Centrometal HEATING TECHNIQUE

WOOD PELLETS HEATING SYSTEMS

EKO-CKS P Unit 140 - 560 kW

9.6.2022.

http://www.centrometal.hr e-mail: komercijala@centrometal.hr

Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

SHORT DESCRIPTION:

EKO-CKS P Unit are steel hot water boilers with pellet burner designed for burning 6-8 mm wood pellets class A1 and A2.
- boilers class 5
- manufactured with nominal heat output from 140, 180, 230, 280, 320, 430, 499, 560 kW
- maximal operating overpressure: 3 bar
- maximal operating temperature: 90°C
- the boiler must be connected with an accumulation tank (min. 10 l/kW) or hydraulic crossover
- the boilers are designed for the installation in open or closed heating systems

The basic boiler delivery (OO (basic equipment)) consists of:
- boiler with thermal insulation
- Cm Pelet-set 200-600, which includes:
  - the pellet burner with preparation for burner air cleaning and pressure vessel (50 l for 140-320 kW, 2x50 l for 430-560 kW).
  - compressor Michelin for the pellet burner air cleaning. If there is own source of compressed air, the price for 'Compressor Michelin' has to be excluded from the price calculation
  - electrical enclosure with digital boiler controller and touch screen, which manages the boiler and burner operation, burner air cleaning, feeding conveyor for pellet supply from the pellet tank (placed by the boiler) into the burner, return flow protection by a 3 way mixing valve with actuator, accumulation tank and a possible start of an alternative boiler.
  - 1 boiler temperature sensor, 1 return flow sensor, 2 accumulation tank sensors, 1 external temperature sensor

Note:
- the boiler EKO-CKS P Unit 499 and EKO-CKS P Unit 560 are always delivered with the cyclone and fan and also with addition to regulation for the fan steering (CIK)

Obligatory equipment:
- pellet feeding conveyor (CPPT- XX)
- pellet tank (CentroPelet Box) or feeding conveyor for pellet supply from the seasonal tank into the pellet burner according to the Centrometal's recommendation
- the boiler return flow protection by a 3-way mixing valve with actuator and boiler pump
- accumulation tank CAS or hydraulic crossover
- set of safety elements min/max boiler water pressure

Boiler configuration with additional equipment set:
- **CIK** (cyclone with a fan and addition to regulation)
- **AC-K** (automatic ash removal from the combustion chamber, automatic ash removal from the flue gas chamber, automatic (pneumatic) cleaning of flue gas tubes of thermal protection exchanger without compressor, DHW tank steering)
- **AC+K** (automatic ash removal from the combustion chamber, automatic ash removal from the flue gas chamber, automatic (pneumatic) cleaning of flue gas tubes of thermal protection exchanger with compressor, DHW tank steering), instead of 'Compressor Michelin' from basic delivery it has to be installed 'Compressor Kaeser with compressor set' and the price for 'Compressor Michelin' has to be excluded from the price calculation.

Additional equipment:
- backfire protection by rotary dosing valve (RSE) (available only in AC-K and AC+K configurations)
- CMNET - cascade manager
- CM-GSM - communication module
- CAL - alarm module
- CM2K - module for two heating circuits (max. 4xCM2K modules)
- CSK - room corrector (possible installation only with CM2K module)
- CSK-Touch - digital room corrector (possible installation only with CM2K module)
- CM WiFi-box - system for monitoring the boiler by PC, tablet or smartphone
- pellet feeding conveyor from the seasonal tank into the CentroPelet Box tank
- pellet feeding conveyor with mixer from the seasonal tank to the CentroPelet Box tank
- pellet silo and pellet feeding conveyor to CentroPelet Box tank near the boiler

The boiler is manufactured according to the EU norms EN 303-5:2012, ISO 9001 and ISO 14001

Legend:
- **OO** (basic equipment)
- **CIK** (cyclone with a fan and addition to regulation)
- **T** (version - turboValve)
- **AC-K** (automatic ash removal from the combustion chamber, automatic ash removal from the flue gas chamber, automatic (pneumatic) cleaning of flue gas tubes of thermal protection exchanger without compressor, DHW tank steering)
- **AC+K** (automatic ash removal from the combustion chamber, automatic ash removal from the flue gas chamber, automatic (pneumatic) cleaning of flue gas tubes of thermal protection exchanger with compressor, DHW tank steering)

http://www.centrometal.hr e-mail: komercijala@centrometal.hr
Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

Article	code
PELLET SYSTEM EKO-CKS P Unit 140 (42 - 140 kW) (OO)	22660
PELLET SYSTEM EKO-CKS P Unit 180 (54 - 180 kW) (OO)	22670
PELLET SYSTEM EKO-CKS P Unit 230 (69 - 230 kW) (OO)	22680
PELLET SYSTEM EKO-CKS P Unit 280 (84 - 280 kW) (OO)	22690
PELLET SYSTEM EKO-CKS P Unit 320 (96 - 320 kW) (OO)	22700
PELLET SYSTEM EKO-CKS P Unit 430 (129 - 430 kW) (OO)	22710

Article	code
PELLET SYSTEM EKO-CKS P Unit 140 (42 - 140 kW) (OO + CIK)	61693
PELLET SYSTEM EKO-CKS P Unit 180 (54 - 180 kW) (OO + CIK)	61709
PELLET SYSTEM EKO-CKS P Unit 230 (69 - 230 kW) (OO + CIK)	61714
PELLET SYSTEM EKO-CKS P Unit 280 (84 - 280 kW) (OO + CIK)	61719
PELLET SYSTEM EKO-CKS P Unit 320 (96 - 320 kW) (OO + CIK)	61724
PELLET SYSTEM EKO-CKS P Unit 430 (129 - 430 kW) (OO + CIK)	61729
PELLET SYSTEM EKO-CKS P Unit 499 (149 - 499 kW) with cyclone and fan (OO + CIK)	43151
PELLET SYSTEM EKO-CKS P Unit 560 (168 - 560 kW) with cyclone and fan (OO + CIK)	22720

Article	code
PELLET SYSTEM EKO-CKS P Unit 140 (42 - 140 kW) (OO + AC-K) (T)	61696
PELLET SYSTEM EKO-CKS P Unit 180 (54 - 180 kW) (OO + AC-K) (T)	61712
PELLET SYSTEM EKO-CKS P Unit 230 (69 - 230 kW) (OO + AC-K) (T)	61717
PELLET SYSTEM EKO-CKS P Unit 280 (84 - 280 kW) (OO + AC-K) (T)	61722
PELLET SYSTEM EKO-CKS P Unit 320 (96 - 320 kW) (OO + AC-K) (T)	61727
PELLET SYSTEM EKO-CKS P Unit 430 (129 - 430 kW) (OO + AC-K) (T)	61732

Article	code
PELLET SYSTEM EKO-CKS P Unit 140 (42 - 140 kW) (OO + AC-K + CIK) (T)	61697
PELLET SYSTEM EKO-CKS P Unit 180 (54 - 180 kW) (OO + AC-K + CIK) (T)	61713
PELLET SYSTEM EKO-CKS P Unit 230 (69 - 230 kW) (OO + AC-K + CIK) (T)	61718
PELLET SYSTEM EKO-CKS P Unit 280 (84 - 280 kW) (OO + AC-K + CIK) (T)	61723
PELLET SYSTEM EKO-CKS P Unit 320 (96 - 320 kW) (OO + AC-K + CIK) (T)	61728
PELLET SYSTEM EKO-CKS P Unit 430 (129 - 430 kW) (OO + AC-K + CIK) (T)	61733
PELLET SYSTEM EKO-CKS P Unit 499 (149 - 499 kW) with cyclone and fan (OO + AC-K + CIK) (T)	61745
PELLET SYSTEM EKO-CKS P Unit 560 (168 - 560 kW) with cyclone and fan (OO + AC-K + CIK) (T)	61748

Article	code
PELLET SYSTEM EKO-CKS P Unit 140 (42 - 140 kW) (OO + AC+K) (T)	61694
PELLET SYSTEM EKO-CKS P Unit 180 (54 - 180 kW) (OO + AC+K) (T)	61710
PELLET SYSTEM EKO-CKS P Unit 230 (69 - 230 kW) (OO + AC+K) (T)	61715
PELLET SYSTEM EKO-CKS P Unit 280 (84 - 280 kW) (OO + AC+K) (T)	61720
PELLET SYSTEM EKO-CKS P Unit 320 (96 - 320 kW) (OO + AC+K) (T)	61725
PELLET SYSTEM EKO-CKS P Unit 430 (129 - 430 kW) (OO + AC+K) (T)	61730

Article	code
PELLET SYSTEM EKO-CKS P Unit 140 (42 - 140 kW) (OO + AC+K + CIK) (T)	61695
PELLET SYSTEM EKO-CKS P Unit 180 (54 - 180 kW) (OO + AC+K + CIK) (T)	61711
PELLET SYSTEM EKO-CKS P Unit 230 (69 - 230 kW) (OO + AC+K + CIK) (T)	61716
PELLET SYSTEM EKO-CKS P Unit 280 (84 - 280 kW) (OO + AC+K + CIK) (T)	61721
PELLET SYSTEM EKO-CKS P Unit 320 (96 - 320 kW) (OO + AC+K + CIK) (T)	61726
PELLET SYSTEM EKO-CKS P Unit 430 (129 - 430 kW) (OO + AC+K + CIK) (T)	61731
PELLET SYSTEM EKO-CKS P Unit 499 (149 - 499 kW) with cyclone and fan (OO + AC+K + CIK) (T)	61744
PELLET SYSTEM EKO-CKS P Unit 560 (168 - 560 kW) with cyclone and fan (OO + AC+K + CIK) (T)	61746

http://www.centrometal.hr e-mail: komercijala@centrometal.hr

Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

OBLIGATORY EQUIPMENT:

Pellet feeding conveyor (CPPT- 200, CPPT- 300/350, CPPT- 600)

Article	code
- PELLET FEEDING CONVEYOR CPPT 200 - Centrometal	21650
- PELLET FEEDING CONVEYOR CPPT 300/350 - Centrometal	22981
- PELLET FEEDING CONVEYOR CPPT 600 - Centrometal - l=2500mm	22982

Pellet tank (CentroPelet Box)

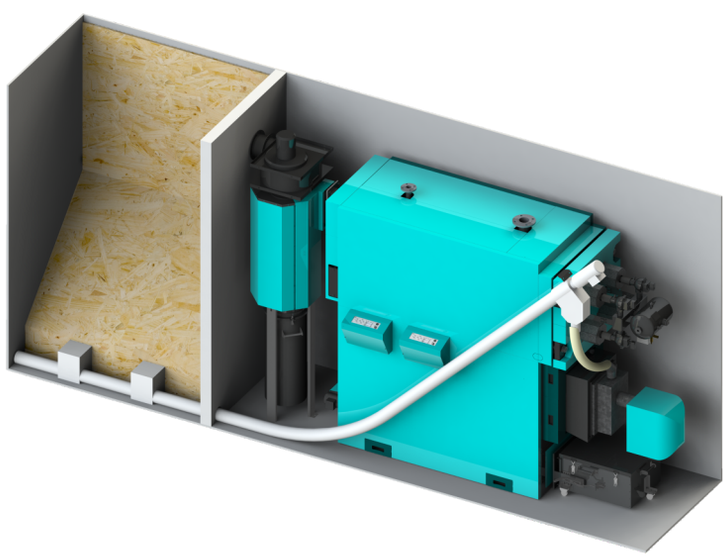
Article	code
Pellet tank CentroPelet box 800 (0.8 m^3)	49397
Pellet tank CentroPelet box 1500 (1.5 m^3)	38342
Pellet tank CentroPelet box 2700 (2.7 m^3)	14537
Pellet tank CentroPelet box 3400 (3.4 m^3)	21296
Pellet tank CentroPelet box 4000 (4 m^3)	23216

Feeding conveyor for pellet supply from the seasonal tank into the pellet burner (flexible spiral)

It is possible to transport the pellets from the room/storage to the boiler (pellet burner) with a flexible spiral, maximal distance up to 30m and the height difference up to 6m. It is used only for wooden pellet transport (pellet diameter ø 6 mm). The fleksible steel spiral is situated in a PVC tube which has outer diameter 90 mm and it is driven/operated by an electric gearmotor. The supply operation is steered by the boiler controller.

The advantage of this feeding/supply system is the possibility to perform the pellet transport directly to the burner without a daily tank to relatively high distances, and it does not require to much space in comparison with solid feeding conveyors.

The offer for this equipment is done on request and with inclosed layout (ground plan) of the boiler room.



Boiler return flow protection:

Maintaining the boiler return flow temperature at min. 60°C, that protect the boiler against condensation. Offered pump comply the distance between the boiler and accumulation tank or hydraulic crossover (piping length flow + return) max. 40 meters. Inner diameter of pipes, valves, fittings and connections of accumulation tank or hydraulic crossover must match inner diameter of boiler (flow+return) connections. Narrowing of the inner diameter of pipes is allowed only at the pump connection. Shut off bodies must not be shut-off valves (due to excessive pressure drop), but gate valves, ball valves and flaps are allowed.

Boiler return flow protection 140 kW:

It consists of:
- 3-way mixing valve DN 50 (11498)
- actuator with 60 seconds opening/closing time (39660)
- pump **Wilo Yonos MAXO 40/0.5-8** (45920)

Article	code
Boiler return flow protection 140 kW	45927

http://www.centrometal.hr e-mail: komercijala@centrometal.hr
Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

Boiler return flow protection 180 kW:

It consists of:
- 3-way mixing valve DN 50 (11498)
- actuator with 60 seconds opening/closing time (39660)
- pump **Wilo Yonos MAXO 40/0.5-12** (45918)

Article	code
Boiler return flow protection 180 kW	42863

Boiler return flow protection 180 kW (cascade 2 boilers):

It consists of:
- 3-way mixing valve DN 50 (11498)
- actuator with 60 seconds opening/closing time (39660)
- pump **Wilo Yonos MAXO 50/0.5-12** (43122)

Article	code
Boiler return flow protection 180 kW (cascade 2 boilers)	45928

Boiler return flow protection 230 kW:

It consists of:
- 3-way mixing valve DN 80 (11516)
- actuator with 60 seconds opening/closing time (39660)
- pump **Wilo Yonos MAXO 50/0.5-9** (45919)

Article	code
Boiler return flow protection 230 kW	42864

Boiler return flow protection 280 kW:

It consists of:
- 3-way mixing valve DN 80 (11516)
- actuator with 60 seconds opening/closing time (39660)
- pump **Wilo Yonos MAXO 50/0.5-12** (43122)

Article	code
Boiler return flow protection 280 kW	45926

Boiler return flow protection 320 kW:

It consists of:
- 3-way mixing valve DN 80 (11516)
- actuator with 60 seconds opening/closing time (39660)
- pump **Wilo Yonos MAXO 65/0.5-12** (45921)

Article	code
Boiler return flow protection 320 kW	42865

Boiler return flow protection 430 kW:

It consists of:
- 3-way mixing valve DN 100 (11517)
- actuator with 60 seconds opening/closing time (39660)
- pump **Wilo Yonos MAXO 80/0.5-6** (45922)

Article	code
Boiler return flow protection 430 kW	42866

Boiler return flow protection 499 kW:

It consists of:
- 3-way mixing valve DN 100 (11517)
- actuator with 60 seconds opening/closing time (39660)
- pump **Wilo Yonos MAXO 65/0.5-16** (43119)

Article	code
Boiler return flow protection 499 kW	45925

http://www.centrometal.hr e-mail: komercijala@centrometal.hr

Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Baboničeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

Boiler return flow protection 560 kW:

It consists of:
- 3-way mixing valve DN 100 (11517)
- actuator with 60 seconds opening/closing time (39660)
- pump **Wilo Yonos MAXO 80/0.5-12 PN6** (45923)

Article	code
Boiler return flow protection 560 kW	42867

Accumulation (buffer) tank CAS

Accumulation (buffer) tank increases the amount of heating water, which is used to store of excess heat produced and for which there is no current demand. This ensures better combustion quality and less frequent intervals of ignition/shutdown of the boiler, which directy affects the efficiency of the system as well as its lifetime. It is delivered with all necessary connections, which enables the connection to the primary and secondary heating circuits. It consists of the buffer tank body, thermal insulation thickness of 100 mm and one coating which is delivered separately , 4 thermometers, 4 sleeves for temperature sensors. It is obligatory to install accumulation tank with minimal volume 10 l/kW.

Article	code
Accumulation tank CAS 1001 (3 bar)	16716
Accumulation tank CAS 1501 (3 bar)	16717
Accumulation tank CAS 2001 (3 bar)	16718
Accumulation tank CAS 3001 (3 bar)	20533
Accumulation tank CAS 4001 (3 bar)	20534
Accumulation tank CAS 5002 (3 bar)	35778

Additional connection for accumulation tank (as needed):

Article	code
Additonal connection for accumulation tank DN 50 PN6, 1 piece	42601
Additonal connection for accumulation tank DN 65 PN6, 1 piece	42602
Additonal connection for accumulation tank DN 80 PN6, 1 piece	42603
Additonal connection for accumulation tank DN 100 PN6, 1 piece	42604
Additonal connection for accumulation tank DN 125 PN6, 1 piece	42605

Hydraulic crossover

Article	code
CHS-180 DN50/PN6 (EKO-CKS P Unit 140-180)	49144
CHS-350 DN80/PN6 (EKO-CKS P Unit 230-320)	47518
CHS-580 DN100/PN6 (EKO-CKS P Unit 430-560)	47444

Set of safety elements minimum/maximum boiler water pressure

- it is obligatory for all boilers larger than 300 kW according to the norm EN 12828
- it is composed of maximum pressure limiter, minimum pressure limiter and manometer, drain valve and the valve for insurance against accidental closing
- it is mounted on the boiler main flow with welding as close as possible to the boiler
- basic boiler controller is designed for el. connection with this safety elements and in case of achieving the maximum or minimum pressure the boiler goes into safe extinguishing process

This set do not include a safety valve, which is obligatory for boilers installed in the closed heating system.

Article	code
Set of safety elements boiler water pressure	39351

http://www.centrometal.hr e-mail: komercijala@centrometal.hr
Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Baboničeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

ADDITIONAL EQUIPMENT:

Backfire protection by rotary dosing valve (RSE)

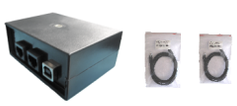
(available only in AC-K and AC+K configurations)

Article	code
Rotary dosing valve (RSE) for pellet burner CPPL 200-600	45888

CMNET - cascade manager

- it enables the cascade management between 2 and 8 boilers
- for the cascade of 2 boilers = 1x CMNET, for the cascade from 3 to 8 boilers = each boiler needs one CMNET
- connection to the boiler is performed with UTP cables

The delivery includes: 1x module, 2x UTP cables



Article	code
CASCADE MANAGER MODULE - CMNET	31139

CM-GSM - communication module

* SMS communication:
- information of the boiler status/warnings/error through mobile (GSM) network by a SMS message
- information of the boiler warnings/error through SMS message on the chosen language
- information of the boiler warnings/error by a call on the mobile with a siren sound
- information of the boiler status - operation phase, boiler temperature/temperature of the connected sensors
- switching the boiler on/off by a SMS message

* GPRS communication:
- preview of current status/warnings/error and boiler's history via GPRS through a web portal on a computer/tablet/smartphone

The delivery includes: 1x module, 1x UTP cable

* SIM card with included calls (SMS) / data traffic (GPRS) is required for proper operation.

Article	code
Communication module by SMS/GPRS - CM-GSM	37798

CAL - Alarm module

- module, with sound or light signal, which inform about an boiler error or warning

The delivery includes: 1x module with built-in light and speaker

Article	code
SOUND AND LIGHT ALARM - CAL	30821

CM2K - module for two heating circuits (max. 4xCM2K modules)

- it enables the control up to two heating circuits according to the outer temperature and the heating curve (guidance up to two mixing valves with actuators and up to two heating pumps)
- it is possible connection with up to 2 room correctors CSK (additional equipment)
- it is possible connection with up to 4 CM2K modules into series (up to 8 heating circuits)

The delivery includes: 1x CM2K module, 2x NTC5K (main flow/sensor DHW), 1x UTP cable 5m, 3x dowel+screw, 10x straps, 1x technical instructions

Article	code
Module for two heating circuits CM2K	56229

http://www.centrometal.hr e-mail: komercijala@centrometal.hr

Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

CSK - room corrector (installation is possible only with CM2K module)

- it enables the correction of the set temperature in the room (according to the temperature which is set on the boiler controller)
- it enables shut down of that heating circuit
- installation is possible only to the CM2K module

The delivery includes: 1x room corrector

Article	code
Room corrector - CSK	32680

CSK-Touch - digital room corrector (installation is possible only with CM2K module)

- color touch screen

The delivery includes: 1x room corrector CSK-Touch

Article	code
Room corrector - CSK-Touch:	59477

CM WiFi-box - system for boiler monitoring by PC, tablet or smartphone

- preview of current status/warnings/error and boiler's history using Wi-Fi via web-portal on a computer/tablet/smartphone
- switching the boiler on/off, temperature adjusting

The delivery includes: 1x module, 1x UTP cable.

Proper operation requires a wireless Internet access.

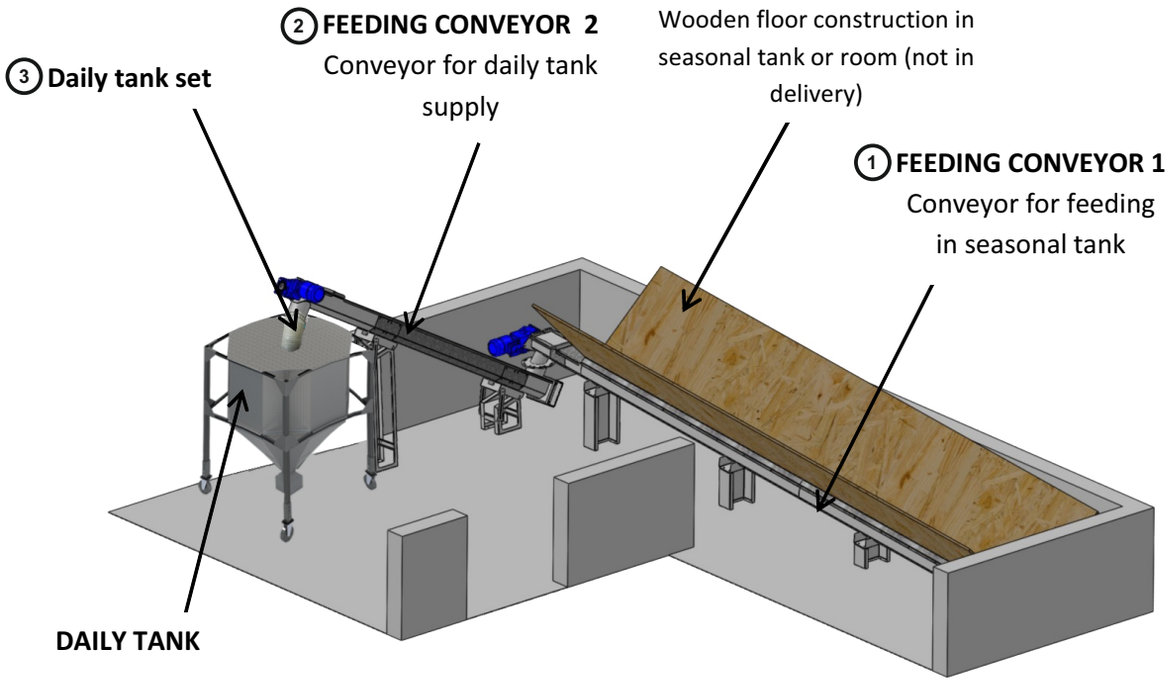
Article	code
CM WiFi-box	48819

http://www.centrometal.hr e-mail: komercijala@centrometal.hr

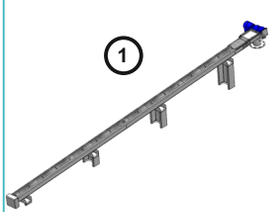
Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

Pellet supply from the seasonal tank (room) into the daily tank placed near the boiler (CentroPelet box):

The pellets are taken from the seasonal tank by feeding conveyor. In the room designed to be a pellet storage it is necessary to built a wooden floor construction with sides under a slope of 45° and lean against the feeder to enable the pellets fall into the foreseen opening. The daily tank is equipped with a fuel level sensor and the pellet conveyor starts or stops depending upon the quantity of pellets which are placed in the daily tank.

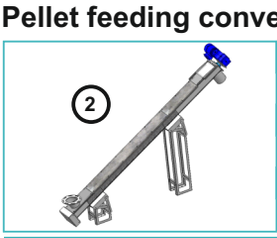


Pellet feeding conveyor with gearmotor for pellet transport from the seasonal tank (room):



Article	code
- with l=3 m length and a channel (140-560 kW) - feeding conveyor-1	36362
- with l=4 m length and a channel (140-560 kW) - feeding conveyor-1	35492
- with l=5 m length and a channel (140-560 kW) - feeding conveyor-1	36114
- with l=6 m length and a channel (140-560 kW) - feeding conveyor-1	35401
- with l=7 m length and a channel (140-560 kW) - feeding conveyor-1	35456
- with l=8 m length and a channel (140-560 kW) - feeding conveyor-1	36634
- with l=9 m length and a channel (140-560 kW) - feeding conveyor-1	36491
- with l=10 m length and a channel (140-560 kW) - feeding conveyor-1	46136

Pellet feeding conveyor for the daily tank supply:



Article	code
- with l=3 m length (140-560 kW) - feeding conveyor-2	35402
- with l=4 m length (140-560 kW) - feeding conveyor-2	36115
- with l=5 m length (140-560 kW) - feeding conveyor-2	35455
- with l=6 m length (140-560 kW) - feeding conveyor-2	36636
- with l=7 m length (140-560 kW) - feeding conveyor-2	46137

Set for CentroPelet box:

Article	code
- connection tube of the pellet feeding conveyor and CentroPelet box	35312
- sensor bracket CentroPelet box	35311
- CentroPelet box lid, two parts with opening	32433

http://www.centrometal.hr e-mail: komercijala@centrometal.hr

Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

Pellet/wood chips supply system for the boilers 140-560 kW for storage room:

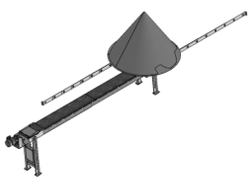
It is designed for storage and transport of the pellets (diameter 6 or 8 mm), the slope sides in the storage room are not needed. The basic implementation consists of spring arms and the conveyor with partially open channel (which is placed inside the pellet tank) and 2m long conveyor with closed channel outside the tank. After installation of the fuel mixer and feeding conveyor and its connection to the daily tank it is necessary to make a wooden floor construction, which will follow the angle of slope of the feeding conveyor.

Option 1:

Pellet/wood chips supply for the boilers 140-560 kW for storage room, mixer and feeding conveyor driven by separate motor drive:

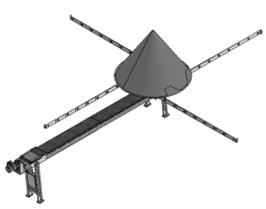
Wood chips/pellets mixer for the storage room (independent) without conveyor:
Wood chips/pellets mixer has a separate electric motor drive and works independently of the conveyor.

from 140 to 320 kW



Article	code
Wood chips/pellets mixer without conveyor for storage room 2x2m	51939
Wood chips/pellets mixer without conveyor for storage room 2.5x2.5m	51940
Wood chips/pellets mixer without conveyor for storage room 3x3m	51941
Wood chips/pellets mixer without conveyor for storage room 3.5x3.5m	51942
Wood chips/pellets mixer without conveyor for storage room 4x4m	51944
Wood chips/pellets mixer without conveyor for storage room 4.5x4.5m	51943
Wood chips/pellets mixer without conveyor for storage room 5x5m	51946

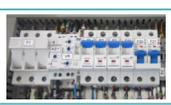
from 430 to 560 kW



Article	code
Wood chip s/pellet mixer without conveyor for the storage room 2x2m	73513
Wood chips/pellet mixer without conveyor for the storage room 2.5x2.5m	73514
Wood chips/pellet mixer without conveyor for the storage room 3x3m	73515
Wood chips/pellet mixer without conveyor for the storage room 3.5x3.5m	73516
Wood chips/pellet mixer without conveyor for the storage room 4x4m	73517
Wood chips/pellet mixer without conveyor for the storage room 4.5x4.5m	73518
Wood chips/pellet mixer without conveyor for the storage room 5x5m	73519

Electric set for mixer control:

El. set installed in el. boiler cabinet.



Article	code
Electric set for mixer control – nominal motor current I=0,91-1,5 A (U=400 V)	75080

Conveyor for transporting wood chips/pellets from a seasonal tank (room) with gear motor:

Article	code
Conveyor wood chips/pellets for boilers over 100 kW - for room 2x2m	35242
Conveyor wood chips/pellets for boilers over 100 kW - for room 2,5x2,5m	75036
Conveyor wood chips/pellets for boilers over 100 kW - for room 3x3m	75037
Conveyor wood chips/pellets for boilers over 100 kW - for room 3,5x3,5m	75038
Conveyor wood chips/pellets for boilers over 100 kW - for room 4x4m	75039
Conveyor wood chips/pellets for boilers over 100 kW - for room 4,5x4,5m	75040
Conveyor wood chips/pellets for boilers over 100 kW - for room 5x5m	75041

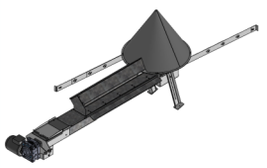
http://www.centrometal.hr e-mail: komercijala@centrometal.hr
Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

Option 2:

Pellet/wood chips supply for the boilers 140-560 kW for storage room, mixer and feeding conveyor driven by common motor driver:

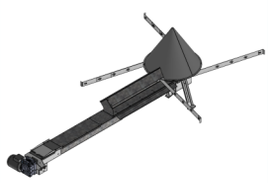
Wood chips/pellets mixer for the storage room with conveyor:
The electic motor drive simultaneously start the conveyor and the pellet/wood chips mixer. The mixer cannot work if the conveyor is not working at the same time.

from 140 to 320 kW



Article	code
Wood chips/pellet mixer with 2 m conveyor for the storage room 2x2m	25225
Wood chips/pellet mixer with 2 m conveyor for the storage room 2.5x2.5m	25226
Wood chips/pellet mixer with 2 m conveyor for the storage room 3x3m	25227
Wood chips/pellet mixer with 3.7 m conveyor for the storage room 3.5x3.5m	25228
Wood chips/pellet mixer with 3.7 m conveyor for the storage room 4x4m	25229
Wood chips/pellet mixer with 4.6 m conveyor for the storage room 4.5x4.5m	34002
Wood chips/pellet mixer with 4.6 m conveyor for the storage room 5x5m	30169

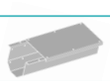
from 430 to 560 kW



Article	code
Wood chips/pellet mixer with 2 m conveyor for the storage room 2x2m	73506
Wood chips/pellet mixer with 2 m conveyor for the storage room 2.5x2.5m	73507
Wood chips/pellet mixer with 2 m conveyor for the storage room 3x3m	73508
Wood chips/pellet mixer with 3.7 m conveyor for the storage room 3.5x3.5m	73509
Wood chips/pellet mixer with 3.7 m conveyor for the storage room 4x4m	73510
Wood chips/pellet mixer with 4.6 m conveyor for the storage room 4.5x4.5m	73511
Wood chips/pellet mixer with 4.6 m conveyor for the storage room 5x5m	73512

Wood chips/pellet mixer conveyor extension (if needed):

It consists of a closed channel with spiral and axle.
The length of the conveyor-3 with extension may be max. 5,5 m.

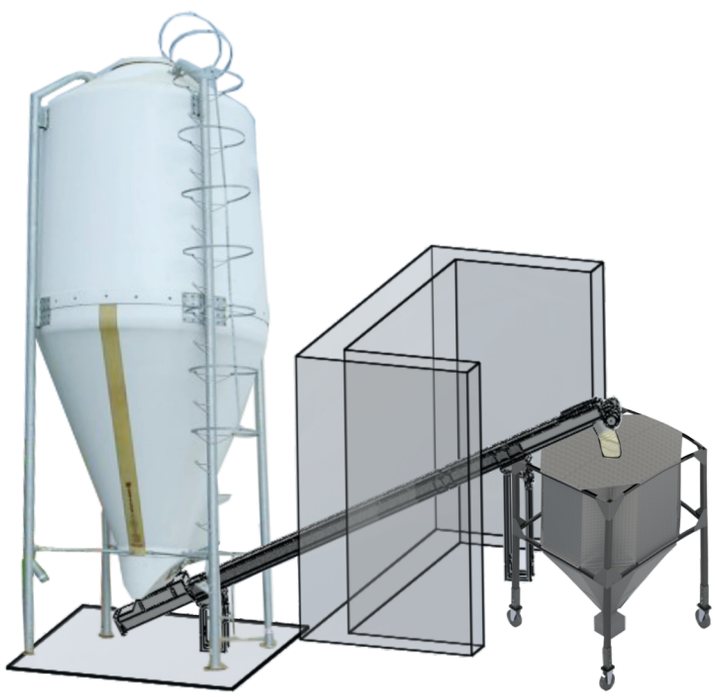


Article	code
Wood chips/pellet mixer conveyor extension L=1m	25230

Pellet supply from the seasonal tank (silo) into the daily tank placed near the boiler (CentroPelet box):

Pellets are gravitationally falling from the silo into the admission of the feeding conveyor and are further transported by conveyor into the daily tank.The silo is made of very strong fiberglass which is used in the construction of boats and yachts. Capacity range are from 2.4 tons to 45 tons of pellets, heights from 3.7 m to 13 m, diameters from 1.6 to 3 m. The daily tank is equipped with the fuel level sensor, the pellet conveyor starts or stops depending upon the quantity of pellets which are placed into the daily tank.

The offer for this equipment is done on request and with inclosed layout (ground plan) of the boiler room.

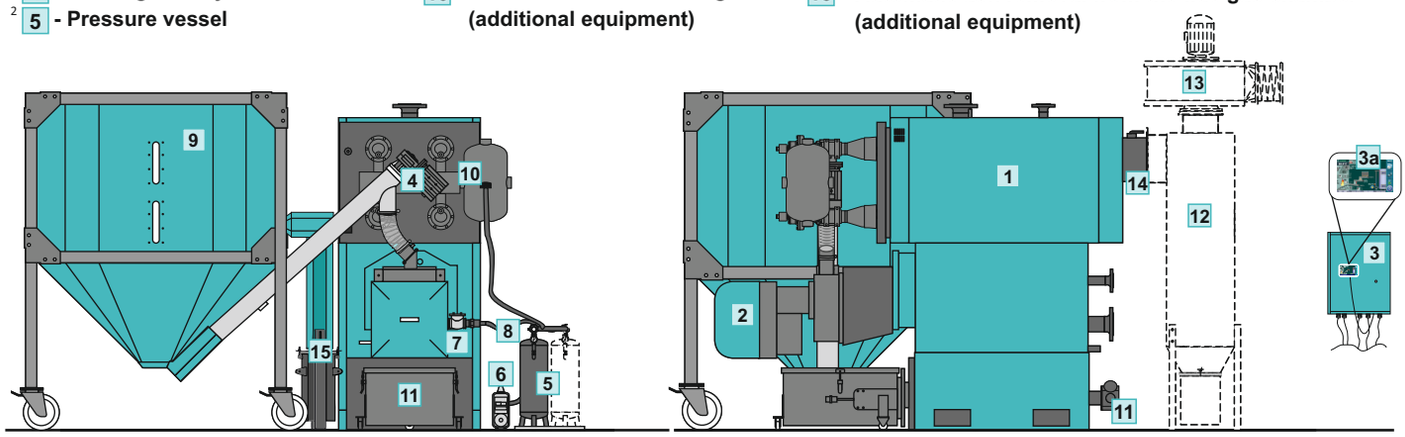


http://www.centrometal.hr e-mail: komercijala@centrometal.hr
Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

EKO-CKS P Unit 140-560 kW

BOILER PARTS:

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



[1] EKO-CKS P Unit 140-560 - with cyclone and fan **(CIK)**
[3] Compressor is not delivered in configuration (AC-K)

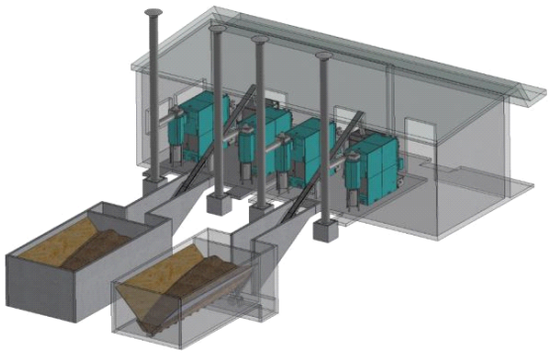
[2] EKO-CKS P Unit 140-320 - pressure vessel 50 lit. - 1 piece, electromagnetic valve - 1 piece, air feeding tube - 1 piece
EKO-CKS P Unit 430-560 - pressure vessel 50 lit. - 2 pieces, electromagnetic valve - 2 pieces, air feeding tube - 2 pieces

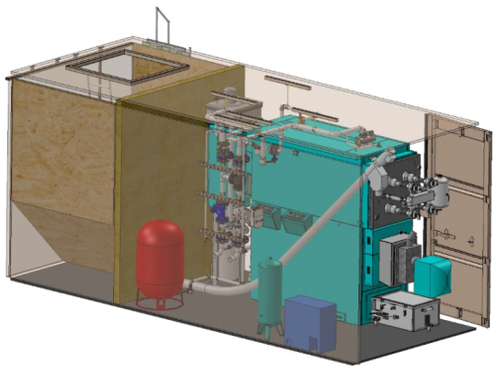
EKO-CKS P UNIT (140-560 kW)

	Basic equipment (OO)				Obligatory equipment		Additional equipment involved into the configurations		
	Cm Pelet-set		Boiler	Power range (kW)			CIK	AC-K	AC+K
EKO-CKS P UNIT 140	**Cm Pelet-set 200:** - pellet burner CPPL-200 inv (with automatic cleaning) - pressure vessel 50 lit. - compressor Michelin	- Electrical enclosure with controller and control unit - electromagnetic valve - air feeding tube 1”	EKO-CKS P 150	42 - 140	- pellet conveyor CPPT-200	- pellet tank - boiler return protection with 3-way mixing valve and actuator and boiler pump - accumulation tank (min. 10 l/kW) or hydraulic crossover - set of safety elements min/max boiler water pressure	- cyclone - fan - addition to regulation for fan control	- automatic ash removal from the combustion chamber - automatic ash removal from the flue gas chamber - automatic (pneumatic) cleaning of flue gas tubes of thermal protection with compressor set, but without the compressor - DHW tank steering	- automatic ash removal from the combustion chamber - automatic ash removal from the flue gas chamber - automatic (pneumatic) cleaning of flue gas tubes of thermal protection with compressor (instead of 'Compressor Michelin' from the basic delivery, it is delivered 'Compressor Kaeser with compressor set). - DHW tank steering
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) - pressure vessel 50 lit. - compressor Michelin	- Electrical enclosure with controller and control unit - electromagnetic valve - air feeding tube 1”	EKO-CKS P 250	69 - 230	- pellet conveyor CPPT-300/350				
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) - pressure vessel 50 lit. - compressor Michelin	- Electrical enclosure with controller and control unit - electromagnetic valve - air feeding tube 1”	EKO-CKS P 380	96 - 320					
EKO-CKS P UNIT 430	**Cm Pelet-set 600:** - pellet burner CPPL-600 inv (with automatic cleaning) - 2 pressure vessels 50 lit. - compressor Michelin	- Electrical enclosure with controller and control unit - 2 electromagnetic valves - air feeding tube 1” - air feeding tube ½”	EKO-CKS P 500	129 - 430					
	Configuration CIK		**Boiler**	**Power range (kW)**					
EKO-CKS P UNIT 499	**Cm Pelet-set 600:** - pellet burner CPPL-600 inv (with automatic cleaning) - 2 pressure vessels 50 lit. - compressor Michelin	- Electrical enclosure with controller and control unit - 2 electromagnetic valves - air feeding tube 1” - air feeding tube ½” - cyclone, fan CVX200	EKO-CKS P 550	149 - 499	- pellet conveyor CPPT-600				
EKO-CKS P UNIT 560	**Cm Pelet-set 600:** - pellet burner CPPL-600 inv (with automatic cleaning) - 2 pressure vessels 50 lit. - compressor Michelin	- Electrical enclosure with controller and control unit - 2 electromagnetic valves - air feeding tube 1” - air feeding tube ½” - cyclone, fan CVX200	EKO-CKS P 600	168 - 560					

Other additional equipment (all power ranges): - CMNET cascade manager, CM-GSM communication module, CAL alarm module, CM2K module for two heating circuits via outdoor temperature (max 4x CM2K), CSK room corrector (possible installation with CM2K module), CM WiFi-box system for boiler monitoring over PC, tablet or mobile phone, feeding transporters from other tanks, silo for pellets, rotary dosing valve (RSE), ash removal from the flue gas chamber

References:





greenhouse and 3 hauses, Vechtwijk, Netherlands

residential building, Banja Luka, BiH

residential buildings, Vukovar, Croatia

primary school, Draž, Croatia

university, Tetovo, Macedonia

greenhouse, Aviano, Italy

HEATING TECHNIQUE

Centrometal

http://www.centrometal.hr e-mail: komercijala@centrometal.hr

Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763

HEATING TECHNIQUE

Centrometal

http://www.centrometal.hr e-mail: komercijala@centrometal.hr

Centrometal d.o.o. - 40306 Macinec - Glavna 12 - Croatia - tel:+385 (0)40 372 600 - fax:+385 (0)40 372 611
Branch office - 10000 Zagreb - Babonićeva 53 - Croatia - tel:+385 (0)1 46 33 762 - fax:+385 (0)1 46 33 763