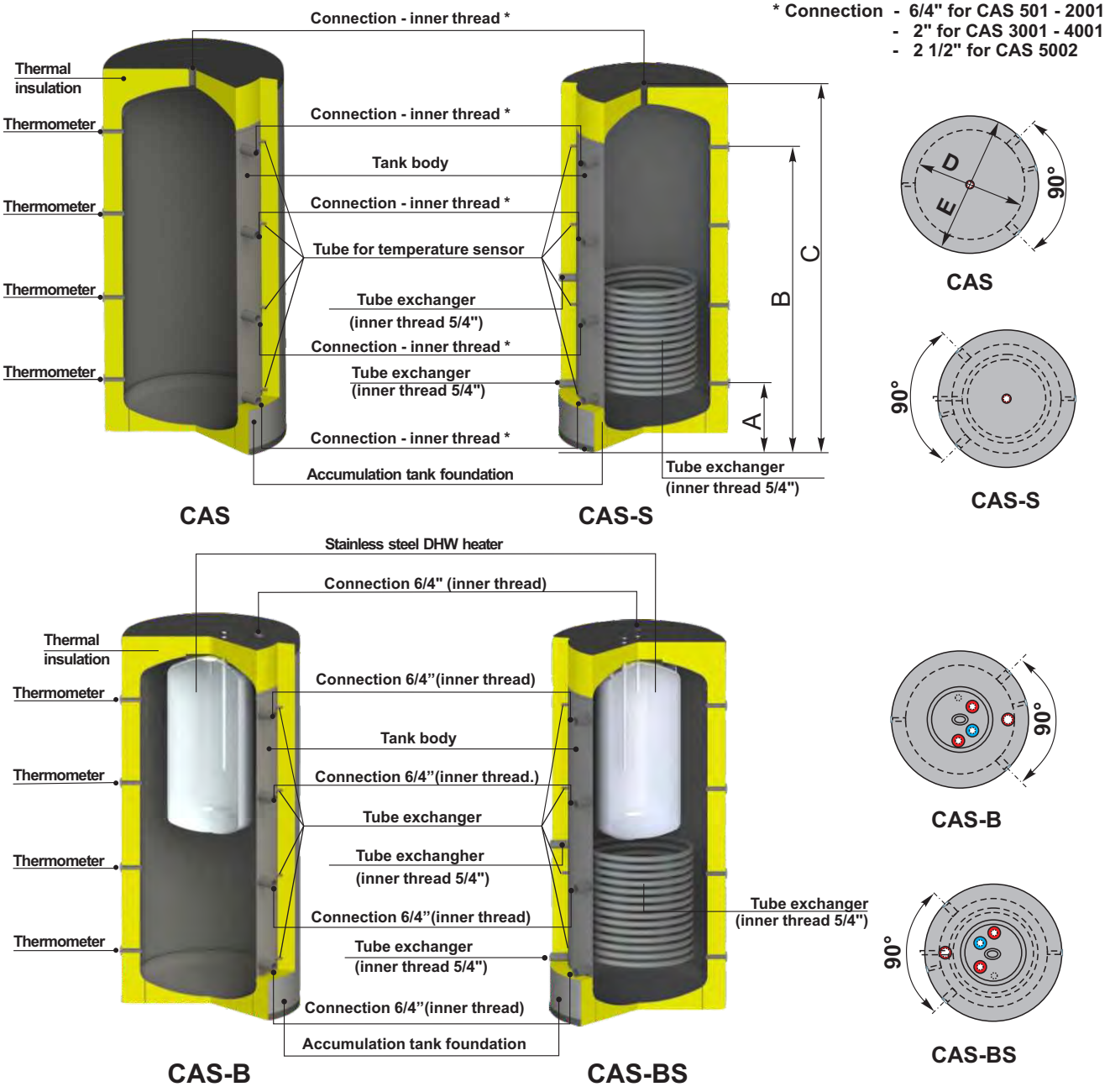
- Phyrolysis boilers: min 50 liters of tank volume per each 1 kW of boiler output.
- Solid fuel boilers: min 30 litres of tank volume per each 1 kW of boiler output.
- Wood chips boilers: min 12 litres of tank volume per each 1 kW of boiler output.
- Wood pellets boilers: min 10 litres of tank volume per each 1 kW of boiler output.

Diagram showing connection of 2 CAS accumulation tanks to heating system with a phyrolysis boiler



1 - Boiler "BioTec-L"
2 - Accumulation tank "CAS-B" i CAS
3 - 3-way thermostat valve (60°C)
4 - Motor operated 3-way mixing valve
5 - Room corrector
6 - Heating circuit
7 - Expansion vessel for closed central heating systems
8 - Sanitary hot water accumulation tank (SKB/LKB/TB/STEB)
9 - Pump P1 - boiler
10 - Pump P2 - heating
11 - Pump P3 - domestic hot water DHW
12 - Boiler thermal protection

Tank cross-sections:



		CAS								CAS-S			CAS-BS			CAS-B		
Tip		**501**	**801**	**1001**	**1501**	**2001**	**3001**	**4001**	**5002**	**501**	**801**	**1001**	**501**	**801**	**1001**	**501**	**801**	**1001**
Volume	(lit.)	475	740	940	1450	2160	2960	3820	5055	475	740	940	475	740	940	475	740	940
Tank body diameter D	(mm)	650	790	790	1000	1200	1250	1400	1600	650	790	790	650	790	790	650	790	790
Outer diameter E	(mm)	850	990	990	1200	1400	1450	1600	1800	850	990	990	850	990	990	850	990	990
Total height C	(mm)	1670	1750	2150	2100	2180	2695	2790	2825	1670	1750	2150	1670	1750	2150	1670	1750	2150
Connections	(R)	6/4"	6/4"	6/4"	6/4"	6/4"	2"	2"	2 1/2"	6/4"	6/4"	6/4"	6/4"	6/4"	6/4"	6/4"	6/4"	6/4"
Max. operat. pressure	(bar)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Max. operat. temp.	(°C)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Min. height of the room	(mm)	1870	1950	2350	2300	2335	2915	3015	3000	1870	1950	2350	1870	1950	2350	1870	1950	2350
Empty tank mass	(kg)	75	99	149	185	245			445	100	135	185	120	175	225	105	135	176
Total tank mass	(kg)	83	110	156	198	274	321	380	455	106	147	197	134	184	234	111	147	193
DHW tank content	(lit.)	-	-	-	-	-	-	-	-	-	-	-	125	170	170	125	170	170
Max. operat. pressure DHW	(bar)	-	-	-	-	-	-	-	-	-	-	-	6	6	6	6	6	6
Conections DHW tank	(R)	-	-	-	-	-	-	-	-	-	-	-	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Tube exch. heat. surface	(m2)	-	-	-	-	-	-	-	-	1,5	2,5	2,8	1,9	2,6	3,2	-	-	-
Tube exchanger content	(lit.)	-	-	-	-	-	-	-	-	9	15	17	10,5	14	17,5	-	-	-
Insulation	(mm)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Height A	(mm)	230	320	320	320	355	370	420	475	230	320	320	230	320	320	230	320	320
Height B	(mm)	1380	1370	1770	1720	1755	2260	2310	2325	1380	1370	1770	1380	1370	1770	1380	1370	1770

oil / gas

EKO-CUP M3 i EKO CUP M3 Bg

EKO-CUP M3 steel hot water boilers (heat outputs 18- 80 kW) and EKO-CUP M3 Bg (heat outputs 25-80 kW) are of modern design and are notable for their high efficiency level resulting from continual development of design features, the application of modern technologies and the use of high quality materials. These factors also make these boilers safe and reliable. Economy of use is assured by the triple-pass combustion gas flow system. A special feature of EKO CUP-M3 Bg boilers is an integrated domestic stainless steel water heater which is placed inside the boiler's water chamber. This feature makes the product especially interesting because the control functions of the boiler are always able to maintain the required temperature of domestic hot water.

CHARACTERISTICS OF EKO-CUP M3 / EKO-CUP M3 Bg BOILERS:

- **Hot water boilers for central heating systems with triple-pass flue gas flow system (nominal heat outputs 18 -80 kW).**
- **Economical and ecologically acceptable, with high efficiency rates.**
- **Built in turbulators enable better heat flow from flue gas to boiler water, better regulation of resistance in the combustion chamber and better regulation of the output temperature of the flue gas, i.e. highly effective balancing between the functionality of the boiler, burner and chimney.**
- **A large volume of water in the boiler reduces the number of start ups, prolongs the life of the burner and saves energy.**
- **Pre-wired boiler and control panel with basic boiler regulation and prepared (plugged in) connections for heat regulation depending on outdoor temperature.**
- **Basic boiler controller controls a single stage burner according to set values for temperature of water in the boiler.**
- **A special feature is its high performance heat and noise insulation.**
- **The door of the boiler has perforated holes for mounting of the burner and can be opened both to the left and right for 90° which enables simple and fast boiler cleaning.**
- **The body of the boiler is delivered separately from the casing which enables easier transportation and assembly.**
- **The boiler is manufactured in accordance with the standards ISO 9001 and ISO 14001.**

Specials of EKO-CUP M3 Bg:

- **Hot water boilers for central heating systems with integrated domestic water heater in the boiler's water and with triple-pass combustion gas flow system (heat output range 25 - 80kW).**
- **The hot water heater is produced from high quality stainless steel, which assures a high hygienic level, while the integration of the water heater enables quick warming of the entire water quantity.**
- **The inclusion of the domestic water heater reduces overall costs because a pump is not necessary.**
- **Boiler controller is sufficient for domestic water temperature regulation so no additional investment is necessary.**

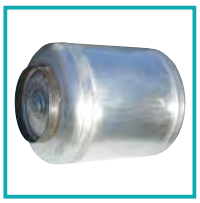
Basic boiler controls

Factory-prepared opening for placing an oil or gas burner

Burner safety cover

Connections of boiler EKO-CUP M3

Connections of boiler EKO-CUP M3 Bg and cleaning set

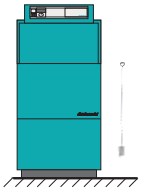


Stainless steel water heater DHW

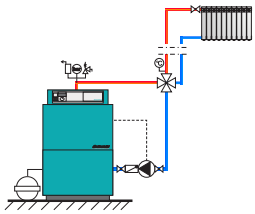
EKO-CUP M3/M3 Bg 18-80 kW

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:

Delivery of EKO-CUP M3:
- Body of the boiler with casing and basic boiler controller, cleaning brush



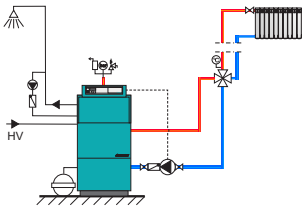
Delivery of EKO-CUP M3 Bg:
- body of the boiler with casing and basic boiler controller, cleaning brush



Connecting the EKO-CUP M3 boiler to system with one heating circuit with 4-way mixing valve:
- Oil/gas burner, 4-way manual mixing valve

Closed heating system
- safety air-vent group (2,5 bar) and expansion vessel;

Open heating system
- open expansion vessel



Connecting the EKO-CUP M3 Bg boiler to system with one heating circuit with 4-way mixing valve and DHW:
- oil/gas burner, 4-way manual mixing valve

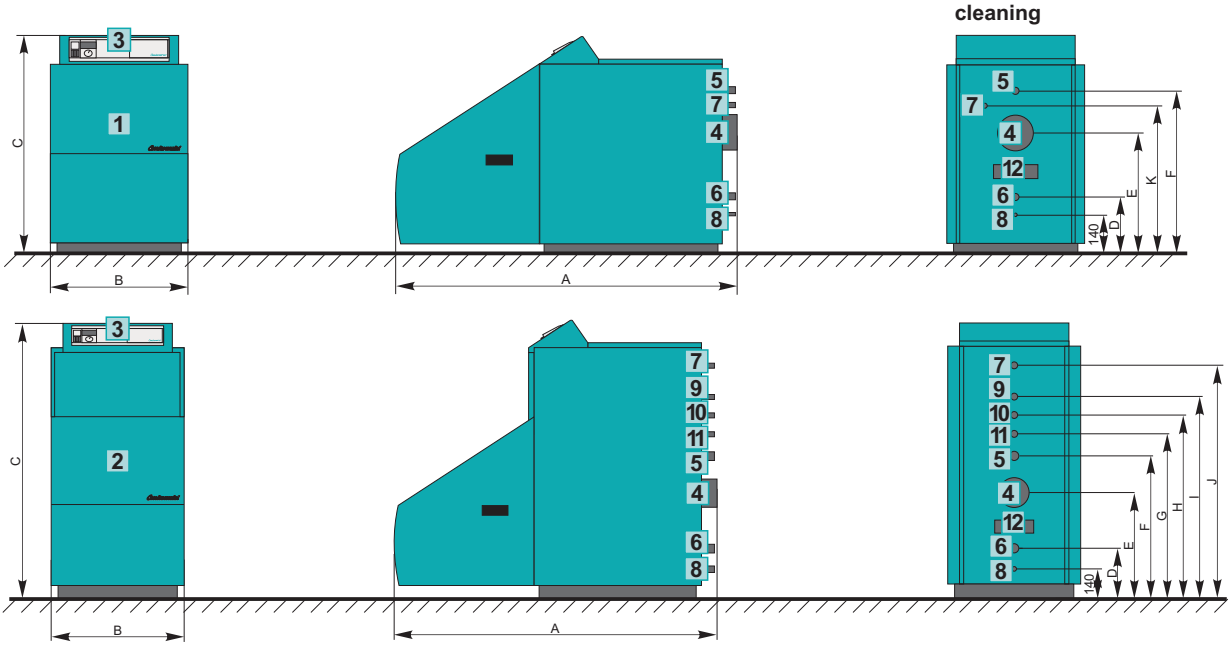
Closed heating system
- safety air-vent group (2,5 bar) and expansion vessel;

Open heating system
- open expansion vessel

*equipment with regards to DHW is not pictured nor explained

BASIC DIMENSIONS:

1 - Boiler EKO-CUP M3
2 - Boiler EKO-CUP M3 Bg
3 - Boiler regulation
4 - Flue gas exhaust
5 - Boiler water inlet
6 - Boiler water outlet
7 - Safety line
8 - Filling / Draining
9 - Topla PTV
10 - Recirculation
11 - Cold PTV
12 - Opening for flue gas exhaust cleaning



EKO CUP M3/M3 Bg		18	25	35	50	65	80
Heat output range	(kW)	15-18	18-25	25-35	35-50	50-65	65-80
Water heater content	(l)	-	- / 80	- / 80	- / 80	- / 80	- / 120
Hot water flow (45°)	(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
Boiler flue exhaust diameter/height (E)	(mm)	130/440	130/434	130/490	150/515	160/580	160/580
Burner opening	f(mm)	100	100	100	100	110	110
Chimney draught	(Pa)	8	10	12	14	16	18
Boiler water inlet / outlet connection	(R)	1"	1"	5/4"	5/4"	6/4"	6/4"
Flue gas temperature	(°C)	170	170	170	170	170	170
Max. operat. temperature	(°C)	90	90	90	90	90	90
Max. operat. pressure	(bar)	2,5	2,5	2,5	2,5	2,5	2,5
Length of the body A	(mm)	1175	1275	1275	1275	1275	1315
Width of the body B	(mm)	500	500	580	630	690	690
Height of the body 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 chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.

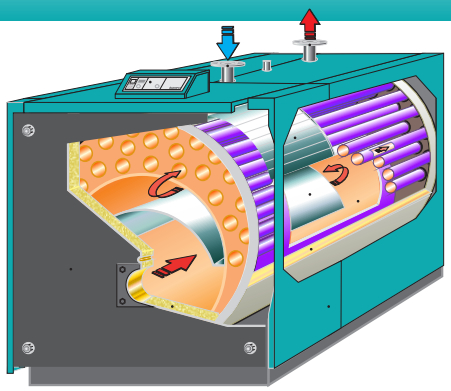
oil / gas

EKO-CUP S3

EKO-CUP S3 steel hot water boilers (heat output range 125 - 600 kW) are engineered to meet heating requirements in the middle to large premises, as well as to be the heat source for manufacturing and processing. The boiler can be configured as a stand alone unit or as a series of modular units. This product is a synthesis of modern technologies and is presented in high quality materials ready for simple and easy assembly and operation. The fully developed and tested technical solutions applied assure these boilers are safe and reliable. The triple-pass flue gas flow system is a key element of their low energy consumption. The wide range of available control devices, as additional equipment, enables the customer to benefit from a fully automatic direct or remote controlled heating center.

CHARACTERISTICS OF EKO-CUP S3 BOILERS:

- **Hot water boilers for central heating systems a with triple-pass flue gas flow system (heat output range 125-600 kW).**
- **It is economical and ecologically acceptable, with high efficiency and low NOx levels.**
- **Max. operating boiler pressure is 3 bar (standard) or 6 bar (custom made) and max. operating temperature is 90°C (standard), 100°C or 105°C (custom made).**
- **Built in turbulators enable better heat flow from flue gas to water, better regulation of gas flow in the combustion chamber, better regulation of the output temperature of flue gas, i.e. high quality balancing of the functions of the boiler, burner and chimney.**
- **A large volume of water in the boiler reduces the number of start ups, prolongs the life of the burner and saves energy.**
- **Design and construction provide extremely low start-up condensation.**
- **All connections are mounted on the upper side of the unit enabling simple assembly.**
- **The boiler and the control panel with basic boiler controller come pre-wired; with connecting points for automatic heat regulators according to outdoor temperature controller enabling a fully automatic operation of the heating system.**
- **Basic boiler controller controls the operation of a two-stage burner according to set values for boiler temperature.**
- **A special feature is the high performance thermal insulation.**
- **Boiler door with blind panel is adequate for installation of all fan burners available on the market and can be opened both to the left and right for 90° which enables simple and fast boiler cleaning.**
- **The body of the boiler is deliverd separately from the casing and thermal insulation which enables transportation and assembly.**

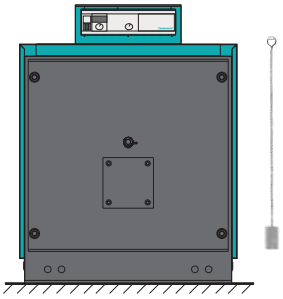


Delivery of the boiler

Connections

Basic boiler controller (for operation the two-stage burner) with connecting points for additional controllers

DELIVERY AND OBLIGATORY ADDITIONAL EQUIP

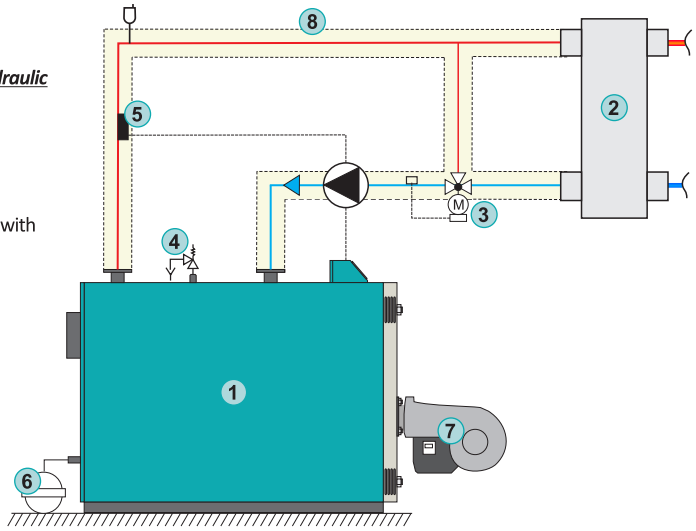


Delivery of EKO-CUP M3:

- Body of the boiler with casing and basic boiler controller, cleaning set

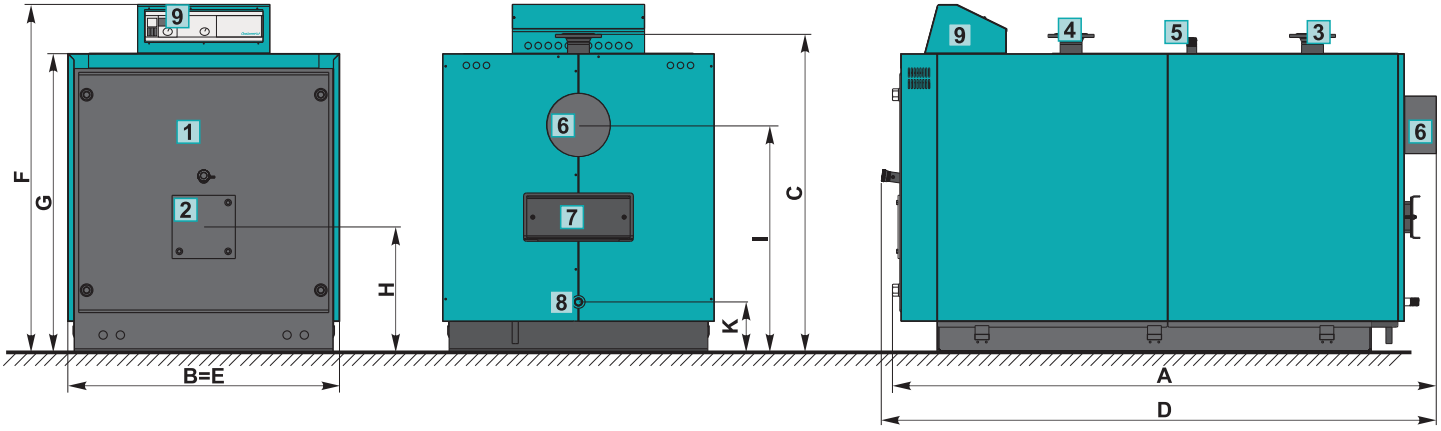
Basically diagram of connection to hydraulic separator with basic boiler control:

1. Boiler EKO-CUP S3
2. Hydraulic separator
3. Motor operated 3-way mixing valve with ESBE CRA controller (60°C).
4. Tested safety valve
5. Heat pump thermostat
6. Expansion vessel
7. Oil/gas burner
8. Thermal pipe insulation



BASIC DIMENSIONS:

1 - Boiler EKO-CUP S3
2 - Blind panel for installation of fan burner
3 - Boiler water inlet
4 - Boiler water return
5 - Safety line
6 - Boiler flue gas exhaust
7 - Opening for cleaning
8 - Filling / Draining
9 - Boiler regulation

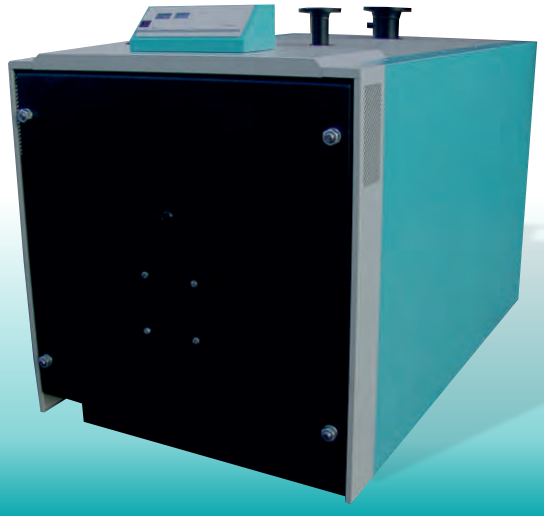


EKO CUP S3		125	160	240	320	400	460	530	600
Heat output range	(kW)	37,5-125	48-160	72-240	96-320	120-400	138-460	168-530	180-600
Boiler water content	(l)	225	290	390	465	615	735	865	970
Boiler mass	(kg)	445	563	673	867	1066	1184	1418	1515
Max.operat. temperature	(°C)	90/100/105	90/100/105	90/100/105	90/100/105	90/100/105	90/100/105	90/100/105	90/100/105
Max. operat. pressure	(bar)	3 ili 6	3 ili 6	3 ili 6	3 ili 6	3 ili 6	3 ili 6	3 ili 6	3 ili 6
Flue gas exhaust diameter / height (l)	(mm)	180/700	200/790	200/790	250/890	250/970	250/970	300/1062	300/1062
Burner opening	f(mm)	130	130	170	170	170	220	220	220
Boiler chamber resistance	(mbar)	1,7	2,5	2,6	2,8	3,5	4,0	4,3	4,9
Boiler water inlet/outlet connection (NP6)		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
Length of the body A	(mm)	1630	1475	1890	1890	1945	2245	2245	2495
Width of the body B	(mm)	780	945	945	1050	1150	1150	1250	1250
Height of the body 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	1195	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

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.

oil / gas

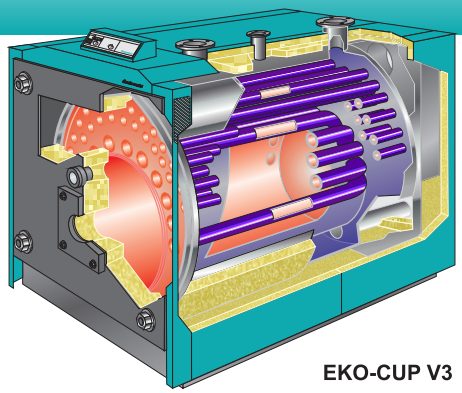
EKO-CUP V3 I EKO-CUP SV3



EKO-CUP V3 steel hot water boilers (heat output range 0,8-1,5 MW) and **EKO-CUP SV3** (heat output range 1,5-2,5 MW) are engineered to meet heating requirements in middle sized or large premises, or to provide the heat source for manufacturing or processing. This boiler can be installed as a separate unit or as part of a modular set of two or more units. This product is notable for its modern design, for its synthesis of modern technologies and high quality materials, as well as for its simple and easy assembly and operation. Well tested development allied to intensive quality control assures that these boilers are safe and reliable. A triple-pass flue gas flow system is the foundation for their low energy consumption. A wide range of automatic control devices, delivered as additional equipment, enables the customer to benefit from a fully automatic direct or remote controlled heating center.

CHARACTERISTICS OF EKO-CUP V3/SV3 BOILERS:

- Hot water boiler for central heating systems with a triple-pass flue gas flow system (heat output range 0,8-2,5 MW).
- It is economical and ecologically acceptable, with high efficiency and low NOx levels.
- A maximum operating temperature of 110°C enables use as a source of heat for manufacturing and processing.
- Maximum operating pressure of the boiler is 6 bar, which enables installation into heating systems for tall buildings.
- Built in turbulators enable better heat transfer from flue gas to the boiler water, better regulation of gas flows in the combustion chamber, better regulation of the output temperature of flue gas, i.e. high quality balancing between the functions of the boiler, burner and chimney.
- A large volume of water in the boiler reduces the number of start ups, prolongs the life of the burner and saves energy.
- Good design and material choice assure extremely low start-up condensation.
- All connections are installed on the upper side of the unit, enabling simple assembly.
- The boiler and the control panel with basic boiler controller come pre-wired; with connecting points for automatic heat regulators according to outdoor temperature controller enabling a fully automatic operation of the heating system.
- Basic boiler controller controls the operation of a two-stage burner according to set values for boiler temperature.
- A special feature is the high performance heat insulation.
- Boiler door with blind panel is adequate for installation of all fan burners available on the market and can be opened both to the left and right for 90° which enables simple and fast boiler cleaning.
- The body of the boiler is delivered separately from the casing with thermal insulation which allows easier transportation and assembly.



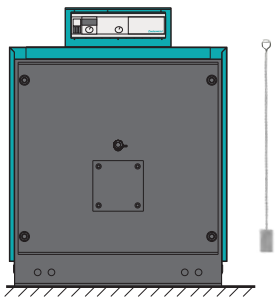
EKO-CUP V3

Basic boiler controller (for operation the two-stage burner) with connecting points for additional controllers

Delivery of the boiler

Connections

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:

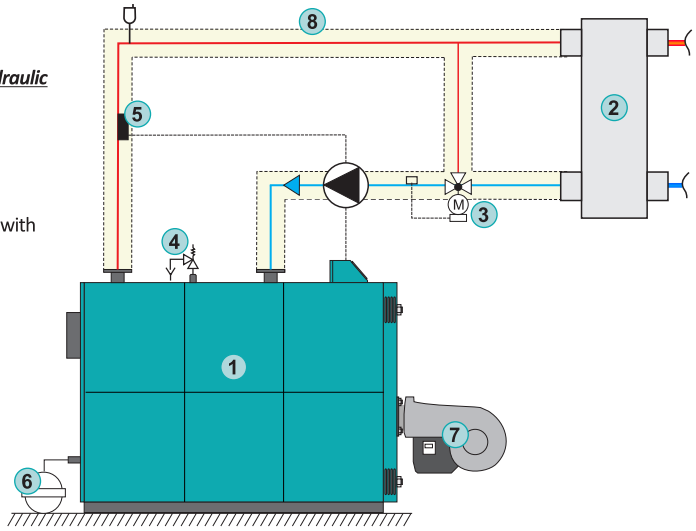


Delivery of EKO-CUP M3:

- Body of the boiler with casing and basic boiler controller, cleaning set

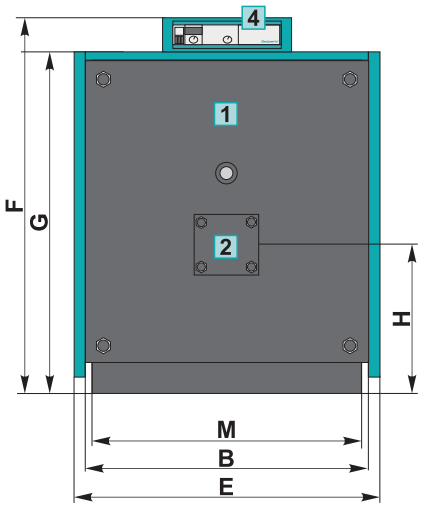
Basically diagram of connection to hydraulic separator with basic boiler control:

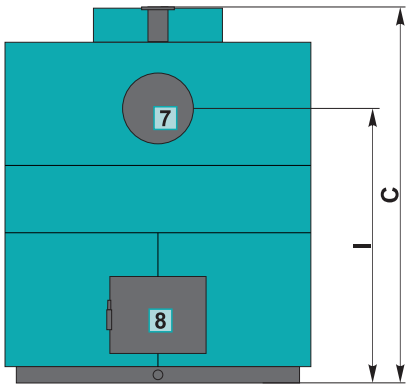
1. Boiler EKO-CUP S3
2. Hydraulic separator
3. Motor operated 3-way mixing valve with ESBE CRA controller (60°C).
4. Tested safety valve
5. Heat pump thermostat
6. Expansion vessel
7. Oil/gas burner
8. Thermal pipe insulation

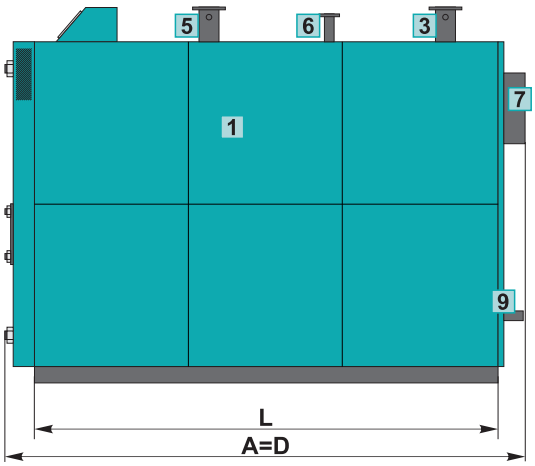


BASIC DIMENSIONS:

1 - Boiler EKO-CUP V3/SV3
2 - Blind panel
3 - Boiler water inlet
4 - Boiler regulation
5 - Boiler water outlet
6 - Safety line
7 - Boiler flue gas exhaust
8 - Opening for cleaning
9 - Filling / Draining







		EKO-CUP V3				EKO-CUP SV3
		800	1000	1250	1500	2500
Nominal heat ouput	(kW)	800	1000	1250	1500	2500
Heat output range	(kW)	240-800	300-1000	375-1250	450-1500	750-2500
Boiler water content	(l)	1085	1150	1410	1510	1100
Boiler mass	(kg)	1705	1970	2280	2550	
Max. operating temperature	(°C)	110	110	110	110	110
Max. operating pressure	(bar)	6	6	6	6	6
Flue gas exhaust diameter	(mm)	300	300	400	400	450
Flue gas exhaust height (I)	(mm)	1150	1220	1370	1415	1580
Boiler water inlet / outlet (NP 6)	(DN)	100	125	125	150	200
Safety line (NP 16)	(DN)	50	65	65	65	100
Filling / Draining	(R)	1"	5/4"	5/4"	5/4"	6/4"
Flue gas temperature	(°C)	190	190	190	190	200
Dimensions of the body AxBxC	(mm)	2485x1335x1615	2525x1405x1690	2525x1555x1880	2480x1600x1925	3480x1865x2145
Total dimensions of the body DxExF	(mm)	2485x1400x1700	2525x1470x1750	2525x1585x1955	2480x1675x2000	3480x1930x2145
Width (G / H)	(mm)	1445/660	1515/660	1705/763	1725/765	1965 / 1035
Width of the base M	(mm)	1265	1335	1485	1530	1800
Length of the base L	(mm)	1960	1960	1960	1960	2880
Boiler chamber resistance	(mbar)	6,3	7,1	7,9	8,7	9,5

*- the chimney inner diameter has to be determined according to the boiler rated thermal output and the height of the chimney and almost always it has to be bigger than the diameter of the flue gas exhaust.

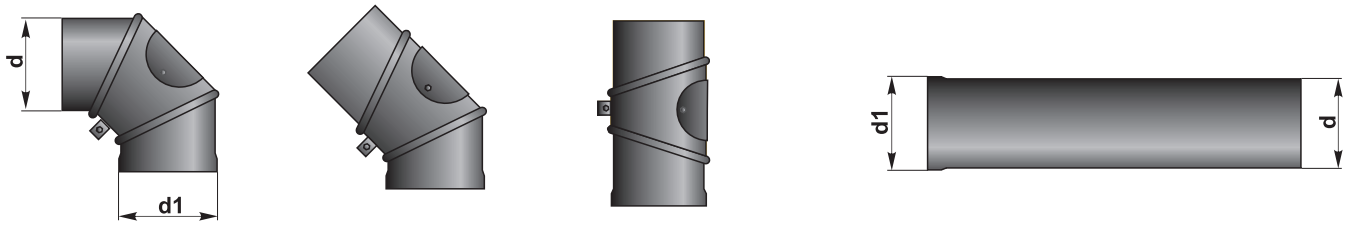
Flue gas tubes and elbows

Flue gas tubes and elbows are engineered for quick and easy connection of all kinds of boilers to the chimney.

KARAKTERISTIKE DIMOVODNIH KOLJENA I CIJEVI:

- Made of 2 mm steel sheets (RSt 37-2).
- Surfaces protected by plastic coating.
- Flue gas tubes and elbows have a 40 mm stretched end, for easier assembly to the following tubes.
- Elbows are made of three pieces. Angularity from 0° to 90° with a built-in opening for cleaning.
- Flue pipes and elbows are delivered without thermal insulation so it is necessary to subsequently insulate them.

BASIC DIMENSIONS:



FLUE GAS TUBES AND ELBOWS					
Flue gas elbow	(mm)	**Ø118**	**Ø130**	**Ø150**	**Ø160**
Weight	(kg)	2,1	2,3	2,9	3,1
d	(mm)	Ø120	Ø132	Ø152	Ø162
d1	(mm)	Ø123	Ø135	Ø155	Ø165
Flue gas tube L = 500	(mm)	**Ø118x500**	**Ø130x500**	**Ø150x500**	**Ø160x500**
Weight	(kg)	2,6	3,3	3,8	4,1
d	(mm)	Ø120	Ø132	Ø152	Ø162
d1	(mm)	Ø123	Ø135	Ø155	Ø165
Flue gas tube L=1000	(mm)	**Ø118x1000**	**Ø130x1000**	**Ø150x1000**	**Ø160x1000**
Weight	(kg)	5,3	6,6	7,6	8,2
d	(mm)	Ø120	Ø132	Ø152	Ø162
d1	(mm)	Ø123	Ø135	Ø155	Ø165
Flue gas elbow	(mm)	**Ø180**	**Ø200**	**Ø250**	**Ø300**
Weight	(kg)	3,5	3,9	5,5	11,6
d	(mm)	Ø182	Ø202	Ø252	Ø302
d1	(mm)	Ø185	Ø205	Ø255	Ø305
Flue gas tube L=500	(mm)	**Ø180x500**	**Ø200x500**	**Ø250x500**	**Ø300x500**
Weight	(kg)	4,5	5,1	6,3	11,3
d	(mm)	Ø182	Ø202	Ø252	Ø302
d1	(mm)	Ø185	Ø205	Ø255	Ø305
Flue gas tube L=1000	(mm)	**Ø180x1000**	**Ø200x1000**	**Ø250x1000**	**Ø300x1000**
Weight	(kg)	9,0	10,2	12,6	22,6
d	(mm)	Ø182	Ø202	Ø252	Ø302
d1	(mm)	Ø185	Ø205	Ø255	Ø305

Room thermostats

Room thermostat ST-A

- ON/OFF electromechanical room thermostat
- Connection to pump, boiler, spring motor actuator or two-point motor actuator.
- Switch for temperature regulation: 8°C-30°C.
- Contact 5(2.5)A @ 250V AC

Room thermostat ST-TD

- ON/OFF electronical weekly programmable room thermostat (heating or cooling), works on 2*AA (1.5V) batteries.
- Connection to pump, boiler, spring motor actuator or two-point motor actuator.
- The regulating temperature range is between 5°C and 40°C; 3 operating modes (comfort, energy saving or frost protection/off).
- Can be set in holiday mode from 1 hour up to 99 days.
- The display shows the measured temperature, the active mode and if the relay is activated.
- Contact 5(1)A @ 250V AC.
- Option of operating according to outdoor temperature sensor.
- Option of remote control by a GSM device (additional equipment).

Room thermostat ST-TB

- Wireless ON/OFF electronical weekly programmable room thermostat (heating or cooling); works on 2*AA (1.5V) batteries.
- Delivered are room thermostat and receiver TWR911, operating with 230V AC.
- Connection to pump, boiler, spring motor actuator or two-point motor actuator.
- The regulating temperature range is between 5°C and 35°C; 3 operating modes (comfort, energy saving or frost protection/off).
- Can be set in holiday mode from 1 hour up to 99 days.
- The display shows the measured temperature, the active mode and if the relay is activated.
- Contact 6(1)A @ 250V AC.
- Option of operating according to outdoor temperature sensor.
- Option of remote control by a GSM device (additional equipment).

Room thermostat with voice communication for remote control of heating by phone or mobile phone

CHARACTERISTICS OF ROOM THERMOSTAT TELECONTROL T10D / T10D-GSM:

ROOM THERMOSTAT

- LCD display showing room temperature.
- Heating on/off switch.
- Room temperature setting control and display.
- Maintains temperature protection against freezing.
- Options to select the heating regime, cooling regime and the regime to control the floor heating system (with the optional floor sensor).

OPERATION BY PHONE OR MOBILE PHONE

- Voice communication in Croatian or English language.
- Heating on/off switching.
- Room temperature measurement.
- Room temperature setting.
- Measurement of external temperature (with the optional external temperature sensor).
- Ability to change user parameters.

OTHER CHARACTERISTICS

- Uses an analog telephone line or ISDN line with analogue output.
- Light indicator of output status.
- Changeable user code.
- No interference with normal operation of other devices connected to the same phone line (telefax, modem, alarm...)

T10 D / DP -GSM

T10 D / DP

CHARACTERISTIC OF ROOM THERMOSTAT TELECONTROL T10DP / T10DP-GSM:

- In addition to the characteristics of the T10D -/GSM thermostat, the room thermostats Telecontrol T10DP and T10DP-GSM also have the following:
- 7-day programmable thermostat.
- Second channel (allowing only on/off switching).

Cm BOILER CONTROLS WITH ELFATHERM E8 SERIES CONTROLLERS

CHARACTERISTICS OF THE E8 SERIES CONTROLLER:

- Boiler (boilers) temperature regulation is relative to external temperature through activation of the burner.
- Boiler inlet temperature is regulated relative to the external temperature controlled by the mixing valve actuator.
- Ability to enter two separate heating programs for each circuit (shift operation).
- Only one external sensor for up to six control levs.
- Ability to choose heating circuit functions with a classical heating circuit, a hot air heating circuit with heat exchangers, a swimming pool heating circuit, an additional sanitary water heating circuit and boiler outlet protection circuit by means of a mixing cock.
- Free choice of sensors 1k PTC or 5k NTC.
- Illuminated display of all parameters, language freechoice.
- Simple programming and operation through one single button leaded by functional menu groups.
- A 4 channel weekly digital timer with 3 different periods daily per channel.
- Parameters for the minimum and maximum boiler temperature.
- Boiler start up control.
- Warm up improvement according to the heating dynamics of the premises.
- Settable dynamic differential burner starting.
- Automatic operation summer/winter with external temperature selection or for deactivation.
- Freezing protection.
- Pump block protection.
- Built-in Can-bus interface enables connection to additional mixing valve heating circuits (15 circuits in total, additionally to E8.1124).
- Option to connect to a phone line.
- Circulation pumps operational control.
- Regulation of domestic hot water temperature through the start-up of the burner and water heater pump.

Cm Boiler control with built in E8.0634 and E8.1124 controllers

Cm BOILER CONTROL WITH BUILT IN Elfatherm E8.0634 CONTROLLER

- Regulation of the boiler circuit (parallel modular connection of two boilers or with two single-stage burners or one two-stage burner).
- Regulation of two circuits via a mixing valve (or operating one as domestic hot water.
- Regulation of a domestic hot water circuit.
- Regulation of the boiler protecting pump (or handling a solar or boiler pump).
- Regulation of the recirculation pump.

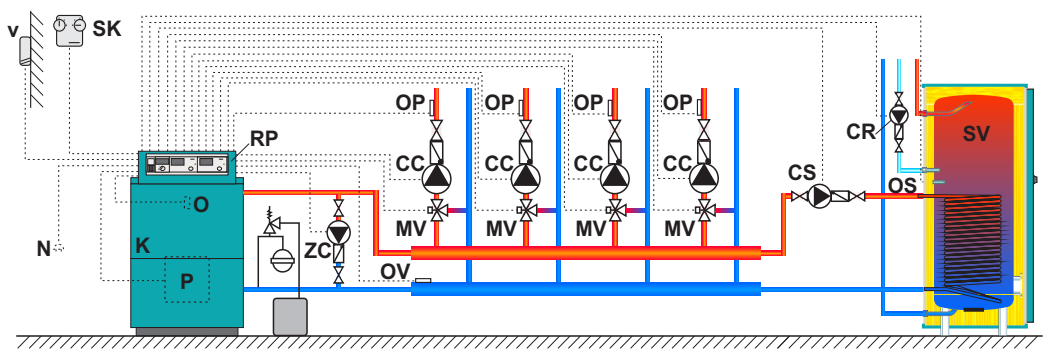
Cm BOILER CONTROL WITH BUILT IN Elfatherm E8.1124 CONTROLLER

- Regulation of the boiler heating circuit through basic boiler controls.
- Regulation of two circuits via a mixing valve (or addressing of one as domestic hot water)
- Regulation of the recirculation pump.

Cm BOILER CONTROL WITH BUILT IN Elfatherm E8.0634 AND E8.1124 CONTROLLERS

- Boiler circuit regulation (parallel modular connectionm of 2 boilers or one 2-stage burner).
- Regulation of 4 mixing valve circuits.
- Domestic hot water circuit regulation.
- Regulation of the boiler protecting pump (or handling a solar or boiler pump).
- Regulation of 2 recirculation pumps (timer relay).

Cm BOILER CONTROLLER FUNCTIONAL DIAGRAM WITH E8.0634 AND E8.1124 REGULATORS



Legend:

- **CC** Heating circulation pump
- **CR** Recirculation pump DHW
- **CS** Water accumulator tank pump
- **SK** Room sensor FBR2
- **K** Boiler
- **MV** Actuator for mixing valve
- **N** Connection to the electric power net
- **O** Boiler sensor KFS
- **OP** Flow sensor (inlet) VFAS
- **OS** Sensor DHW SPFS
- **OV** Flow sensor (outlet)
- **P** 2-stage burner
- **RP** Control panel with basic boiler regulation and regulators E8.0631 and E8.1121
- **SV** Hot water heater DHW
- **V** Outdoor sensor AFS
- **ZC** Protecting pump in boiler circuit

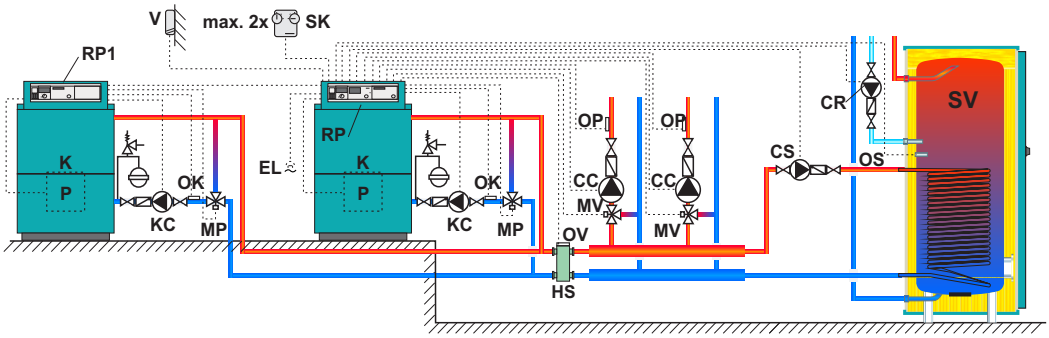
LAGO Basic 0201R CASCADE MODULE:

- Boiler module for cascades.
- Control of one two-stage burner or one modulating burner, or two single stage burners.
- Regulation of the boiler safety pump or of the boiler protection through the mixing valve.

Cm BOILER CONTROLS WITH BUILT IN Elfatherm E8.5064 AND LAGO Basic 0201R CONTROLLERS:

- Regulation of boiler circuits (cascade with max. 16 boilers or 8 boilers with two stage burners).
- Regulation of two circuits of via mixing valve (or handling of one as domestic hot water).
- Regulation of the domestic hot water circuit.
- Regulation of the boiler protecting pump (or handling a solar or boiler pump).
- Regulation of recirculation pump (timer relay).
- Ability to set the power of each boiler.
- Ability to select a boiler for domestic hot water heating.

Cm BOILER CONTROLS FUNCTIONAL DIAGRAM WITH E8.5064 AND LAGO Basic 0201R CONTROLLERS



Functional sheet of the Cm boiler controls with built-in E8.5064 controllers, with 2 mixing valve circuit regulation, and a parallel chain connection of up to 16 boilers with single-stage burners or up to 8 boilers with two-stage burners. Each boiler has to have a built in LAGO Basic 0201R module.

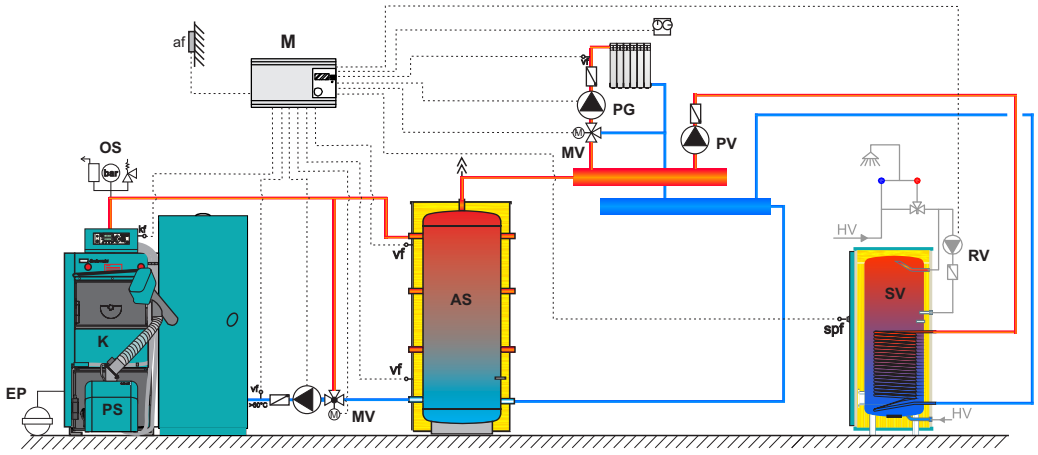
CC Heating circulation pump
CR Recirculation pump DHW
CS Water accumulator tank pump
SK Room sensor FBR2
K Boiler
KC Boiler pump
MV Actuator for mixing valve
MP Actuator of the 3 way fold valve
EL Connection to the electric power net
OK Flow boiler sensor (outlet)
OP Flow sensor (inlet) VF
OS Domestic hot water sensor SPF
OV Flow sensor (inlet)
P 2-stage burner
RP Control panel with basic boiler regulation and regulators E8.5064 and LAGO Basic 0201R
RP1 Control panel with basic boiler regulation and LAGO Basic 0201R
SV Hot water heater
V Outdoor sensor AF
HS Hidraulic shunt

Merlin 5064V3 digital control

- Control of 2 heat sources or 2-stage heat source via relay according to outdoor temperature.
- Control of cascade heat source systems.
- Pellet function (leading heat source switch-off).
- Service water heating system, 2 mixed heating circuits, and 2 extra functions.
- Heating operation via buffer storage possible.
- Solar functions.
- Cooling operation.
- Heat pump regulation.
- Demand-related circulation pump control.
- Automatic toggle between summer and winter time.
- Activation of a timer is possible.

Merlin 5064V3

FUNCTIONAL DIAGRAM OF INSTALLATION OF MERLIN 5064V3 CONTROL



Legend:

K Boiler
PS Cm Pelet set
OS Safety-air vent group
MV Actuator of the 3-way mixing valve
EP Expansion vessel
AS CAS accumulation tank (min 15 l/kW)
SV Hot water heater
PG Heatcircuit pump
M Merlin 5064 V3
PV DHW pump
RV DHW recirculation

af - outdoor sensor
kf - boiler sensor
vf - flow sensor
spf - storage tank sensor

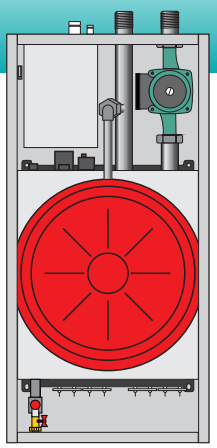
electric energy

El-Cm Compact

Energy efficiency class

D

The **El-Cm Compact** range of electric boilers (with nominal heat output of 6, 9, 12 ,15, 18, 21, 24 and 27 kW) is designed for installation in smaller premises as a primary as well as secondary heat source. Today they are frequently used for heating up domestic hot water in accumulator tanks connected to the heat exchanger of the boiler. The El-Cm Compact is equipped with a circulation pump, expansion vessel, the most modern modulating digital controller and appropriate safety elements. Of modern design, they can be installed anywhere in a house because of their absolutely noiseless operation and because they do not need to be connected to a chimney. The wide application of modern technologies and the quality of the material used as well as thoroughly tested operation, which include a modulating activating of the electric heaters, to prevent electric surges on the power supply, make these boilers safe and reliable. Manufactured in accordance with ISO 9001 and 14001.



Manometer

CHARACTERISTICS OF El-Cm Compact BOILER:

- **Electric boilers engineered for electrical heating with nominal heat outputs of 6, 9, 12, 15, 18, 21, 24 and 27 kW.**
- **Standard equipment built in electric boilers includes: body of the boiler with electric heaters, circulation pump, expansion vessel, safety elements (safety valve, safety thermostat and a pressure switch), filling/draining cock and modular digital control.**
- **The modular digital control assures optimal operation of the electric heater in a way that optimizes electric energy consumption with the rated thermal output of the electric boiler.**
- **Absolutely noiseless operation, modern design and small dimensions make them acceptable for installation anywhere in a house or apartment, since they do not need to be connected to a chimney and need no additional fresh air supply.**
- **Low weight and easy assembly.**
- **Connection of the El-Cm Compact 6 kW to a single phase power supply is possible.**
- **El-Cm Compact operates like a mini boiler room because all its essential parts are integrated into the single boiler body.**

Main switch and digital boiler controller

Connections

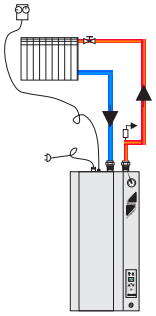
Mounting

Delivery of the boiler

El-Cm Compact 6-27kW

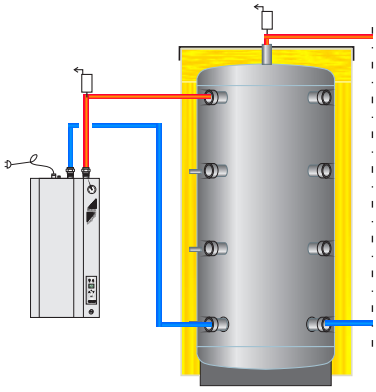
DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:

Delivery:
- boiler with casing, pump, safety valve, expansion vessel and digital control, pre-wired, in cardboard box

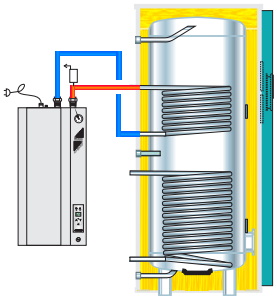


Connecting to heating system:
- Safety valve*, expansion vessel*
- Heating pump
- Room thermostat

*in the content of El-Cm Compact boiler delivery



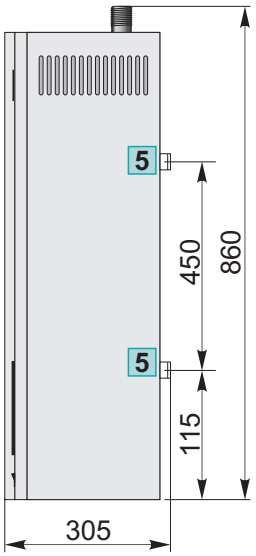
Connecting to accumulation tank to accumulate heat at the time of the day when electricity costs are low:
- CAS accumulation tank, adapted for optimal use of electric energy at low costs

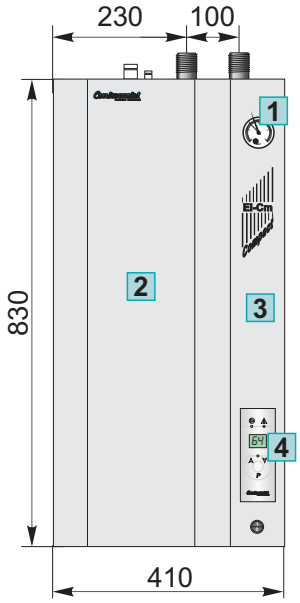


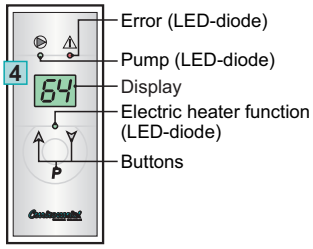
Additional heating of DHW tank by El-Cm Compact boiler:
- When electric energy is the only heat source, electric boiler is connected to the upper exchanger (with solar heating system) or lower exchanger (without solar heating system).

BASIC DIMENSIONS:

1 - Manometer
2 - Front cover
3 - Regulation console
4 - Digital modulating boiler regulation
5 - Boiler carriers







Modern digital modulating controller optimally controls the electrical heating operation to optimize power consumption against the output of the electrical boiler.

El-Cm Compact		6	9	12	15	18	21	24	27
Nominal heat output	(kW)	6	9	12	15	18	21	24	27
Boiler water content	(lit.)	12	12	12	12	12	12	12	12
Boiler mass	(kg)	39	40	40	41	41	42	42	42
Max. operat temperature	(°C)	90							
Max. operat. pressure	(bar)	3							
Inlet/outlet	(R)	1"							
Electr. heater	(kW)	2x3	3+6	2x6	2x6+3	3x6	3x6+3	4x6	4x6,75
Cable section	(mm2)	5x2,5	5x2,5	5x4	5x4	5x6	5x6	5x6	5x6
Expansion vessel	(lit.)	10							
Electric power tension	(V/Hz)	400/50							
Boiler width	(mm)	410							
Boiler height	(mm)	860							
Boiler depth	(mm)	280							

electric energy

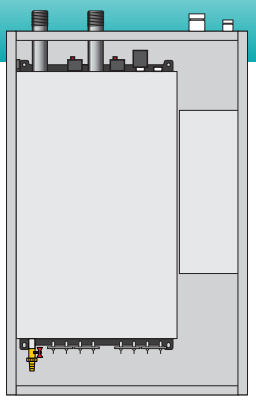
El-Cm

C
D
E

Energy efficiency class

D

El-Cm electric boilers, with nominal heat output of 30, 33, 36 ,39, 42, 45, 48 and 51 kW, are designed use in small and middle sized premises, as a primary as well as secondary heat source. They are frequently also used for heating domestic hot water in accumulator tanks, connected to the heat exchanger of the boiler. The El-Cm is equipped with the most modern modulating digital controls. Of modern appearance, they can be installed anywhere in a house or apartment because of their absolutely noiseless operation and because they do not need to be connected to a chimney. The wide application of the latest technology and the quality of the materials used as well as developed technical solutions, including a modulating activation of the electric heaters, in order to avoid electric surges on the power supply, make these boilers safe and reliable. Manufactured in aaccordance with ISO 9001 and ISO 14001.



Manometer

CHARACTERISTICS OF El-Cm BOILERS:

- **Electric boilers with nominal heat output of 30, 33, 36, 39, 42, 45, 48 and 51 kW.**
- **Standard equipment built in electric boilers includes: body of the boiler with electric heaters, electronics and modulating digital controllers.**
- **The modulating electronic controller assures optimal operation of the electric heater in a way that optimizes electric energy consumption in line with the nominal heat output of the boiler.**
- **Absolutely noiseless operation, modern appearance and small dimensions make them acceptable for installation anywhere in a house or apartment, since they do not need to be connected to a chimney and need no additional fresh air supply.**
- **Low weight and easy assembly.**

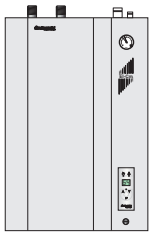

Main switch and digital boiler control


Connections

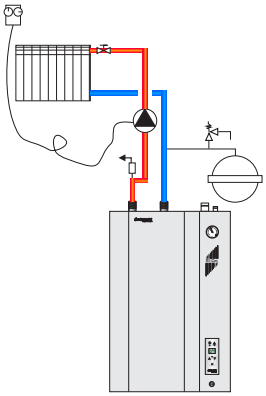

Mounting


Delivery of the boiler

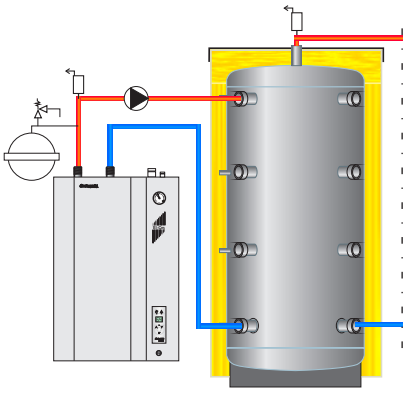
DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



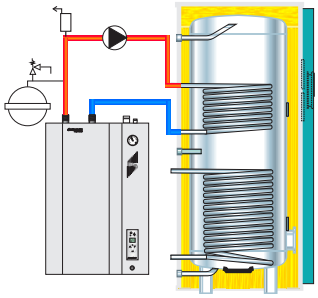
Delivery:
- boiler with casing, pre-wired, in cardboard box



Connecting to heating system:
- Safety valve, expansion vessel
- Heating pump
- Room thermostat



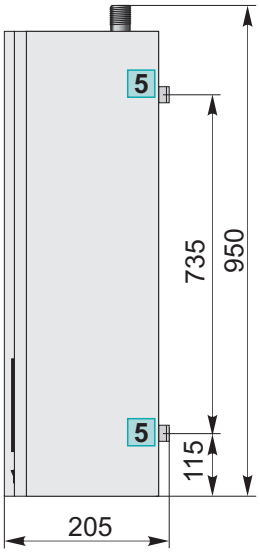
Connecting to accumulation tank to accumulate heat at the time of the day when electricity costs are low:
- CAS accumulation tank, adapted for optimal use of electric energy at low costs

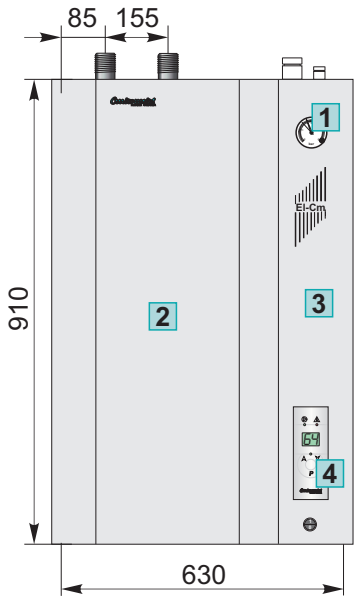


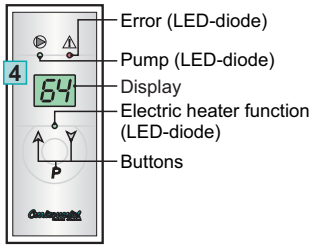
Additional heating of DHW tank by El-Cm Compact boiler:
- When electric energy is the only heat source, electric boiler is connected to the upper exchanger (with solar heating system) or lower exchanger (without solar heating system).

BASIC DIMENSIONS:

1 - Manometer
2 - Front cover
3 - Regulation console
4 - Digital modulating boiler regulation
5 - Boiler carriers







Modern digital modulating controller optimally controls the electrical heating function to optimize the power consumption against the output of electrical boiler.

El-Cm		30	33	36	39	42	45	48	51
Nominal heat output	(kW)	30	33	36	39	42	45	48	51
Boiler water content	(lit.)	22	22	22	22	22	22	22	22
Boiler mass	(kg)	44	44	44	45	45	45	45	45
Max. operat temperature	(°C)	90							
Max. operat. pressure	(bar)	3							
Inlet/outlet	(R)	6/4"							
Electr. heater	(kW)	3x9+3	3x9+6	4x9	3x12+3	3x12+6	3x12+9	4x12	4x12,75
Cable section	(mm2)	5x10	5x10	5x16	5x16	5x25	5x25	5x25	5x25
Electric power tension	(V/Hz)	400/50							
Boiler width	(mm)	630							
Boiler height	(mm)	950							
Boiler depth	(mm)	205							

oil/ gas


wood pellets


wood chips


wood log up to 0,5m long


wood briquettes

Container boiler rooms CKK

CKK container boiler rooms intended to be connected to central heating systems with domestic hot water processing as a temporary or even permanent solution. According to need, oil or gas firing boilers can be installed with nominal heat outputs of **18 to 1500 kW** or biomass firing boilers with nominal heat outputs from **12 to 340 kW**. The boiler rooms can be provided with all necessary equipment. To install with a central heating system it is only necessary to provide an appropriate chimney, electric power supply connection, water supply and the fuel. The compact layout assures simple handling, maintenance and transfer. The heating room has its own thermal insulation and it is manufactured in accordance with ISO 9001 and ISO 14001.

Installing a full sized permanent boiler room in brand new premises, while for example only a few flats are inhabited, is hardly economically practical because of relatively low utilization.

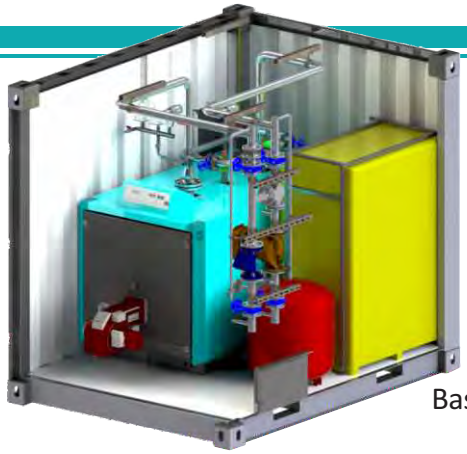
Therefore in the early stages it is preferable to connect a temporary boiler room until the whole building is technically approved and completed. Alternatively, during road construction or other major projects, there is also a need to provide warm offices and other facilities for personnel.

A temporary boiler room for such purposes is a perfect solution.

CHARACTERISTICS OF THE CKK CONTAINER BOILER ROOMS:

- **Intended to be connected to central heating systems with domestic hot water processing with an operating temperature of 110/70°C and 90/70°C and an operating pressure of 2.5, 3, 4, or 6 bars.**
- **Oil or gas firing boilers with nominal heat output from 18 to 2500 kW or biomass firing boilers with nominal heat output from 12 to 340 kW can provided.**
- **The level of automatic control according to need, and the solutions offered can be tailored to satisfy any requirement.**
- **The container can be transported by truck, rail or ship.**
- **The container is provided with thermal insulation; pipework and equipment is painted in an industrial colour and is thermal insulated.**
- **Standard container size: 20ft, 40ft or custom made**
- **Facility to connect a number of container boiler rooms as modules in a single system.**

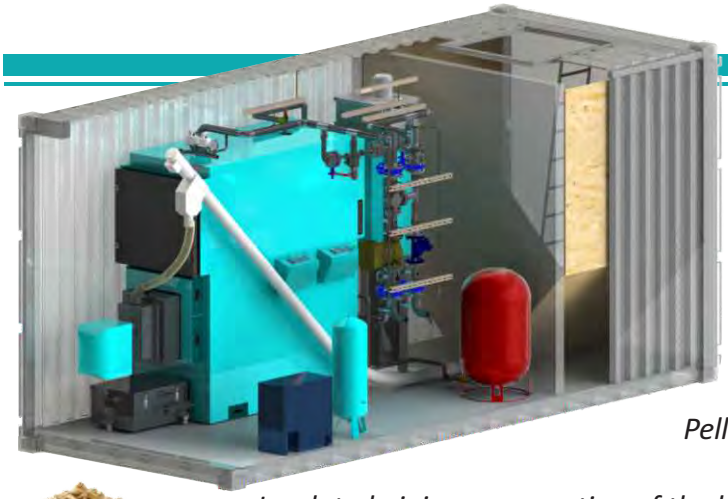
CKK-U 18 - 1.500 kW



Container boiler rooms fired with oil or gas

Delivery options:
Standard containers up to 40ft or custom made
Nominal heat output: 18 - 1500 kW
Hot water boiler with oil or gas burner
Oil tank or gas connection
All necessary safety elements
Basic boiler controller or digital controller according to outdoor temperature
Installed hydraulic separator and/or DHW tank
Insulated piping, preparation of the boiler water, elements according to the customer's needs

CKK-P 12 - 320 kW



Container boiler rooms fired with wood pellets

Delivery options:
Standard containers up to 40ft or custom made
Nominal heat output: 12 - 320 kW
Hot water boiler with pellet burner, automatic boiler cleaning and ash removal from the boiler
Pellet tank with alert in the same or in a separate container
All necessary safety elements
Insulated piping, preparation of the boiler water, elements according to the customer's needs
Basic boiler controller or digital controller according to outdoor temperature
Installed hydraulic separator or accumulation tank and DHW tank

CKK-S 160 - 340 kW

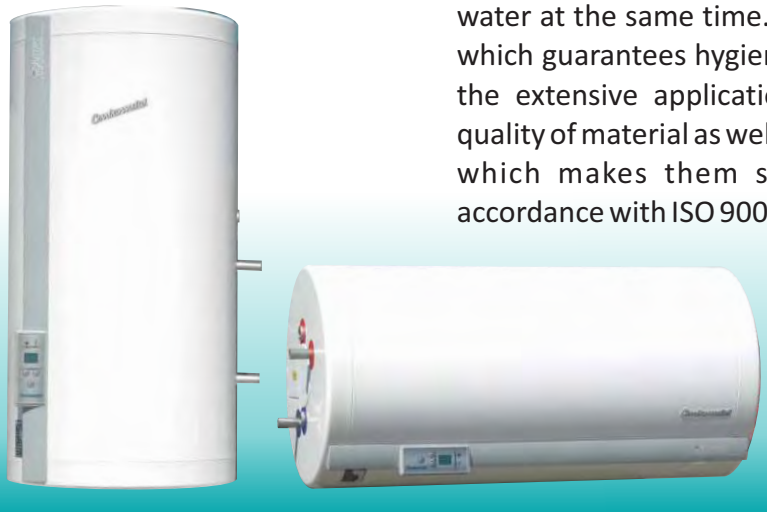
Container boiler rooms wired with wood chips / wood pellets

Delivery options:
Standard containers up to 40ft or custom made
Nominal heat output: 160 - 340 kW
Hot water boiler with moving grate or retort, automatic boiler cleaning and ash removal from the boiler
Wood chips tank in a separate container or an outer tank
All necessary safety elements
Insulated piping, preparation of the boiler water, elements according to the customer's needs
Installed hydraulic separator or accumulation tank and DHW tank.

SKB Digi i LKB-Digi

Energy efficiency class

SKB-Digi combined stainless steel hot water heaters with volumes of 80, 100 and 120 litres, and LKB-Digi with volumes of 100 and 120 liitres, with a built in digital controller, are designed for both heating and the accumulation of domestic hot water for households, restaurants and other premises where domestic hot water is needed. The availability of domestic water heating, through the boiler circuit connected to the tube heat exchanger or through the built-in electrical heater, makes these products very attractive. Their main characteristic is their very balanced domestic water flow and pressure, independently of the draining points used. This means that more than one person can draw hot water at the same time. Boilers are made out of stainless steel, which guarantees hygiene. These products are distinguished by the extensive application of modern technologies and their quality of material as well as their fully tested design and build, which makes them safe and reliable. Manufactured in accordance with ISO 9001 and ISO 14001.



CHARACTERISTICS OF SKB Digi AND LKB Digi HOT WATER HEATERS:

- SKB-Digi combined hot water heaters, with volume 80, 100 and 120 litres, and LKB-Digi with volume 100 and 120 litres are engineered for both heating and the accumulation of domestic hot water for household, restaurants and other premises where domestic hot water is needed.
- The availability of domestic water heating through the boiler (or solar collector) circuit connected to the tube heat exchanger or through the built-in electrical heater.
- Engineered to be hung on a wall in the vertical position (SKB-Digi) and horizontal position (LKB-Digi).
- Available in two options: one with connections to the central heating systems as well as with connections on the right or on the left side.
- Made of high quality stainless steel, which guarantees high hygienic standards.
- The accumulated quantity of domestic hot water provides very balanced water flow and pressure, regardless of the draining points being used. This means that more than one person can use hot water in the same time.
- The big surface and the thin wall tube of the built-in heat exchanger allows rapid heating of the whole water content above 60°C, which prevents creation of legionella.
- Very precise digital controller of the boiler allows a very precise control of the temperature as well as the choices made regarding the use of heating (electric energy or boiler water).
- Ability to operate the freezing protection system.
- Thermal insulation is made of glass wool on aluminium foil which is effective in cutting temperature loss.
- The availability of the recirculation tube connection allows a ring main configuration for domestic hot water so that hot water is constantly present at the tap, making it unnecessary to draw water before hot water arrives.

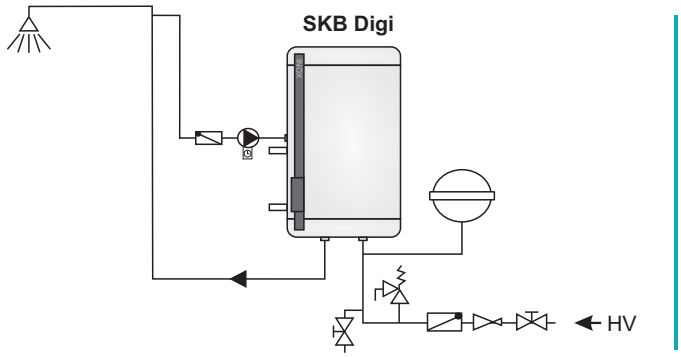
Hot water heaters are made of stainless steel.

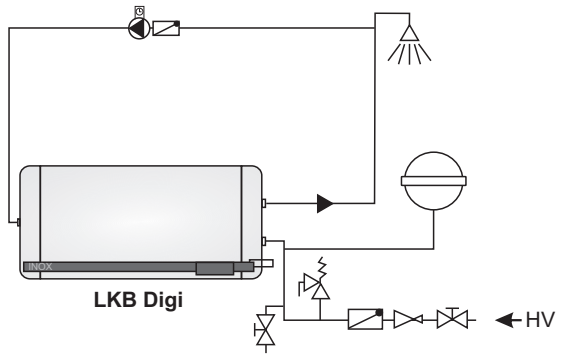

Digital water heater controller


Delivery of the water heater

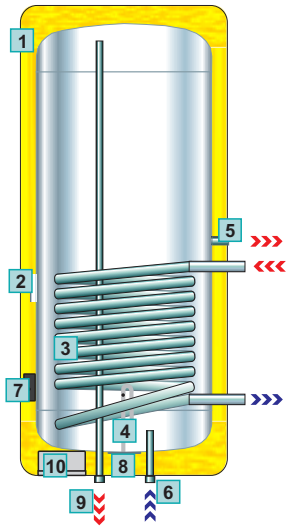
SKB Digi 80-120 lit. / LKB Digi 100-120 lit.

CONNECTING TO WATER SUPPLY:

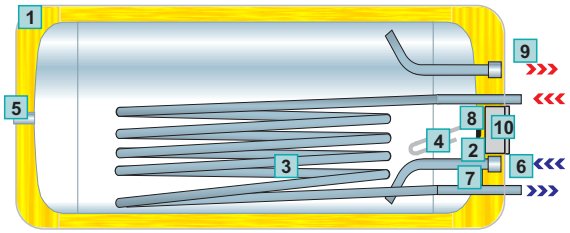




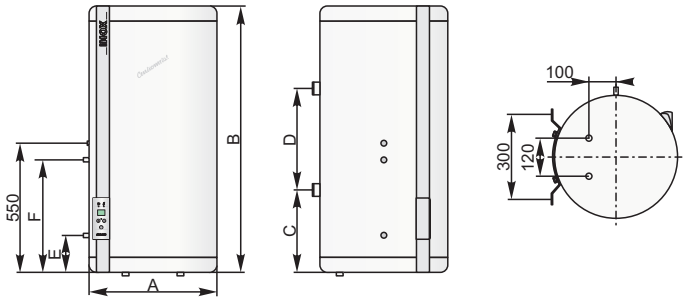
CROSS-SECTION AND BOILER PARTS:



1 - Thermal insulation
2 - Position for temp. sensor
3 - Tube heat exchanger
4 - Electrical heater
5 - Recirculation connection
6 - Cold water inlet
7 - Safety thermostat
8 - Entry for cleaning
9 - Hot water outlet
10 - Terminal connector and electronics
11 - Controller

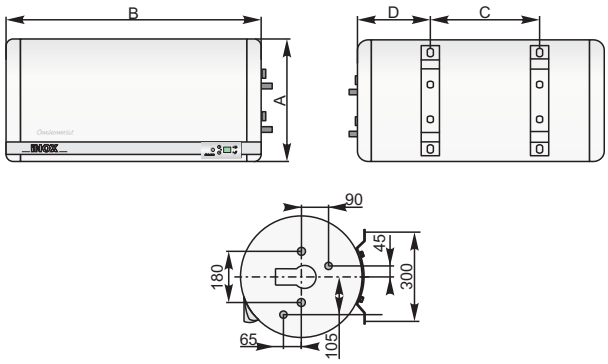


SKB Digi - BASIC DIMENSIONS:



SKB Digi		80	100	120
Capacity	(l)	80	100	120
Water heater diameter A	(mm)	475	475	475
Length of the water heater B	(mm)	815	950	1090
Height of the water heater C	(mm)	265	265	265
Height of the water heater D	(mm)	300	415	565
Height of the water heater E	(mm)	210	210	210
Height of the water heater F	(mm)	450	450	450
Tube heat exchanger	(m^2)	0,38	0,42	0,42
Heat exchanger connection	(R)	3/4"	3/4"	3/4"
Cold water inlet connection	(R)	1/2"	1/2"	1/2"
Hot water outlet connection	(R)	1/2"	1/2"	1/2"
Recirculation	(R)	1/2"	1/2"	1/2"
Voltage	(V~)	230	230	230
Electric heater	(kW)	2	2	2
Water heater mass	(kg)	31	35	39,5
Max. operating pressure	(bar)	6	6	6

LKB Digi - BASIC DIMENSIONS:



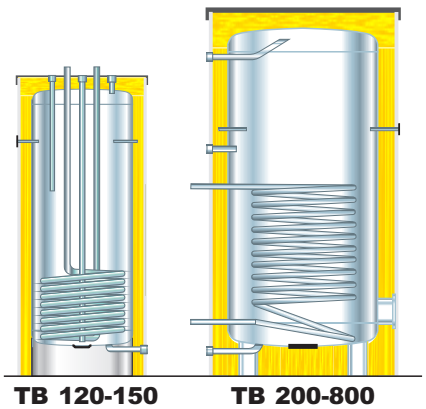
LKB Digi		100	120
Capacity	(l)	100	120
Water heater diameter A	(mm)	475	475
Length of the water heater B	(mm)	950	1090
Length C	(mm)	415	560
Length D	(mm)	270	270
Tube heat exchanger	(m^2)	0,42	0,42
Heat exchanger connection	(R)	3/4"	3/4"
Cold water inlet connection	(R)	1/2"	1/2"
Hot water outlet connection	(R)	1/2"	1/2"
Recirculation	(R)	1/2"	1/2"
Voltage	(V~)	230	230
Electric heater	(kW)	2	2
Water heater mass	(kg)	35,5	40
Max. operating pressure	(bar)	6	6

TB

TB water heaters, with volumes of 120, to 800 litres, are engineered for both heating and the accumulation of domestic hot water with the connection to a boiler circuit or to another heat source, being part of a designed system configuration. Often they are connected to solar systems to give additional accumulation with STEB solar water heaters. These water heaters are made out of stainless steel, which guarantees a high level of hygiene. Extensive application of modern technologies and the use of high quality materials as well as their fully tested design and build, provides efficient heat exchange and negligible loss of temperature. Manufactured in accordance with ISO 9001 and ISO 14001.

CHARACTERISTICS OF TB STAINLESS STEEL WATER HEATERS:

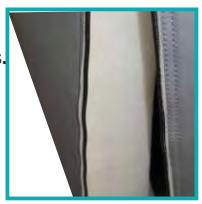
- **TB water heaters, with volumes of 120, 150, 200, 300, 600 and 800 litres, are engineered for both heating and the accumulation of domestic hot water, with the connection to the boiler circuit or to another heat source being part of a designed system configuration.**
- **Suitable for integration into solar heating systems for additional heat accumulation, with STEB solar water heaters.**
- **Made of high quality stainless steel, which guarantees high standards of hygiene.**
- **The big surface area of the tube heat exchanger allows rapid heating of these large volumes of water.**
- **On TB 120 and 150 boilers , connections are located on the upper side of the boiler, whereas on TB 200, 300, 600 and 800 boilers they are located at the rear which enables simple and fast connection to installation.**
- **It is possible to install a sensor into a sensor sleeve on the rear side of the boiler.**
- **The insulating layer, 80 mm thick, effectively protects the boiler from heat loss.**



TB 120-150 **TB 200-800**

Termometer

Connections on the top for TB 120-150

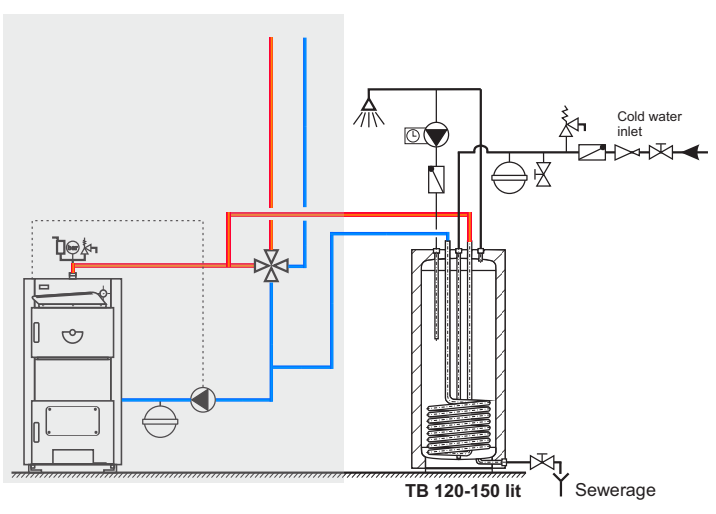


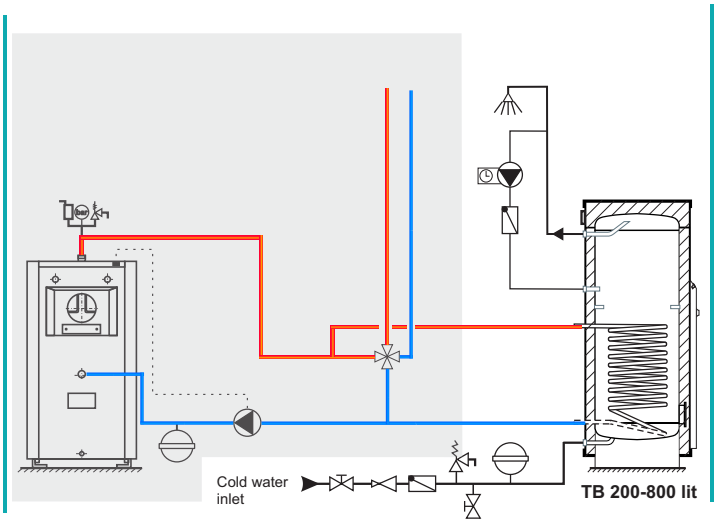
Boiler insulation

High-quality pleather insulation

Connections TB 200-800

CONNECTING TO WATER SUPPLY:

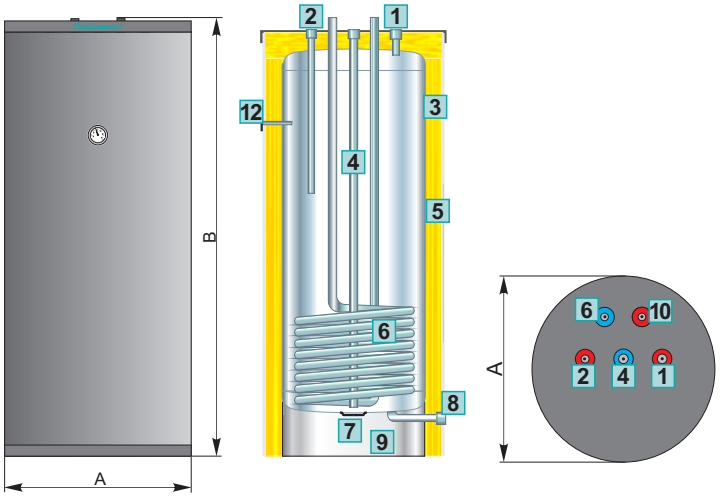




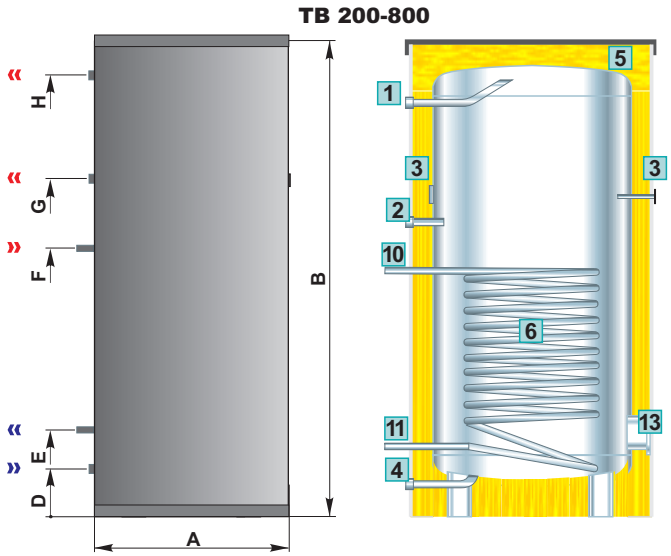
TB - BASIC DIMENSIONS:

1 - Hot water connection
2 - Recirkulation
3 - Tube for temp sensor.
4 - Cold water connection
5 - Thermal insulation
6 - Tube heat exchanger
7 - Opening for cleaning (TB 120-150)
8 - Water draining connection
9 - Base of the heater
10 - Boiler water connection-inlet
11 - Boiler water connection-outlet
12 - Thermometer
13 - Opening for cleaning (TB-200-800)

TB 120-150



TB 200-800



TB		120	150	200	300	600	800
Capacity	(l)	120	150	200	300	600	800
Rated thermal output (1) 80°C	(kW)	16,6	24,7	33,1	50,1	76,6	109,9
	(l/h)	408	605	814	1226	1876	2691
70°C	(kW)	13,3	20	26,7	37,8	58,7	84,8
	(l/h)	330	489	658	926	1437	2076
60°C	(kW)	8,3	12,4	16,5	23,7	36,9	53,8
	(l/h)	204	304	406	580	904	1319
Boiler's water flow	(m^3/h)	1,5	1,5	1,5	3	3	3
Heat exch. heating surface	(m^2)	0,42	0,63	0,83	1,32	2,12	3,17
Volume of heating water	(l)	1,9	2,8	3,8	7,24	11,8	17,7
Water heater mass	(kg)	36	48	60	105	210	273
External diameter A	(mm)	640	640	640	640	810	960
Height B	(mm)	1020	1210	1420	1900	1995	1940
Heights D / E / F	(mm)	-	-	75/285/800	92/300/950	815/900/2005	970/1035/1995
Heights G / H	(mm)	-	-	905/1135	1060/1650	1210/1720	1435/1700
Heater water inlet / outlet	(R)	3/4"	3/4"	3/4"	3/4"	5/4"	5/4"
Max. oper. pressure (DHW)	(bar)	6	6	6	6	6	6
Max. oper. press. heat. water	(bar)	6	6	6	6	6	6

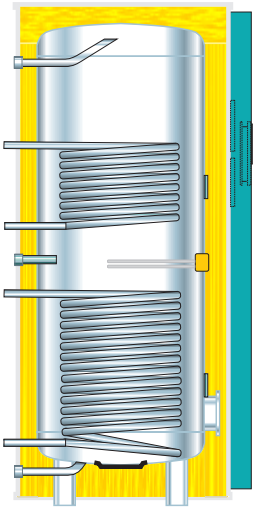
(1) setting temperature of the boiler hot water to 80, 70, 60°C; domestic hot water 10/45°C

STEB

STEB solar hot water heaters, with volumes of 200, 300 and 800 litres, are engineered for heating and accumulation of domestic hot water using solar energy, for additional heating with a boiler and for alternative heating using the internal electrical heater. The water heaters are made of stainless steel, which guarantees a high level of hygiene. Extensive application of modern technologies and fully tested technical solutions, enable economical use of all available energy sources. A special feature is an integrated automatic solar controller which controls and connects the use of all the previously mentioned energy sources, integrating them into an automatic process. Manufactured in accordance with ISO 9001 and ISO 14001.

CHARACTERISTICS OF STEB SOLAR HOT WATER HEATERS:

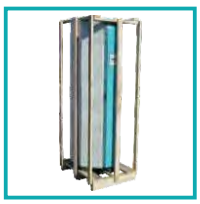
- STEB solar hot water heaters, with volumes of 200, 300 and 800 litres, are engineered for heating of domestic hot water with solar energy, with a boiler and for alternative heating using the internal electrical heater.
- They are made of high quality stainless steel, which guarantees high hygiene standards.
- A modern automatic built-in solar control system allows regular and safe operation and economic use of all available energy sources.
- Automatic control also offers the possibility of reading individual specific temperatures through a special illuminated display.
- Pipe connections are located on the rear side which enables simple and fast connection into the heating system.
- Pre-wired electrical connections and sensors.
- Thermal insulation made of glass wool on 80 mm aluminium foil effectively cuts heat loss.



SOLAR CONTROLLER STEB:

- Domestic hot water temperature regulation.
- Regulation of the solar collector circuit (max. two separate collector circuits).
- Regulation of the boiler circuit (max. two circuits: firing circuit with oil, gas or solid fuel (bio-mass fuel) and boiler circuit firing with solid fuel (bio- mass)).
- Controller of the additional accumulating hot water heater (i.e. TB hot water heater or CAS) - an additional sensor is needed.
- All previously mentioned control functions can be performed through circulation pumps or mixing valves.
- Regulation of the electrical heater.
- Circulation pump over-heat safety system.
- Readings of all relevant temperatures on an illuminated display.
- Display of solar energy quantity in kWh.
- Display messages in English.
- LED display shows operation of individual system elements.

Factory-built in digital solar controller



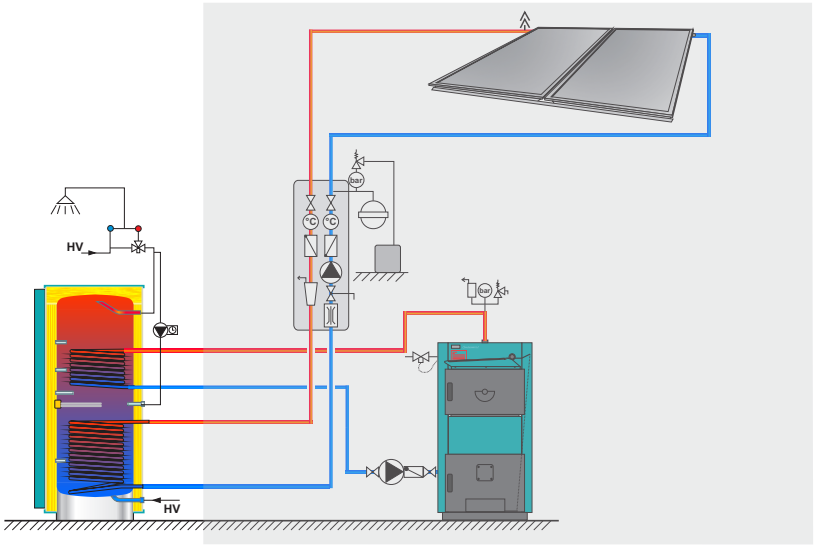
Water heater delivery

STEB 200-800 lit.

CONNECTING TO WATER SUPPLY:

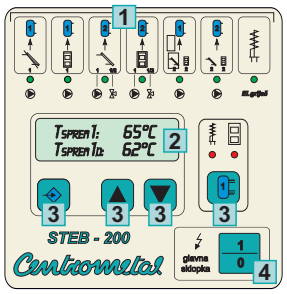
Delivery:

- Pre-wired stainless steel solar hot water heater in wooden packing, set with 4 sensors and ermeto fittings

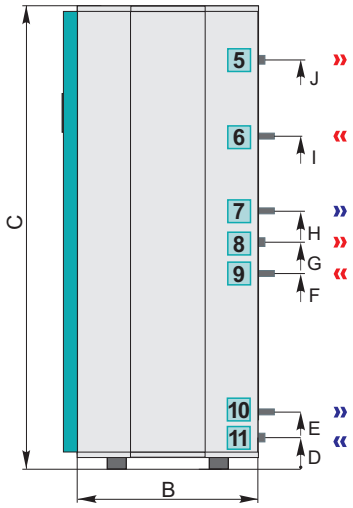


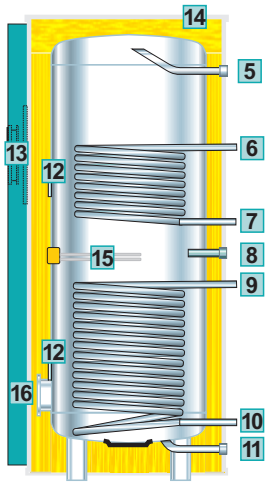
STEB - BASIC DIMENSIONS:

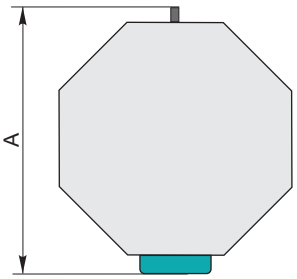
1 - Control LED-diode
2 - Multifunctional display
3 - Function buttons
4 - Main switch
5 - Hot water outlet PTV 3/4"
6 - Boiler water inlet
7 - Water outlet to the boiler
8 - Recirculation 3/4"
9 - Water inlet from the collector
10 - Water outlet to the collector
11 - Cold water inlet PTV 3/4"
12 - Thermometer sensor port
13 - Control panel
14 - Heat insulation
15 - Electric heater
16 - Opening for cleaning



Control panel







STEB		200		300		600		800	
Capacity	(l)	200		300		600		800	
Tube heat exchanger		up	down	up	down	up	down	up	down
Nominal heat output (1) 80°C	(kW)	16,1	33,1	19,5	37,4	37,6	63,7	53,1	83,8
	(l/h)	395	814	479	916	922	1561	1299	2053
70°C	(kW)	13,3	26,7	16,0	28,5	28,9	49,7	40,7	66,3
	(l/h)	325	658	391	697	707	1216	997	1624
60°C	(kW)	8,0	16,5	10,1	18,1	18,4	32,5	26,4	44,5
	(l/h)	195	406	391	443	450	796	646	1090
Heating surface	(m^2)	0,42	0,83	0,53	1,06	1,06	2,12	1,59	3,17
Heating water content	(l)	1,9	3,8	3,0	5,9	5,9	11,8	8,8	17,7
Heater water flow	(m^3/h)	1,5	1,5	3	1,5	3	1,5	3	1,5
Heater dimensions A x B x C	(mm)	710 x 580 x 1400		760 x 640 x 1890		925 x 820 x 2005		1070 x 965 x 2055	
Heights (D / E / F / G)	(mm)	90 / 330 / 730 / 810		100 / 300 /870 / 970		100 / 360 / 1010 / 1110		195 / 445 / 1195 / 1290	
Heights (H / I / J)	(mm)	895 / 1090 / 1180		1070 / 1340 / 1650		1210 / 1610 / 1750		1495 / 1665 / 1760	
Water inlet / outlet - boiler circuit	Ø(mm)	22		28		28		28	
Water inlet / outlet - solar circuit	Ø(mm)	22		28		28		28	
Max. operating pressure	(bar)	6		6		6		6	
Electric heater	(W)	1 x 2000		1 x 3000		2 x 2000		2 x 3000	
Water heater mass	(kg)	80		120		230		244	

(1) setting temperature of the boiler hot water to 80,70,60°C; domestic hot water 10/45°C

solar energy

CPK 7210N Alu

The **CPK 7210N Alu** flat solar collector, is a high quality and attractively designed modern product. It is engineered for domestic water heating systems, swimming pool heating and for central heating systems with the ability to store accumulated heat. The **CPK 7210N Alu** flat collector is made of high quality materials, which give it a long life while operating under different atmospheric conditions. Use of a high quality surface coating and a single absorbing panel across the whole surface of the collector, provides the best possible heat transfer and the optimal usage of the absorbing surface.

CHARACTERISTICS OF CPK 7210N Alu SOLAR COLLECTORS:

- **Using the latest laser welding technology, a copper tube matrix is integrated with a copper plate painted with the high efficiency heat gain material, which enhances the the thermic plate effect.**
- **The copper plate covers the entire surface of the collector, which helps prevent the creation of solar variability effects and any loss of energy.**
- **The upper transfer pipe is closed at its centre, which creates two passages for the heating conducting fluid that carries the heat energy through the collector.**
- **The collector casing is made of aluminium, dry tightened/calked and pressed without usage of silicones.**
- **The 3.2 mm thick solar glass panel is sealed with a rubber ring joint.**
- **Thanks to an effective flow system the collector has only two upper 1'' connections.**
- **Collectors are connected through a special union ring.**
- **Collectors can be either installed on the roof using the installation set (additional equipment) or freestanding on special carriers.**
- **The proven mounting systems provide easy, safe and reliable installation in minimum time.**
- **Collectors are designed for installation only in a vertical position.**
- **In one collector circuit can be connected maximum six flat collectors.**
- **By integrating solar collectors into domestic water heating systems (STEB water heater), swimming pool water heating systems and central heating systems (CAS-S, -BS accumulation tank), use of conventional sources of energy can be reduced or avoided and, at the same time, environment pollution reduced.**

Sensor sleeve

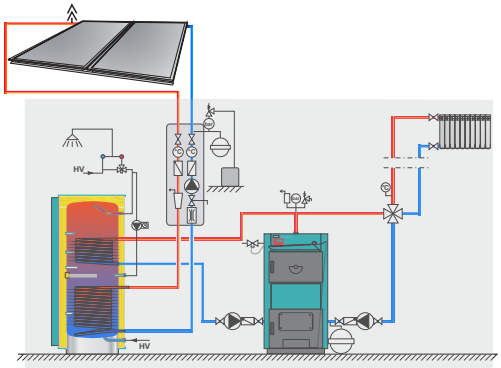
Threaded connector (right side)

Connector with a nut (left side)

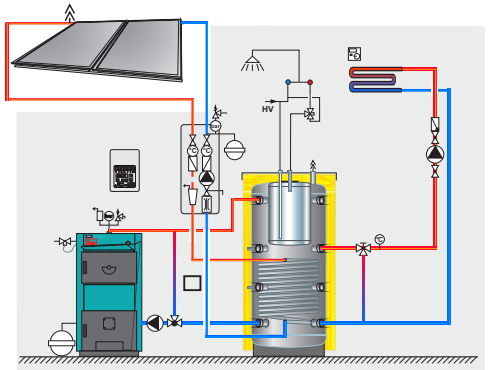
Aluminium chamber bottom

DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:

Delivery:
- Collector



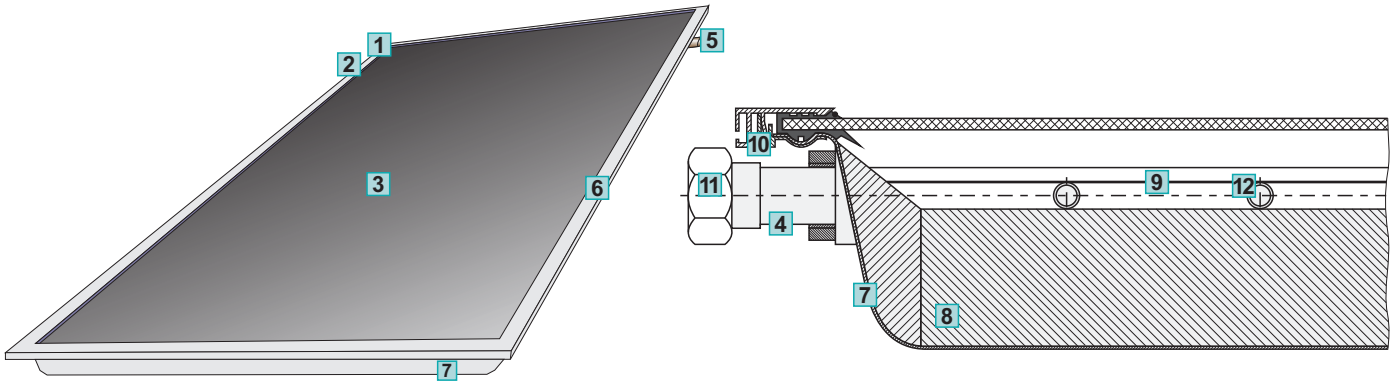
Connecting to bivalent DHW tank:
- CPK 7210N Alu solar collector
- Installation set for pitched or flat roof
- Solar air vent
- Solar pump group
- Solar expansion vessel
- Solar bivalent tank with solar controller with sensors (STEB).



Connecting to combined tank for additional summer heating DHW:
- CPK-7210N Alu solar collector
- Installation set for pitched or flat roof
- Solar air vent
- Solar pump group
- Solar expansion vessel
- Solar controller with sensors
- Combined accumulating tank (CAS-BS).

BASIC PARTS:

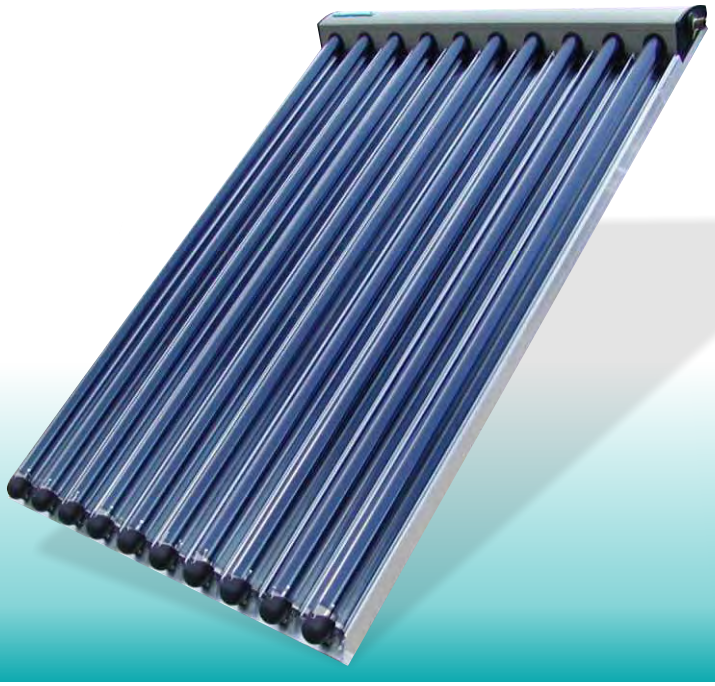
1 - Hot water outlet
2 - Temperature sensor probe
3 - Transparent coating (solar glas)
4 - Collection pipe
5 - Cold water inlet
6 - Aluminium frame
7 - Aluminium frame
8 - Thermal insulation
9 - Copper plate with selective coating
10 - Lower aluminium frame
11 - "Union wing"
12 - Pipe register



CPK 7219N Alu		
Brutto area	(m²)	2,1
Aperture area	(m²)	1,8
Absorber area	(m²)	1,8
Absorber material		selective coated copper sheet
Absorption coefficient	(%)	95
Radiation coefficient	(%)	5
Pipe registers	(mm)	f8 x 0,4
Collecting pipes	(mm)	f22 x 0,8
Absorber content	(l)	1,4
Glass		3,2 mm tempered solar glass
Transmission	(%)	90
Number of connections		2
Connections	(R)	1"
Max. operating pressure	(bar)	10
Stagnation temperature	(°C)	199
Insulation		40mm glass wool
Collector height	(mm)	2032
Collector width	(mm)	1031
Collector thickness	(mm)	94
Collector weight	(kg)	32
System liquid		glycol and water mixture

solar energy

CVSKC-10

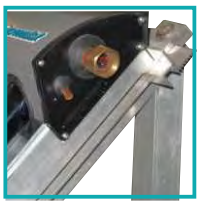


The **CVSKC-10** vacuum tube solar collector has been engineered to meet a typical market need, which is for high efficiency in less than ideal conditions. This vacuum tube collector shows advantage in exactly that situation, when flat plate collectors lose their efficiency, during low radiation periods or when there is high temperature differences. The collector tubes are evacuated, which cuts energy loss. Under the tubes there are parabolic mirrors, which direct radiation towards the whole absorbent surface and increase its efficiency.

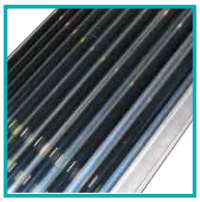
CHARACTERISTICS OF CVSKC/10 VACUUM TUBE SOLAR COLLECTORS

- **High efficiency vacuum tube solar collectors with 10 tubes and 1,84 m² gross area.**
- **Between the two layers of glass tubes there is a vacuum, so that no rubber joints are necessary.**
- **Absorbant surfaces are coated with a specific high efficiency coating surrounded in the copper pipes inside the vacuum tubes made of borosilicate glass.**
- **Collector pipes are situated inside a waterproof aluminium casing.**
- **Below each vacuum tube there is a parabolic mirror which harvests energy from the whole absorber surface. This is particularly important during the low angle sunlight periods.**
- **Stagnation temperature of the collector is 286°C.**
- **The integrated frame of the collector makes assembly easier.**
- **The collector is mounted on the roof using an installation set (additional equipment) or on a freestanding carrier.**
- **By integrating solar collectors into domestic water heating systems (STEB water heater), swimming pool water heating systems and central heating systems (CAS-S, -BS accumulation tank), use of conventional sources of energy can be saved or avoided and, at the same time, environment pollution can be reduced.**

Sensor sleeve and threaded connector (on the right side of boiler)

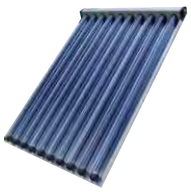


part of connection to the mounting kit for flat roof

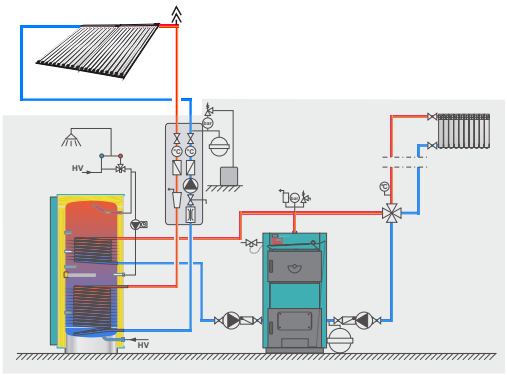


High-efficiency vacuum tubes

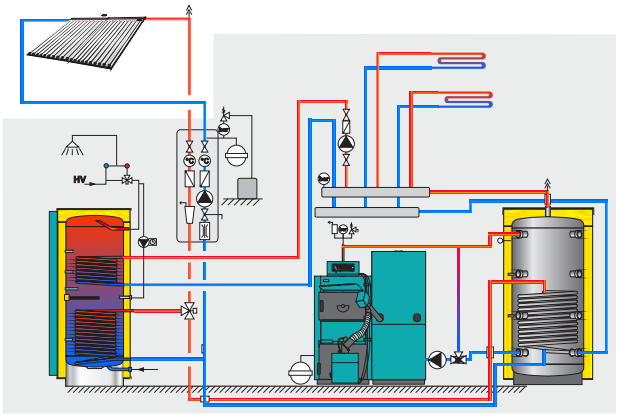
DELIVERY AND OBLIGATORY ADDITIONAL EQUIPMENT:



Delivery:
- Collector

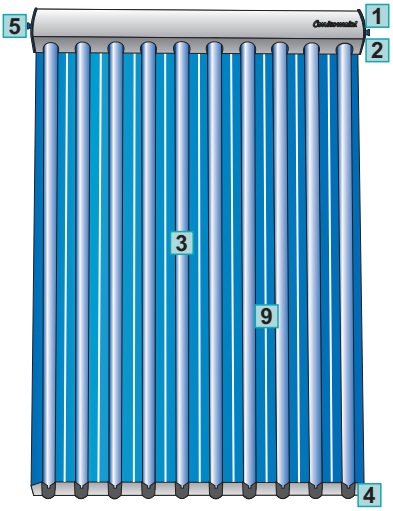


Connecting to bivalent DHW tank:
- CVSKC-10 solar collector
- Installation set for pitched or flat roof
- Solar air vent
- Solar pump group
- Solar expansion vessel
- Solar bivalent tank with solar controller with sensors (STEB).

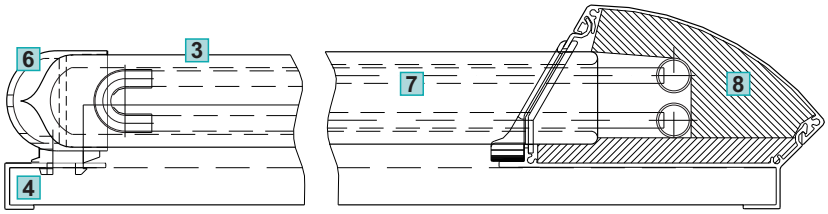


Connecting to DHW heating and additional heating system:
- CVSKC-10 solar collector
- Installation set for pitched or flat roof
- Solar air vent
- Solar pump group
- Solar expansion vessel
- 3-way zone valve
- Solar bivalent tank with solar controller with sensors (STEB).
- Combined accumulating tank CAS-S

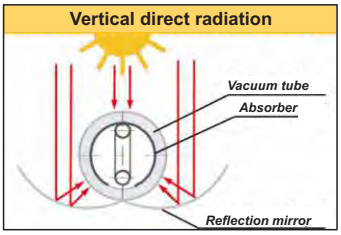
BASIC PARTS:

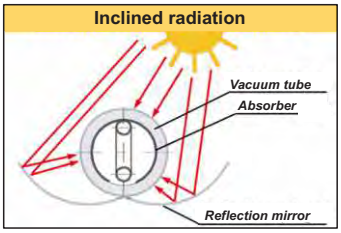


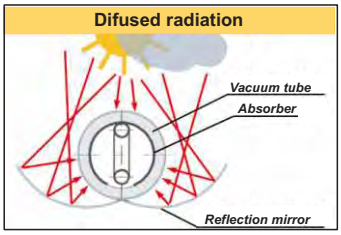
1 - Hot water outlet
2 - Temp. sensor probe
3 - Vacuum tubes
4 - Carrying frame
5 - Cold water inlet
6 - Vacuum tube carrier
7 - Tube heat exchanger
8 - Insulation
9 - Reflection mirror



CVSKC-10		
Number of tubes	(kom)	10
Gross area	(m²)	1,84
Aperture area	(m²)	1,6
Absorber area	(m²)	1,69
Absorber content	(l)	1,7
Collector height	(mm)	1650
Collector width	(mm)	1120
Collector thickness	(mm)	108
Collector weight	(kg)	36
Vacuum tube material		borosilicate glass
Absorption	(%)	93 ± 1
Emission	(%)	6 ± 1
Absorber insulation		vacuum
Collector insulation	(mm)	75mm glass wool
Copper pipes	(mm)	f8 x 0,4
Collecting pipes	(mm)	f18 x 0,7
Number of connections	(kom)	2
Connections	(R)	3/4"
Max. operating pressure	(bar)	10
Max. stagnation temperature	(°C)	286
Glasses reflection	(%)	95
System liquid		glycol and water mixture







CSPG-279 HE

CSPG-279 HE

3-way zone valve

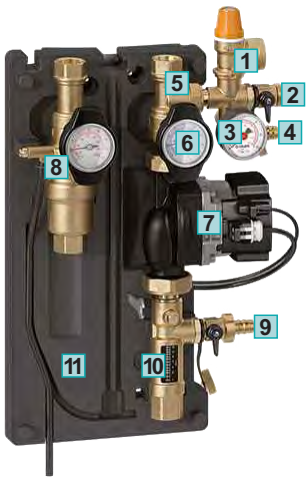
Very important elements of the solar heating systems are also the **CSPG** solar pump units. The **CSPG-279 HE** pump unit contains all the elements (apart from the collectors, water heater with automatic control, solar air vent pot and expanding vessel) necessary for normal functioning of the solar heating system. If there is an additional collector circuit or an additional accumulation tank, apart from a CSPG-279 HE solar pump, a **3-way zone valve** should also be installed, which enables the expansion of the solar system. All safety elements are included, space saving solar groups have thermal and acoustic insulation and their assembly is straightforward.

ELEMENTS OF THE CSPG-279 HE SOLAR PUMP GROUP

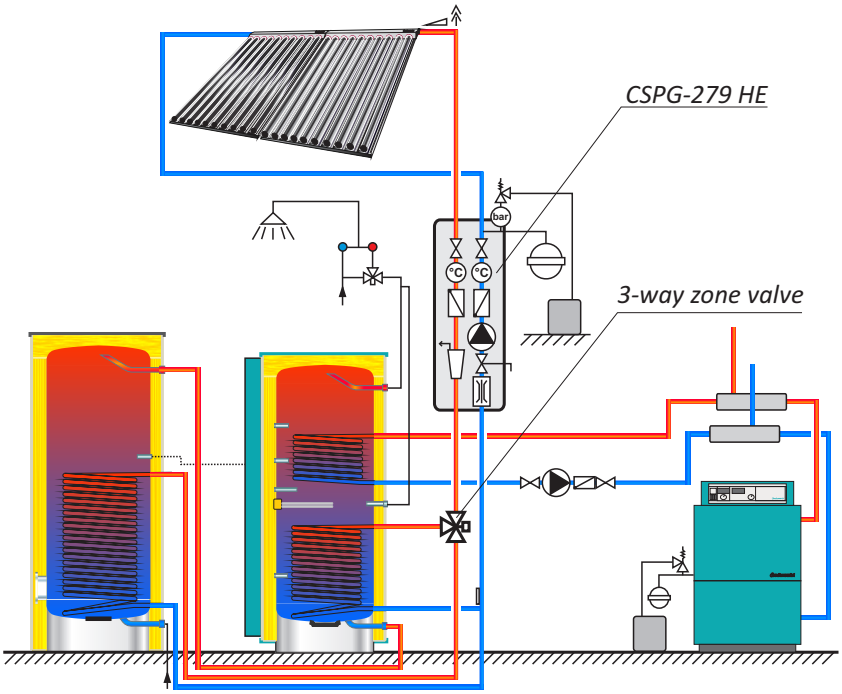
- 2 gravitational ball valves
- 2 thermometers
- manometer
- safety valve, 6 bar
- electric circulation pump Grundfos Solar UPM3 15-65
- filling / draining valve
- flow regulator (1-13 lit./min.)
- connections Ø22 mm
- manual air vent device
- connection for the expansion vessel
- twin-ply foam insulation

3-way zone valve

- enables fluid flow in two directions
- in case of loss of electric power it turns into the primary position connections 1".



1 - Security valve
2 - Filling valve
3 - Manometar
4 - Expansion vessel connection
5 - Bal valve with gravitation brake
6 - Thermometer
7 - Cirk. pumpa Grundfos Solar UPM3 15-65
8 - Manual air vent device
9 - Draining valve
10 - Flow regulator (1-13 lit./min)
11 - Two plies insulation foam



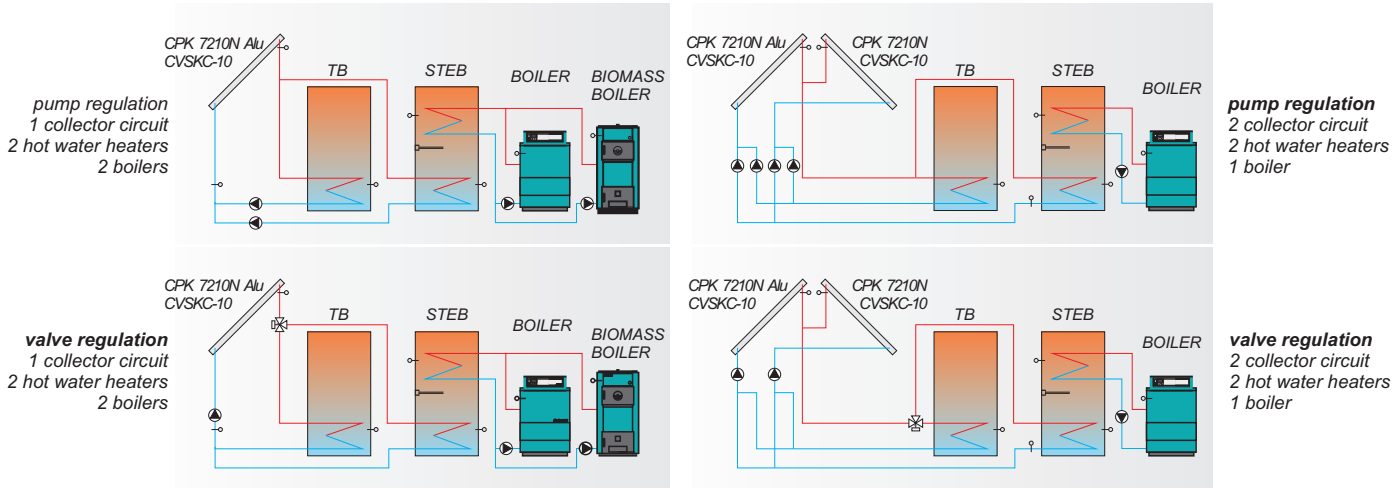
CSPG-279 HE		
Pump	(tip)	Grundfos Solar UPM3 15-75
Max. working pressure	(bar)	6
Inlet working temp.	(°C)	160
Outlet working temp.	(°C)	130
Medium		water and max. 50% glycol
Connections	(mm)	Ø 22
Width	(mm)	280
Height	(mm)	450
Depth	(mm)	165

CHARACTERISTICS OF THE Solar CONTROLLER:

- Domestic hot water temperature regulation.
- Collector circuit temperature regulation (max. 2 separated collector circuits).
- Boiler circuit regulation (max. 2 circuits: oil/gas/solid fuel (biomass) firing boiler circuit and solid fuel (biomass) firing boiler circuit)).
- Regulation of the additional accumulating hot water heater (i.e. TB hot water heater or CAS-S, -BS).
- All the above regulation functions are made by using circulation pumps or mixing valves.
- Regulation of the electric heater.
- Circulation pump protection for excess temperature.
- Display for reading relevant temperatures.
- Display of solar energy yield in kWh.
- Messages displayed in English language.
- LED-display of individual operating system elements.
- Delivered in a housing with all necessary sensors.

"Solar" controller inside its housing, with all sensors, to be set on a wall

RANGE FOR OPTIONS FOR THE SOLAR CONTROLLER:



pump regulation
1 collector circuit
2 hot water heaters
2 boilers

pump regulation
2 collector circuit
2 hot water heaters
1 boiler

valve regulation
1 collector circuit
2 hot water heaters
2 boilers

valve regulation
2 collector circuit
2 hot water heaters
1 boiler

DIFFERENTIAL THERMOSTAT:

- Compact housing for wall hanging.
- Functioning mode choice: automatic or manual.
- Functioning mode of the thermostat displayed through a signal light.
- Functioning range setup: on/off switching within 0-20°C.
- Delivered with all necessary sensors.

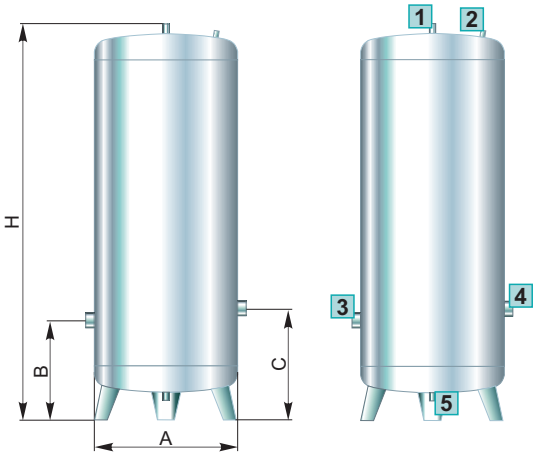
Differential thermostat inside the housing, with all sensors, to be set on the wall

CH

CH water pressure tanks (with water volumes of 90 to 300 litres) are engineered to collect drinking water for domestic household and other premises (hotels, restaurants) where larger quantities of such water under particular pressure is needed. They are also used to meet the need for water supply and storage in industry processing. They are made of stainless steel and constructed using the latest technologies, guaranteeing high hygienic standards, as well as reliability, safe operation and a long life for the unit.

CHARACTERISTICS:

- **Water content: 90, 140, 180 or 300 litres.**
- **Basic material: stainless steel.**
- **Max. operating pressure: 5 bar-a.**
- **Prepared connections for all necessary equipment.**
- **Produced in accordance with ISO 9001.**
- **All necessary certificates are available.**

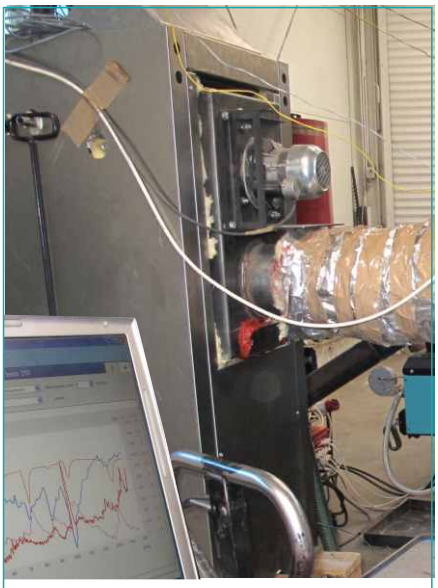


1 - Connection pressure switch
2 - Connection - manometer
3 - Connection water inlet
4 - Connection water outlet
5 - Draining

CH		90	140	180	300
Water content	(l)	90	140	180	300
Container height H	(mm)	690	980	1200	1880
Container diameter A	(mm)	480	480	480	480
Water inlet height B	(mm)	285	285	285	285
Water outlet height C	(mm)	375	375	375	375
Pressure switch connection	(R)	1/2"	1/2"	1/2"	1/2"
Manometer connection	(R)	1/4"	1/4"	1/4"	1/4"
Water inlet/outlet connect.	(R)	5/4"	5/4"	5/4"	5/4"
Draining connection	(R)	1"	1"	1"	1"
Tank mass	(kg)	17	22	25	38
Max. operat. pressure	(bar)	5	5	5	5

Centrometal d.o.o.products are fully tested and certified according to Croatian and European norms and guidelines, as well as required by the laws in force in the Republic of Croatia and in other markets, where the company is represented. Development and manufacturing process tests are carried out in our own test laboratory, according to the standards determined by our quality systems. Testing of different models and finished products is also made by independent institutions in Croatia, across Europe and beyond.

Modern testing station for boiler testing



Testing of the boiler

Before launching on any of our markets, our products have been tested and provided with all necessary certificates and approvals, guaranteeing their quality and safe operation.

SVEUČILIŠTE U ZAGREBU
FAKULTET STROJARSTVA I BRODOGRADNJE
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www.fsb.hr/termolab e-mail: termolab@fsb.hr

KONČAR
INSTITUT
za elektrotehniku

SIQ
Slovenski institut za kakovost in meroslovje
Slovenian Institute of Quality and Metrology

TÜV NORD

STROJÍRENSKÝ ZKUŠEBNÍ ÚSTAV, s. p.
(ENGINEERING TEST INSTITUTE, Public Enterprise)
Hudcova 56b, 621 00 Brno, Czech Republic

TGM
Versuchanstalt

Technigas

OTHER ACTIVITIES:

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.

VC M. "Centrometal" Macinec - First Croatian voleyball league

FC "Centrometal" Macinec - 1. county soccer league

We export to following countries:

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Austria
Belgium
Belarus
Bosnia and Herzegovina
Bulgaria
Czech Republic
Denmark
Estonia
Finland
France
Germany
Great Britain
Greece
Hungary
Ireland
Italy
Kosovo
Latvia
Lithuania
Macedonia
Montenegro
Netherlands
Norway
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Romania
Russia
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Slovakia
Slovenia
Spain
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Switzerland
Ukraine

Centrometal
HEATING TECHNIQUE

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