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TECHNICAL INSTRUCTIONS

FOR THE COMMISSIONING AND ADJUSTMENT

Cm Pelet-set - touch

(60-90 kW)

For boilers:
EKO-CK P 70-110

TUPS-90-T-07-2017-E-N-eng_1.07

CONTENTS

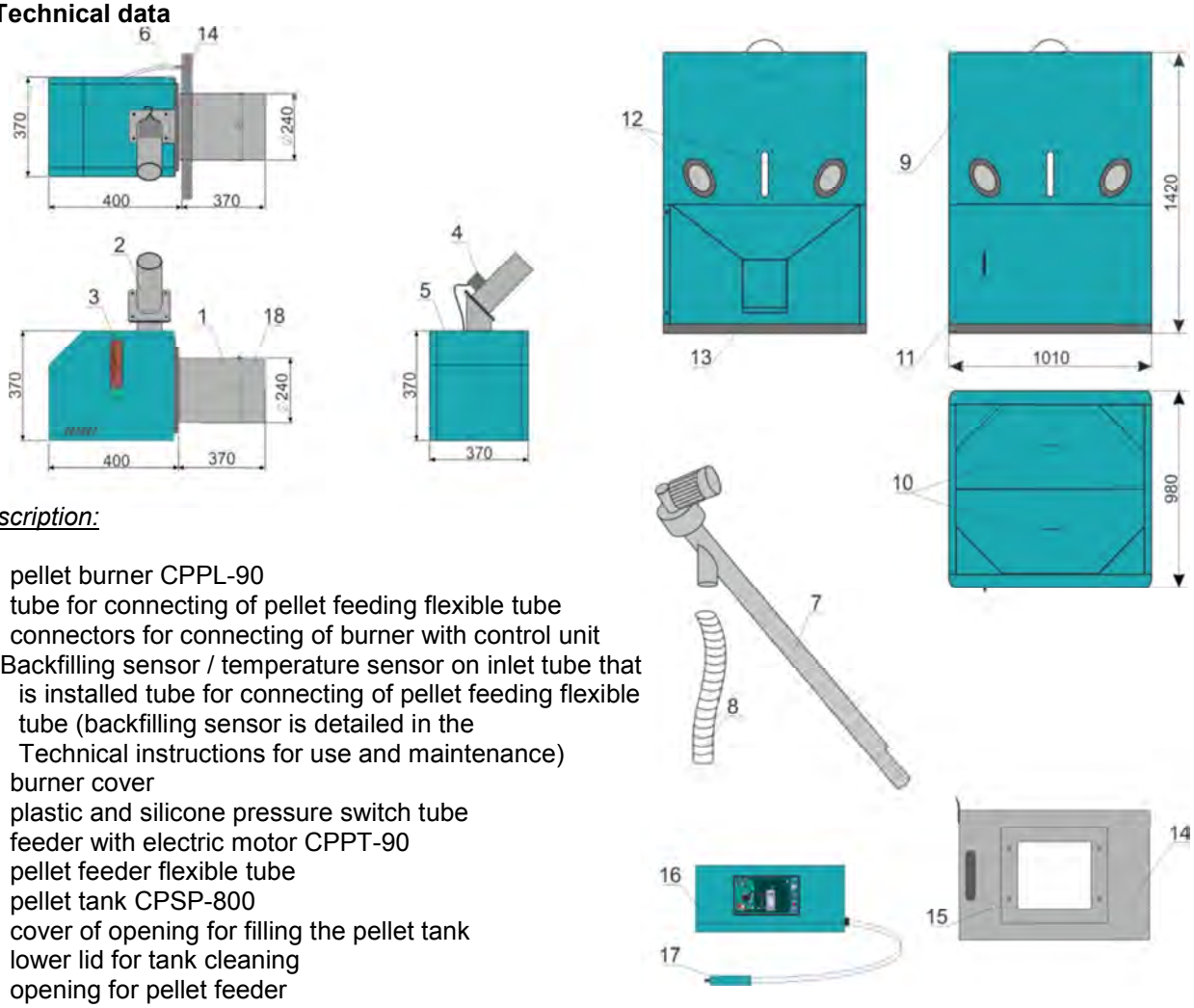
1. Introduction

Cm Pelet-set 90, pellet based heating system (nominal burner output **60** to **90 kW)** designed for installation in combined boilers or biomass firing boilers **EKO-CK P,** with thermal output from **70 to 110 kW.** These technical instructions present commissioning, as well as fine tuning of the burner operating parameters. Installation, commissioning and fine tuning of Cm Pelet-set 90 must be carried out by the manufacturer authorized fitter/serviceman
Use and maintenance instructions for Cm Pelet-set 90 in daily work are also supplied with these instructions.

2. Mode at delivery

1. pellet burner CPPL-90
2. lower boiler door CPDV 60/70 for burner CPPL-90 (for boiler EKO-CK P 70) and CPDV 90/110 (for boilers EKO-CK P 90 and 110) - factory mounted onto EKO-CK P boilers
3. boiler control unit CPREG - touch
4. pellet feeder CPPT-90
5. pellet tank CPSP-800

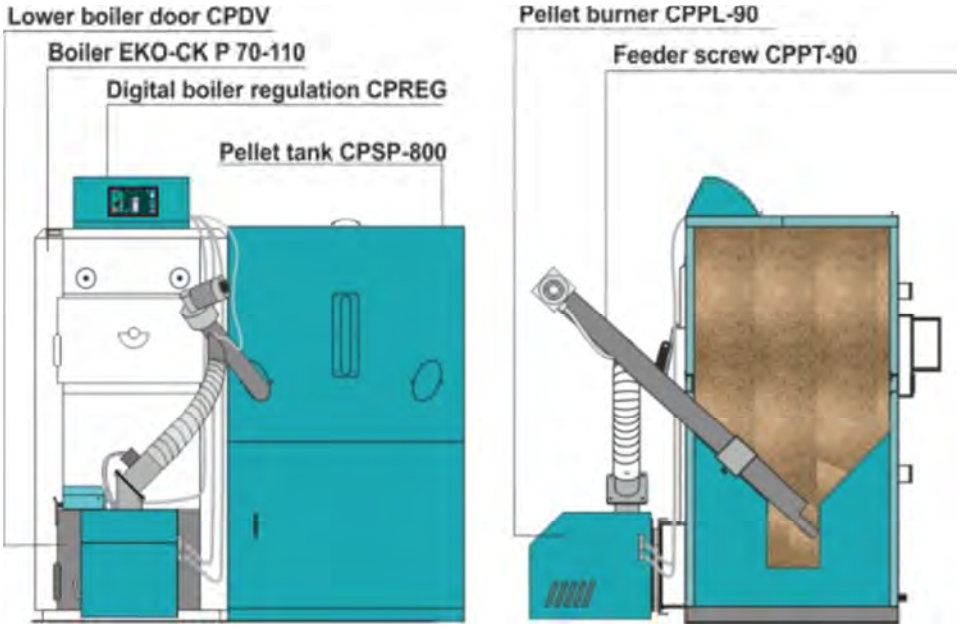
3. Technical data



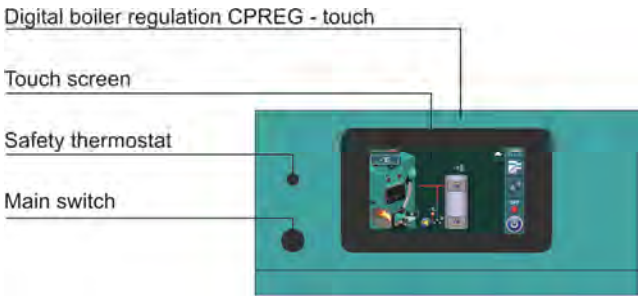
Description:

1. pellet burner CPPL-90
2. tube for connecting of pellet feeding flexible tube
3. connectors for connecting of burner with control unit
4. Backfilling sensor / temperature sensor on inlet tube that is installed tube for connecting of pellet feeding flexible tube (backfilling sensor is detailed in the Technical instructions for use and maintenance)
5. burner cover
6. plastic and silicone pressure switch tube
7. feeder with electric motor CPPT-90
8. pellet feeder flexible tube
9. pellet tank CPSP-800
10. cover of opening for filling the pellet tank
11. lower lid for tank cleaning
12. opening for pellet feeder
13. openings for tank cleaning
14. lower boiler door adapted for pellet burner CPDV 60/70 for burner CPPL-90 (for boiler EKO-CK P 70) and CPDV 90/110 (for boilers EKO-CK P 90 and 110)
15. connector for pressure switch silicone pipe on the lower boiler door CPDV
16. boiler control unit CPREG - touch
17. micro switch for lower boiler door

Cm Pelet-set 90 on boilers EKO-CK P



Cm Pelet-set type		**90**	**90**	**90**
Burner CPPL type		CPPL-90	CPPL-90	CPPL-90
Set thermal output	(kW)	60	70	90
Boiler type		EKO-CK P 70	EKO-CK P 90	EKO-CK P 110
Pellet tank volume	(l)	800		
Pellet tank height	(mm)	1420		
Pellet tank depth	(mm)	980		
Pellet tank width	(mm)	1010		
Supply voltage	V/Hz	230/50		
Boiler width	(mm)	640	690	690
Lower boiler door CPDV	(mm)	CPDV 60/70 for burner CPPL-90 (for boiler EKO-CK P 70) and CPDV 90/110 (for boilers EKO-CK P 90 i 110)		



4. Installation of Cm Pelet-set 90

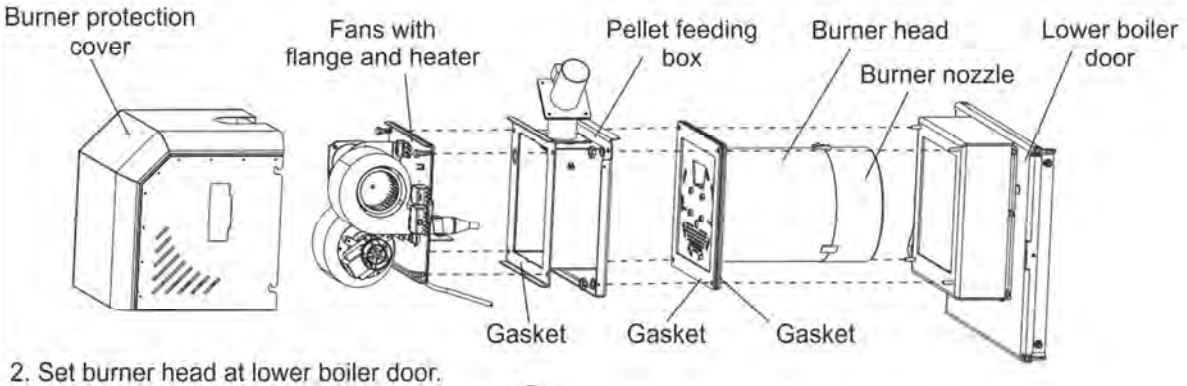
Commissioning and fine adjustment of Cm Pelet-set 90 should be carried out by a professional or the manufacturer's authorized fitter.

4.1. Installation of pellet burner and pellet control unit on the boiler

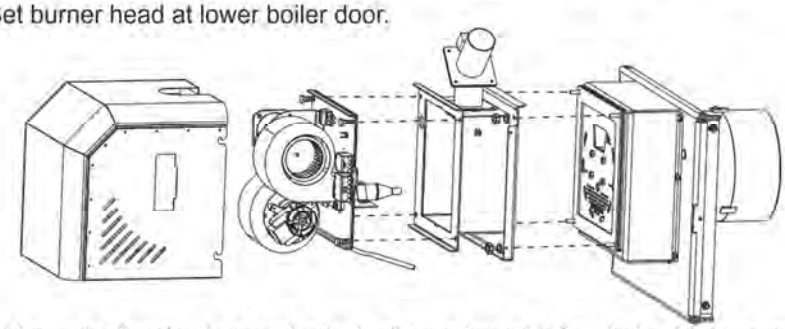
a) Remove lower boiler door and install lower boiler door CPDV 60/70 for burner CPPL-90 (for boiler EKO-CK P 70) and CPDV 90/110 (for boilers EKO-CK P 90 and 110) supplied with Cm Pelet-set 90 (if lower boiler door CPDV is not already installed on the boiler).
b) Disassemble the burner into 4 parts as shown figure below. Place burner head (with fixed thicker gasket toward door and thinner gasket on the side away from door) onto prepared screws on the door, then place a feeding box and tighten the screws with enclosed nuts M8. Put a gasket onto the feeding box and put a feeding tube onto it (faced toward the pellet tank, either on the left or on the right side and tighten it firmly using enclosed screws M4 x 30. Connect 3-pin plug of the backfilling sensor / temperature sensor" the supply pipe in 3-pin connector which is attached to the feeding box. PVC and silicone pipe, which is at its one end fixed to the pressure switch at the burner, should be placed (and shorten if necessary) onto appropriate connector on the boiler door. Place cover onto preinstalled screws and tighten them firmly. In the end it is necessary to put the nozzle of the burner which is attaches to the prepared screw on the burner head.

The order of operations for installing a pellet burner at lower boiler door

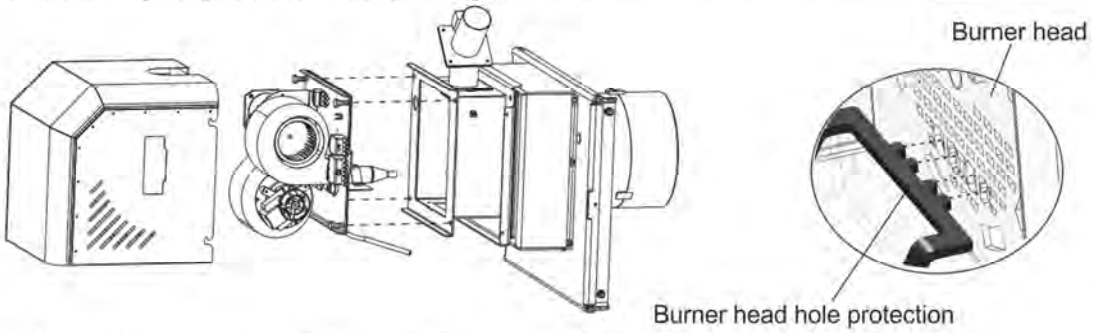
1. Disassemble pellet burner into 4 parts as shown in Figure



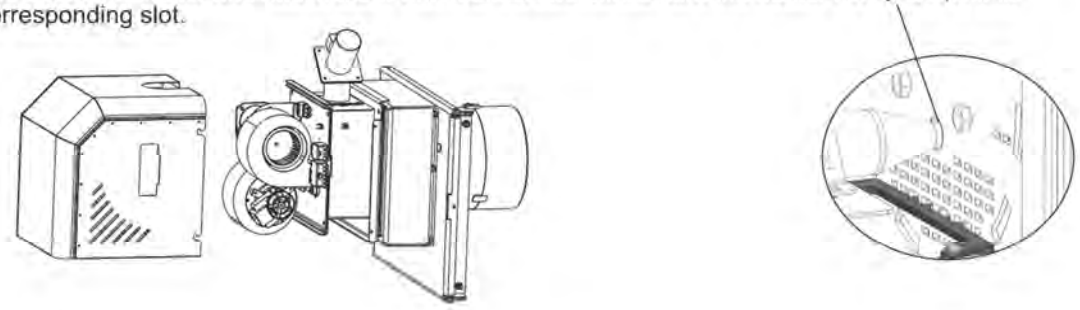
2. Set burner head at lower boiler door.



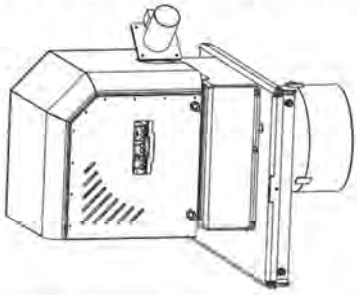
3. Add a pellet feeding box and attach all together with four bolts. Make sure the "Burner head hole protection" nicely snaps into the corresponding slots.



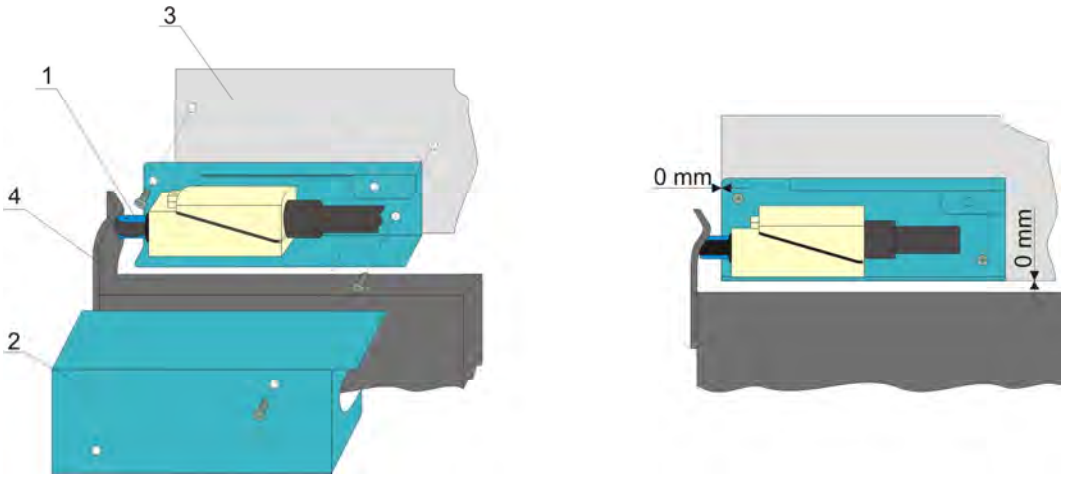
4. Add a fan and heater and attach them with four screws. Make sure the heater nicely snaps into corresponding slot.



5. Add a protection cover and fasten with four screws.



c) Drill 2 holes at the distance of 358 mm on the top side of boiler plating, and using enclosed screws 3.9 x 9.5 mm fix boiler control unit CPREG - touch, insert the safety thermostat sensor and control unit sensor into the sleeve on the boiler (on the top side on EKO-CK P boiler) and connect wires by 4-poles and 6-poles connectors onto the burner and then fix the connectors to the burner body. Fix wire cable between the control unit and burner to the boiler casing by supplied plastic cable holder (fix cable holder onto boiler casing with tapping screws 3.9 x 16 mm).



Mounting of the micro switch for lower boiler door

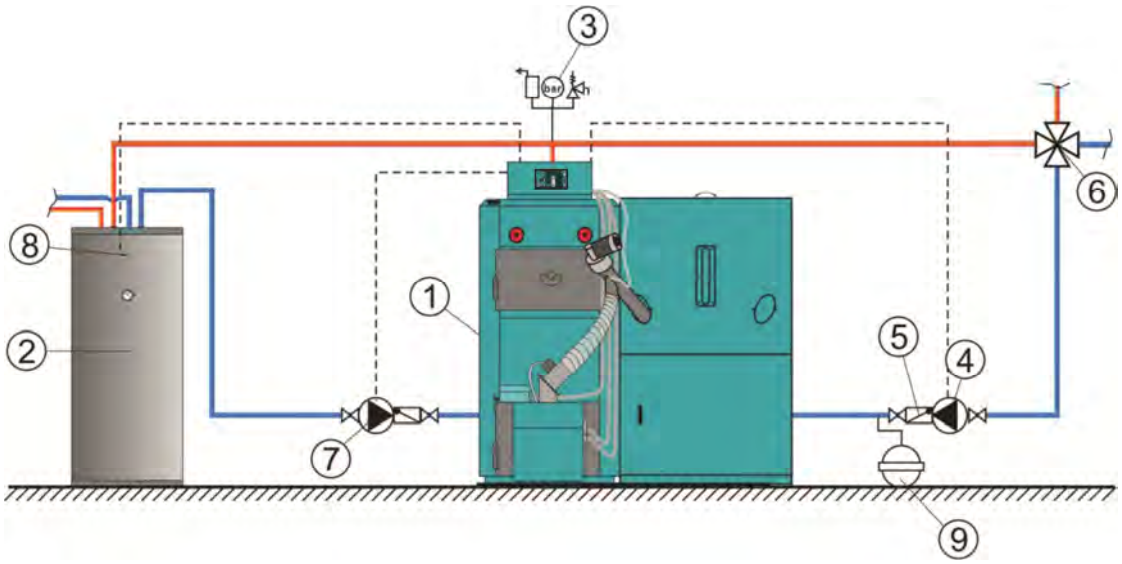
d) Set the micro switch (1) in lower left corner of the lower front casing of the boiler (3) using 2 screws, put the cover (2) according to the picture on micro switch and fasten it with the screw. Check if lower boiler door, when they are closed, push the micro switch.
e) Assembly the pellet tank CPSP-800 according to technical instructions and position it next to the right or left boiler side onto horizontal surface. Align tank bottom with the boiler bottom and align the front tank side with the front side of boiler plating.
f) Place the feeder CPPT-90 into tank and connect it by a transparent flexible tube with a pellet burner CPPL-90. Fix one end of transparent flexible tube to the burner (onto the feeding tube) to backfilling sensor / temperature gauge on inlet tube, and other end should be fixed to the feeder so that the tube will not become loosen. Transparent tube between the feeder and burner must be as straight as possible so that pellets can fall smoothly from the feeder into the burner (if pellets remain in the tube, it should be straighten and shorten, if necessary).
g) Connect a wire for power supply to the screw feeder CPPT-90 to the connector (2) on the back side of the control unit CPREG - touch.
h) If sanitary water is prepared by using the boiler control unit, or the system installed one or more accumulation tank (CAS) a sanitary water sensor should be fixed to connector 4 instead of a jumper wire.

   h1) If the sanitary water is prepared with the help of boiler control unit, sensor should be placed in domestic hot water tank (Figure 1a).

   h2) if it is installed one or more accumulation tanks (CAS) it is necessary to set the domestic hot water sensor at the lowest sensor sleeve on the last accumulation tank (CAS) or in a sensor tube below the water level we want to warm up (see Figure 1b). In this case the hot water sensor has no direct connection with the preparation of hot water (Figure 1b).

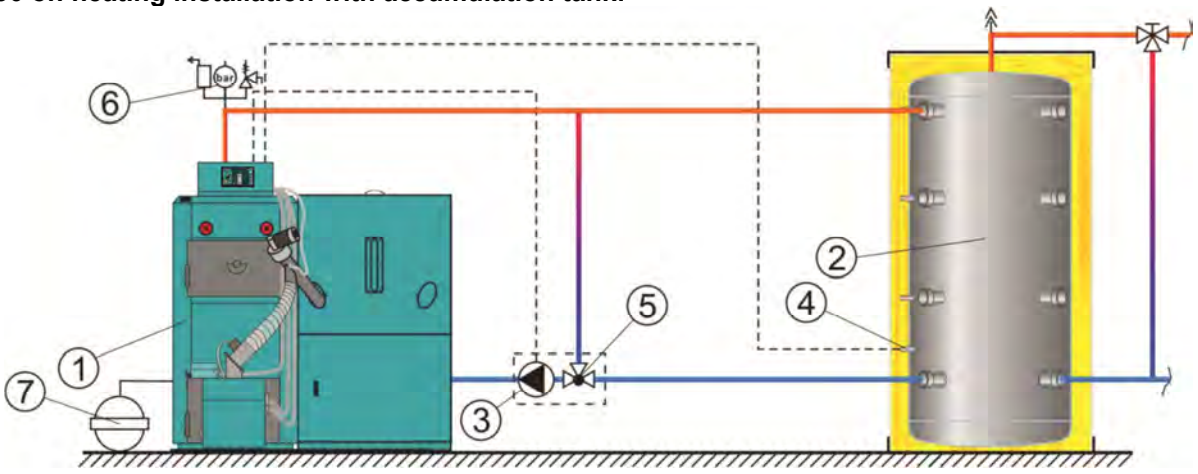
i) If used Telecontrol or cascade manager they is connected in place of a room thermostat (Connector 3).
j) A jumper wire is factory installed in the place of room thermostat (connector (3). If an adapter is used for ‘’more zones’’ control (optional equipment), a jumper wire in the connector (3) must be put.
k) **Do not** connect boiler control unit to power supply via a built in thermostat on the boiler (if there is a thermostat on the upper side of EKO-CK P boiler).

Figure 1a. Connection scheme of the boiler EKO-CK P 70, 90 and 110 with in-built Cm Pelet-set 90 on heating installation with stainless steel hot water boiler:



1. Boiler **EKO-CK P 70, 90,110** with in-built Cm Pelet-set 90
2. Stainless steel hot water boiler **TB**
3. Air-vent group
4. Heating system pump
5. Non-return valve
6. Manual 4-way mixing valve
7. Sanitary water pump
8. Sanitary water sensor
9. Expansion vessel (10% volume of water in the installation)

Figure 1b. Connection scheme of the boiler EKO-CK P 70, 90 and 110 with in-built Cm Pelet-set 90 on heating installation with accumulation tank:

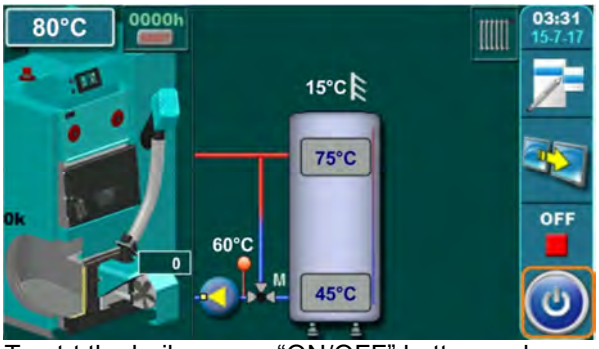


1. Boiler **EKO-CK P 70,90 ,110** with in-built Cm Pelet-set 90
2. Accumulation tank (CAS)
3. Heating pump between boiler and accumulation tank (CAS)
4. Sanitary water sensor (at the lowest sensor sleeve on the accumulation tank
5. 3-way thermostat valve for outlet protection (as ESBE VTC 512, VTC 531, LTC 141 or Laddomat 21) or 3-way mixing valve with actuator and return flow temperature sensor
6. Air-vent group
7. Expansion vessel (10% volume of water in the installation)

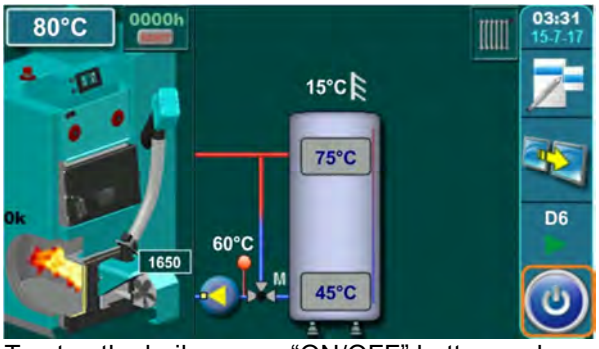
4.2. Installation of CPSP-800 pellet tank and CPPT-90 pellet feeder

See Technical instructions for installation, use and maintenance of pellet tank and feeder supplied with CPSP-800 pellet tank and CPPT-90 screw feeder.

5. Start/stop



To strt the boiler press “ON/OFF” button and confirm it pressing the “OK” button



To stop the boiler press “ON/OFF” button and confirm it pressing the “OK” button

To start the boiler press “ON/OFF” button and confirm it pressing the “OK” button

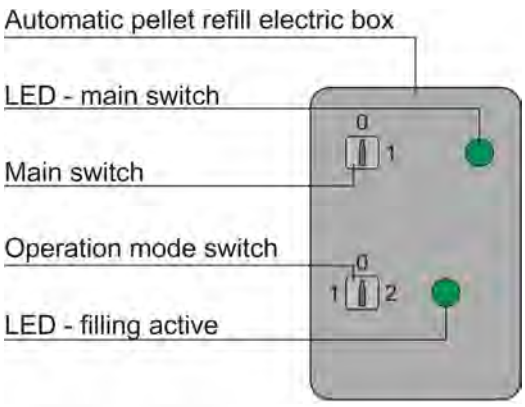
To stop the boiler press “ON/OFF” button and confirm it pressing the “OK” button

6. Draught of the chimney

Chimney of appropriate size is one of conditions for proper operation of the boiler. Chimney has to be select according to diagram for solid fuel firing (see Technical instructions EKO-CK P or EKO-CKB P) or a chimney with the following minimum draughts has to be select for certain powers:

- Cm Pelet-set 60 = 24 Pa
- Cm Pelet-set 70 = 25 Pa
- Cm Pelet-set 90 = 28 Pa

7. Automatic pellet refill – <u>additional equipment</u>



Operation mode switch:
0 - OFF
1 - Auto
2 - Manual

Main switch – on/off power supply for the filling system

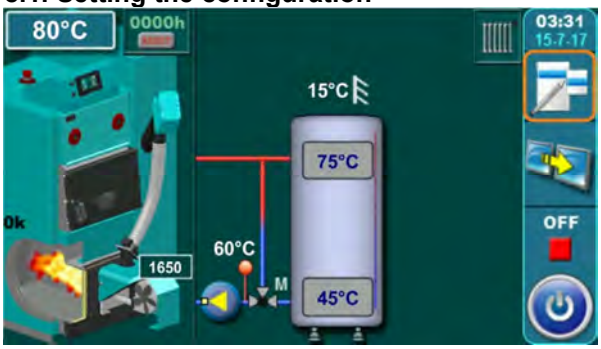
LED – main switch – on when there is power supply

Operation mode switch – select working mode:
0 – OFF (disabled)
1 – Auto filling (working until tank sensor stops it)
2 – Manual filling (working until manual switching off, doesn't working according to tank sensor)

LED – filing - on when filling is working (manual or auto)

8. Initial setting of the regulation

8.1. Setting the configuration



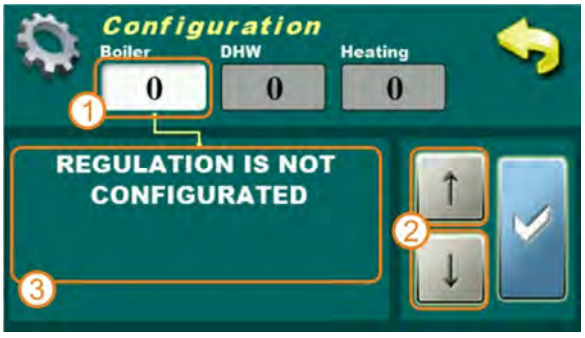
1. In main screen press “Menu” button

2. In “Main” menu press “Installation” button (SERVICE PIN required)

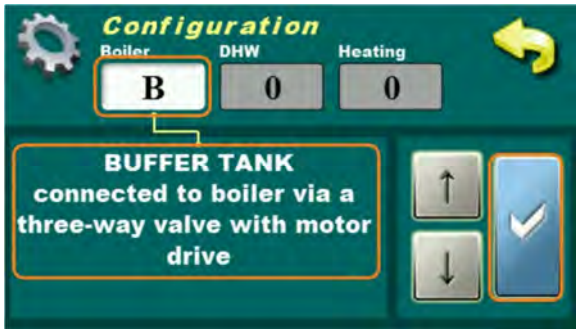
3. In “Installation” menu press “Commissioning” button

4. In “Commissioning” menu” press “Configuration” button

5. In “Configuration” menu press “Configuration” button”



6. In “Configuration” menu set scheme
   1 – scheme “CODE” (3 characters)
   2 – buttons for changing the values
   3 – scheme description



7. Set scheme (current “B.0.0.”)
   Confirm it with OK button (blue button)

8.2. Setting the protection valve actuator time

1. In “Installation” menu press “Commissioning” button

2. In “Commissioning” menu press “3-way valve” button

3. In “Valve time” setting set protection valve actuator opening/closing time (it depends on the build in protection valve actuator)

1.07

Macinec, 07/2017.