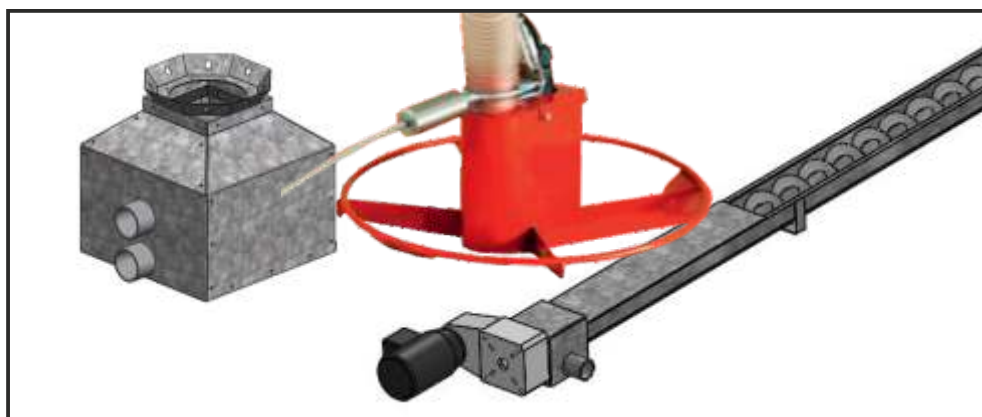


ENG

TECHNICAL INSTRUCTIONS



for the installation, use and maintenance



PELLET SUCTION SYSTEM CVT

configuration: CVT + Mole, CVT + CentroPeletbox, CVT + Feederscrew
mountingto: PelTec, PelTec-lambda, PelTec II Lambda,
EKO-CK(B)P + CmPelet-set (/Touch),
CentroPlus(-B) + CmPelet-set (/Touch), BioTecPlus



READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLING THE BOILER TO HEATING SYSTEM!



Boiler must not operate in flammable and explosive environment.



Boiler must not be used by children or disabled persons (either physically or mentally), as well as by person without knowledge or experience, unless they are under control or trained by a person responsible for their safety. Children must be supervised in the vicinity of the product.



Before any work on the boiler, electric energy must be switched off.

1.0. IN GENERAL

The purpose of the pellet suction system is for pellet systems with a power output until 99 kW in cases where the pellet tank is not situated close to the boiler and an automatic feeding system is demanded. By the help of flexible tubes with a maximum length up to 10 m in one direction, the pellet is being transported from a bigger tank to the pellet tank close to the boiler to insure a continuous pellet provision (feeding). The pellet suction system consists of a turbine which is mounted on top of the pellet tank situated close to the pellet boiler, of a pellet level sensor in the tank (close to the pellet boiler, the PelTec / PelTec-lambda / PelTec II Lambda has already a built in pellet tank), of flexible tubes with earthing, maximum length up to 10 meters in one direction and maximum height difference from 2,5 to 5 m depending upon the total tube length and the bigger pellet tank. The pellet suction system is controlled by the boiler regulation, which according to the fuel level sensor in the pellet tank and turbine and the set times of operation controls the suction system. The suction system can be connected with three different pellet tanks: pellet tank with mole, big pellet tank CentroPelet Box and the pellet tank with the screw feeder. **The system is tested for the transport of wood pellets with a diameter of 6 mm, manufactured according to the DINplus norm or EnplusA1 with a maximum dust content < 0,7 %**

1.1. TECHNICAL DATA

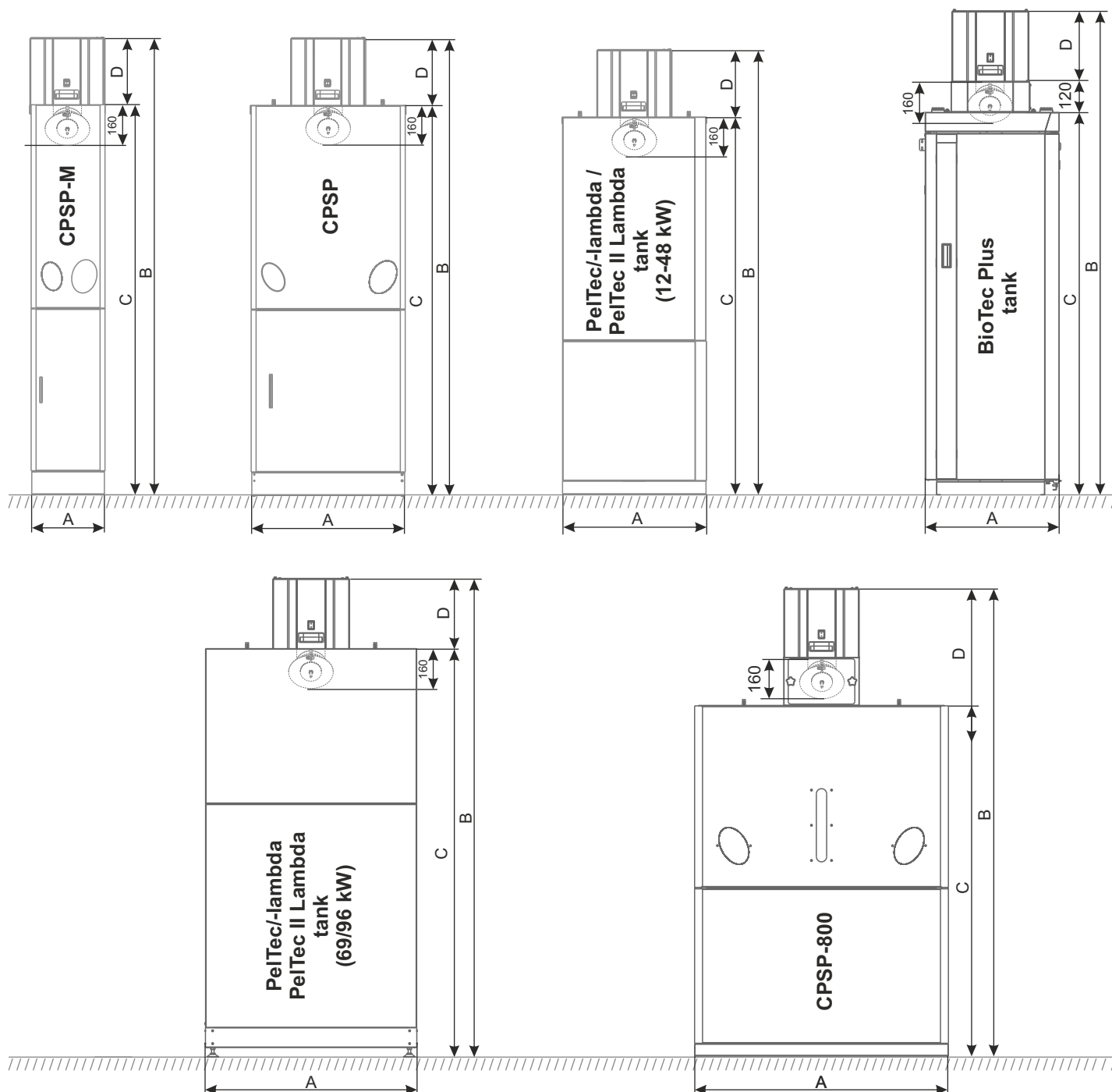
VACUUM TURBINE CVT

Volume of CVT turbine	l	15
Supply voltage	V	230
Frequency	Hz	50
Engine power	W	1450
Dimensions WxLxH	mm	300x625x435



PELLET TANK (BOILER)		CPSP-M	PelTec/-lambda / PelTec II Lambda <small>(12-48 kW) / (69-96 kW)</small>	BioTec plus			CPSP	CPSP 800
				25	35	45		
Pellet tank volume	l	230	340 / 430	80	148	148	370	800
Dimension A	mm	300	585 / 825	415	510	510	625	1010
Dimension B	mm	1860	1805 / 1875	1745	1915	1885	1860	1865
Dimension C	mm	1580	1530 / 1600	1350	1520	1590	1590	1395
Dimension D	mm	275	275 / 275	275	275	275	275	470
Connections	DN	50						
Max. electrical power	W	1630						
Pellet feeding quantity (mole)	kg/h	300*						
Pellet feeding quan. (from the big tank)	kg/h	700*						
Pellet feeding quantity (feeder screw)	kg/h	450*						

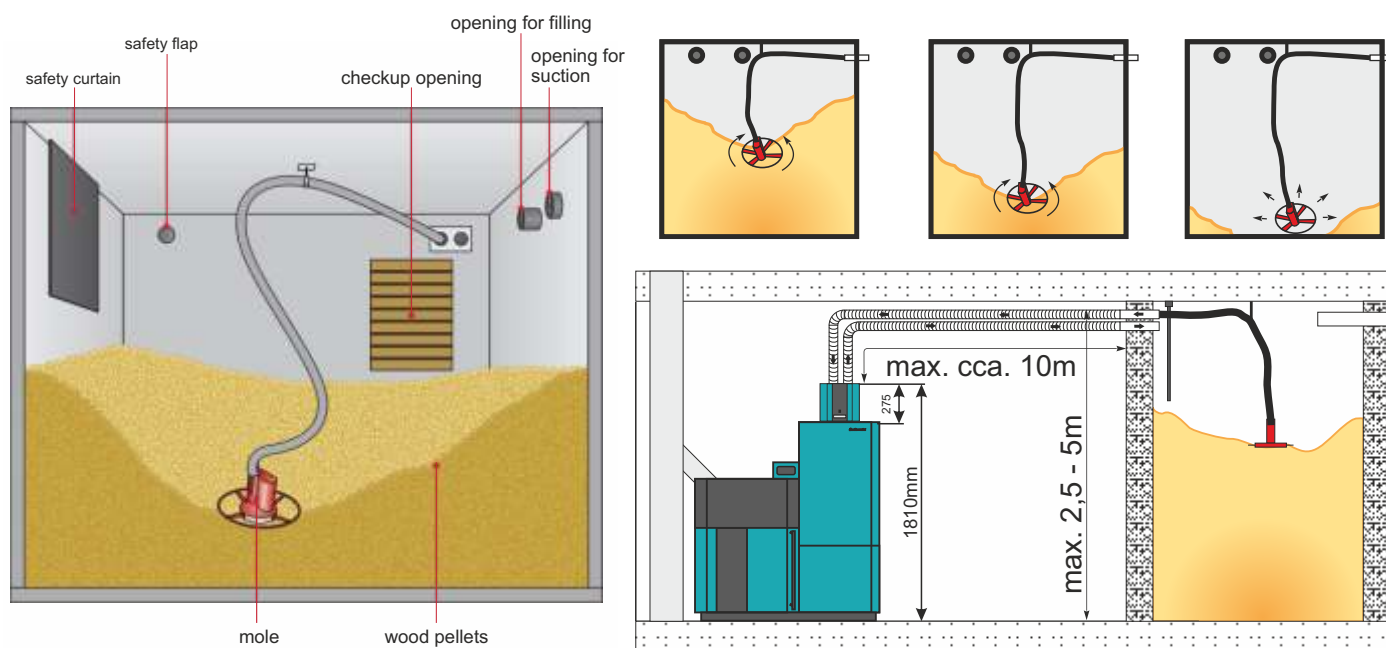
*The quantity of pellets supplied depends on the length of flexible tubes, the number and radius of curves, the height difference, and may deviate from the specified value



1.2. CONFIGURATION

1.2.1. CONFIGURATION: CVT + MOLE

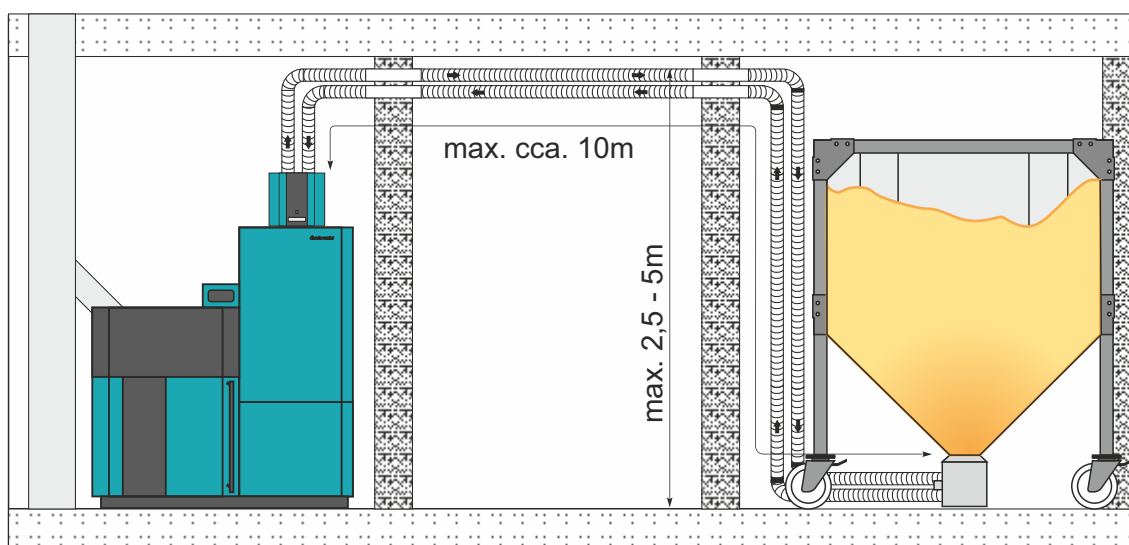
The mole is an innovative technology for wood pellet feeding from a pellet tank towards an intermediate boiler pellet tank. Classical wood pellet feeding systems feed the pellet from the tank's bottom (the pellets move down) while the mole takes the pellets always from the upper tank part (the pellets do not move, the mole is moving). The classical pellet feeding systems must have slantwise sheets which take precious room for storing while the mole uses nearly the complete tank volume (the rest is max. 10 %). The mole is used for tanks with a ground plan until maximum 2,5 x 2,5 m, tank height from 1,8 to 2,5 m. In such dimensions the tank may be shaped circular or rectangular. When having bigger ground plan surfaces in the storage it is needed by help of sheets under an inclination of 45 degrees to adjust the surface in the room to the maximum allowed. The storage may be filled until maximum 30 cm below the ceiling. Recommendation is to use pellet trucks when filling the storage whereby the storage will be filled uniformly with the lowest dust percentage (it is need to install the set with tubes for the filling of pellets into the storage and the rubber protection curtain). The storage must be dry with a mounted checkup opening (minimum 80 x 80 cm) through which it is possible to put the mole into the storage filling position and to clean the storage from dust. The storage must be airtight due to the return of the dust from the turbine. If the storage is not airtight on the return tube it is needed to mount a dust bag. Maximum total (flow and return) pellet feeding tube length is 20 m + 5 m in the storage (distance from the storage to the boiler is about 10 m feeding tube length), maximum height difference (H) of the feeding tubes depends upon the total tube length (L) (flow and return): L = 15 m, H = 5 m or L = 20 m, H = 2,5 m. The height difference for the feeding system greater than 3 m must be interrupted with minimum 1 m horizontal positioned tubes. The tubes must be placed with maximum possible arcs. The tube bending radius must be minimum 30 cm. The maximum number of arches, with angle up to 90°, is 5. As an additional equipment it is possible to order a manual mole lifting system in the storage by help of sheaves. The mole pellet suction system has the purpose to be used for pellet boilers systems up to 90 kW of power. The system is tested to transport wood pellets with 6 mm diameter manufactured according to norm DINplus or **EnplusA1** with maximum dust content < 0,7 %.



Mounting to: PelTec, PelTec-lambda, PelTec II Lambda, EKO-CK(B) P + Cm Pelet-set (/Touch), CentroPlus(-B) + Cm Pelet-set (/Touch), BioTec Plus

1.2.2. CONFIGURATION: CVT + CentroPelet Box

In wood pellet heating systems beside the boiler a pellet tank must be placed. Depending upon the boiler's power output and the wished operation autonomy, the pellet tank must sometimes have bigger dimensions which also requires bigger boiler rooms. To solve the problem when having smaller boiler rooms which means a lack in pellet storing beside the boiler and in order to increase the comfort when heating with pellets by help of the suction system from the big pellet tank towards the tank beside the boiler it is possible to transport the pellets to a distance of 20 m flexible tube length. The tanks can have various volumes, CentroPelet Box 1,5 m³, 2,7 m³, 3,4 m³ and 4,0 m³ with the built in box for the pellet suction system. When having boiler cascades it is possible to connect 4 turbines (suction systems) with one CentroPelet Box which means that at the same time it is possible to feed 4 boilers with pellets. The distance between the CentroPelet Box and the boiler may be maximum 10 m flexible pellet tube length. On the lower part of the CentroPelet Box it is needed to mount the suction system box and to fasten on it the flow and return of the flexible tubes. The tanks can have following dimension: 1,5 m³, 2,7 m³, 3,4 m³ and 4 m³ in which one after the other 900 kg, 1700 kg, 2200 kg and 2600 kg of pellets can be placed. The tanks can be filled with 1000 kg pellet jumbo bags and 15 kg pellet bags. Maximum total suction system tube length (flow and return) is 20 m (distance from the tank to the boiler around 10 m), maximum height difference of the feeding tubes (H) depends upon the total tube length (L) (flow and return): L = 15 m , H = 5 m or L = 20 m , H = 2,5 m. The height difference for the feeding system greater than 3 m must be interrupted with minimum 1 m horizontal positioned tubes. The tubes must be placed with maximum possible arcs. The tube bending radius must be minimum 30 cm. The pellet suction system out of the pellet tank has the purpose to be used for pellet boilers systems up to 90 kW of power. Maximum turbine operation time during a day is 5 hours. The system is tested to transport wood pellets with 6 mm diameter manufactured according to norm DINplus or **EnplusA1** with maximum dust content < 0,7 %.



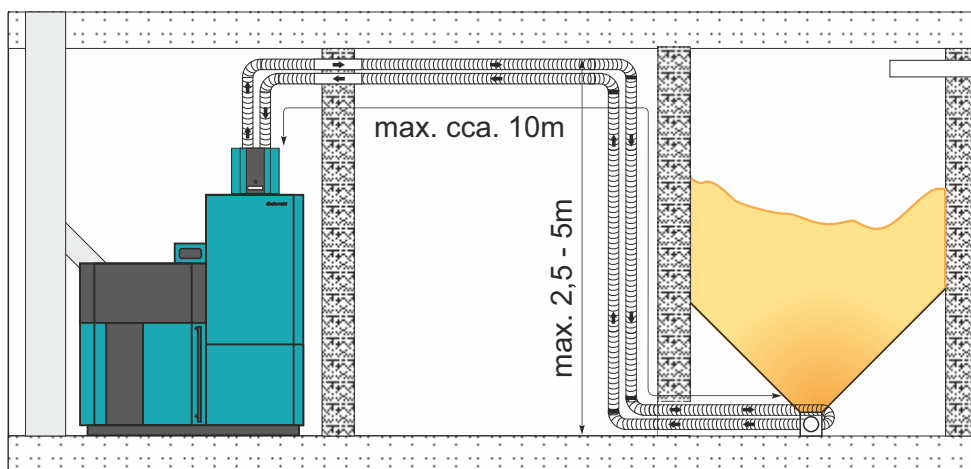
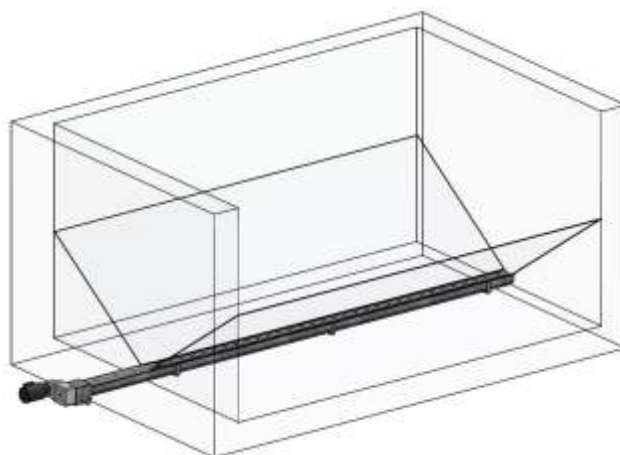
Mounting to: PelTec, PelTec-lambda, PelTec II Lambda, EKO-CK(B) P + Cm Pelet-set (/Touch), CentroPlus(-B) + Cm Pelet-set (/Touch), BioTec Plus

1.2.3. CONFIGURATION: CVT + Feeder Screw

To solve the problem when having smaller boiler rooms which means a lack in pellet storing beside the boiler and in order to increase the comfort when heating with pellets by help of the suction system from the room towards the tank beside the boiler it is possible to transport the pellets to a distance of 10 m flexible tube length. The pellet feeder screw length can have 2 m, 3 m, 4 m and 5 m and according to this it is needed to adjust the slopes in the room with an inclination of 45 degrees. The distance between the room and the boiler may be maximum 10 m flexible pellet tube length. In the pellet room it is needed to mount the pellet feeder screw with the box and the motor gear and the slope sides (angle 45 degrees) towards the feeder screw. The room can be filled with pellet trucks (it is need to install the set with tubes for the filling of pellets into the storage and the rubber protection curtain), jumbo bags or smaller bags. The feeder screw box has to be connected with the suction system flexible tubes. Maximum total suction system tube length (flow and return) is 20 m (distance from the tank to the boiler around 10 m), maximum height difference of the feeding tubes (H) depends upon the total tube length (L) (flow and return): L = 15 m, H = 5 m or L = 20 m, H = 2,5 m. The height difference for the feeding system greater than 3 m must be interrupted with minimum 1 m horizontal positioned tubes. The tubes must be placed with maximum possible arcs. The tube bending radius must be minimum 30 cm. The pellet suction system out of the pellet tank has the purpose to be used for pellet boilers systems up to 90 kW of power. Maximum turbine operation time during a day is 5 hours. The system is tested to transport wood pellets with 6 mm diameter manufactured according to norm DINplus or EnplusA1 with maximum dust content < 0,7 %.

IMPORTANT: When filling the seasonal tank with new pellets (or more often, depending on the quality of the pellets), it is imperative to clean the receiving box of pellet dust to ensure smooth operation of the entire system.

Feeder screw	
Length	Motor with gearbox
2 m	0,18 kW
3 m	0,18 kW
4 m	0,18 kW
5 m	0,18 kW



Mounting to: PelTec, PelTec-lambda, PelTec II Lambda, EKO-CK(B) P + Cm Pelet-set (/Touch), CentroPlus(-B) + Cm Pelet-set (/Touch), BioTec Plus

1.3. DELIVERY CONTENT- CVT

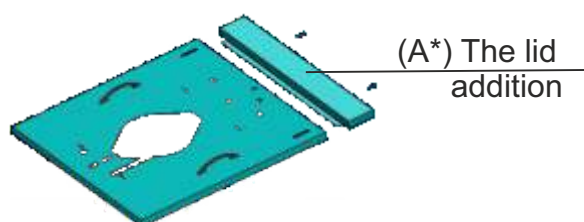
Turbine with flap and control.



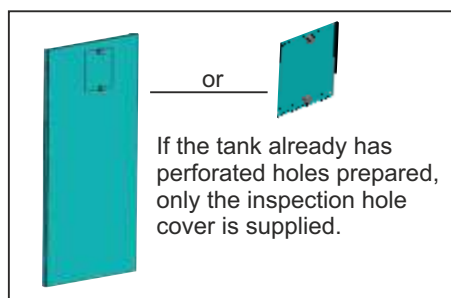
20 m flexible antistatic tubes for pellet transportation with a earthing wire, clamps and rubbed power cable.



*Lid for the intermediate tank with the position to fast the turbine and lateral side of the intermediate tank with a revision opening (PelTec tank, CPSP-M, CPSP-370)

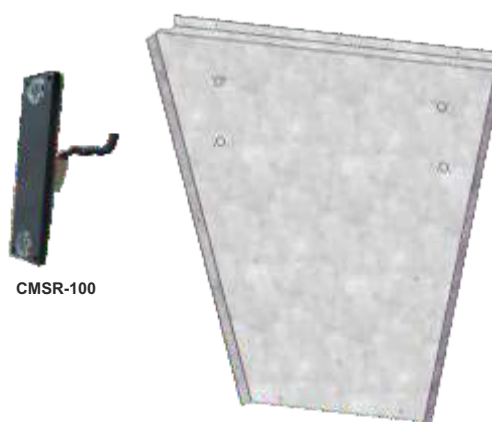


(A*) The lid addition



or
If the tank already has perforated holes prepared, only the inspection hole cover is supplied.

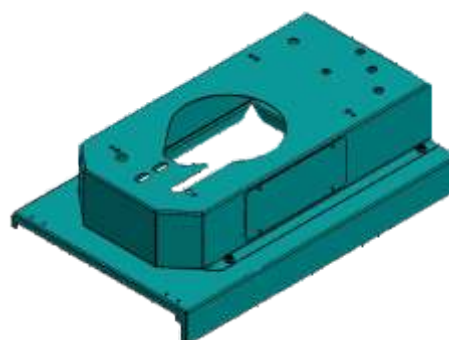
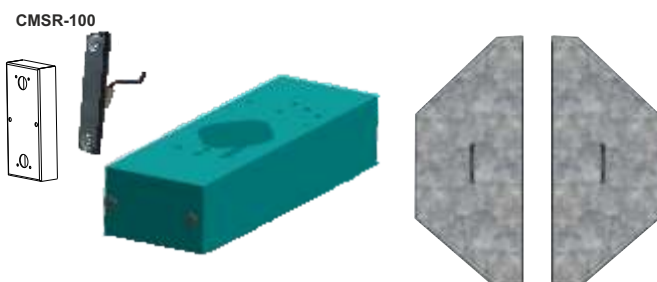
** Back inner side with perforated holes for fuel level sensor installation and plastic cable gland. Fuel level sensor CMSR-100 (CPSP-M, CPSP-370).



CMSR-100

*** Center cover with turbine mounting place, left and right CPSP-800 tank cover. CMSR-100 pellet level sensor with protective box (CPSP-800 only).

**** Center cover with turbine mounting place, (BioTec Plus only).



* The intermediate tank and the lateral side differ upon the type of the pellet tank (PelTec tank (PelTec / PelTec-lambda / PelTec II Lambda), CPSP-M, CPSP-370)).
(A*) The lid addition only goes to the PelTec / PelTec-lambda tank 12-48.

** Only with CPSP-M, CPSP-370 tank (Cm pelet-set).

*** Only with CPSP-800 tank (Cm pelet set).

**** Only with BioTec Plus boiler tank.

1.3.1. DELIVERY CONTENT (CONFIGURATION: CVT + MOLE)

Mole with electric drive, 5 m flexible antistatic tubes for pellet transportation, rubber power cable Connector IP 67. Breakthrough (insertation) through the storage wall with 2 connections DN 50 for the suction and return tube - for storage walls thick up to 24 cm. Small material (screws, clamps, ...)



Picture: Mole-content

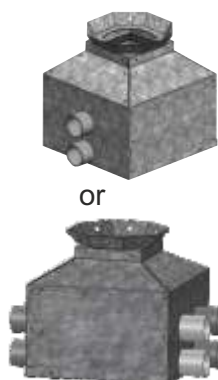
1.3.2. DELIVERY CONTENT (CONFIGURATION: CVT + CentroPelet Box)

Picture: CentroPelet Box - content.

Big pellet tank CentroPelet Box

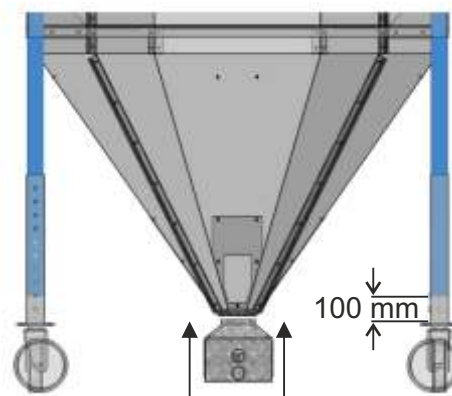


Box for the pellet suction system
Small material (screws, ...)



Box for the pellet suction system for up to 4 turbines

Mounting



1.3.3. DELIVERY CONTENT (CONFIGURATION: CVT + Screw Feeder)

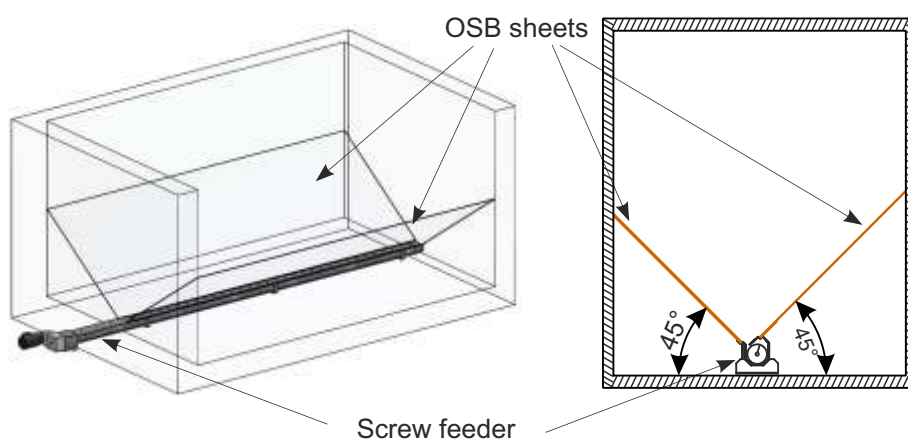
Picture: Screw feeder content

Screw feeder with gearbox and pellet supply box



1.3.3.1. MOUNTING SCREW FEEDER IN THE PELLET STORAGE ROOM

Installing a screw conveyor in a pellet storage room.

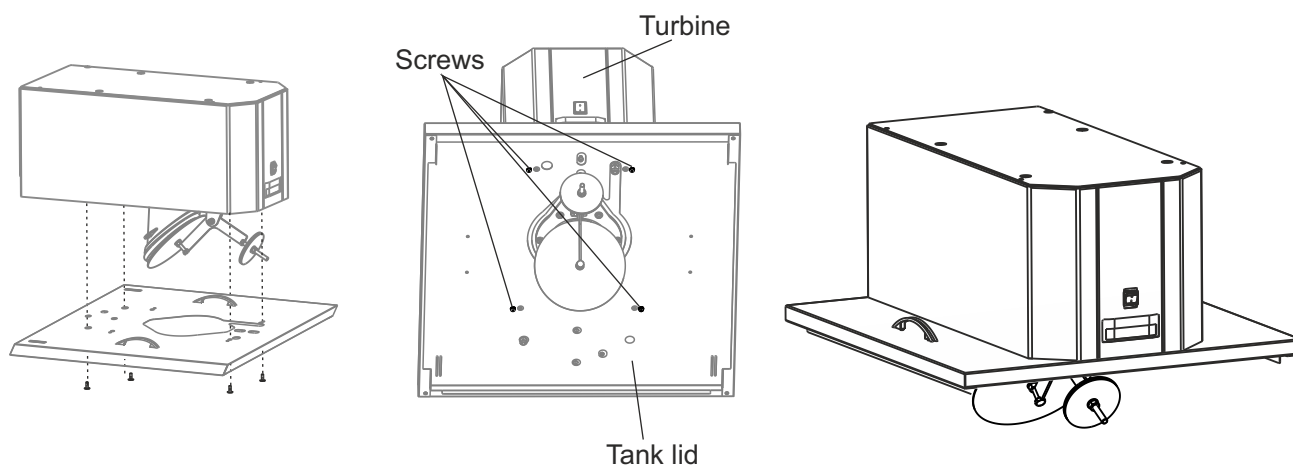


2. INSTALLATION

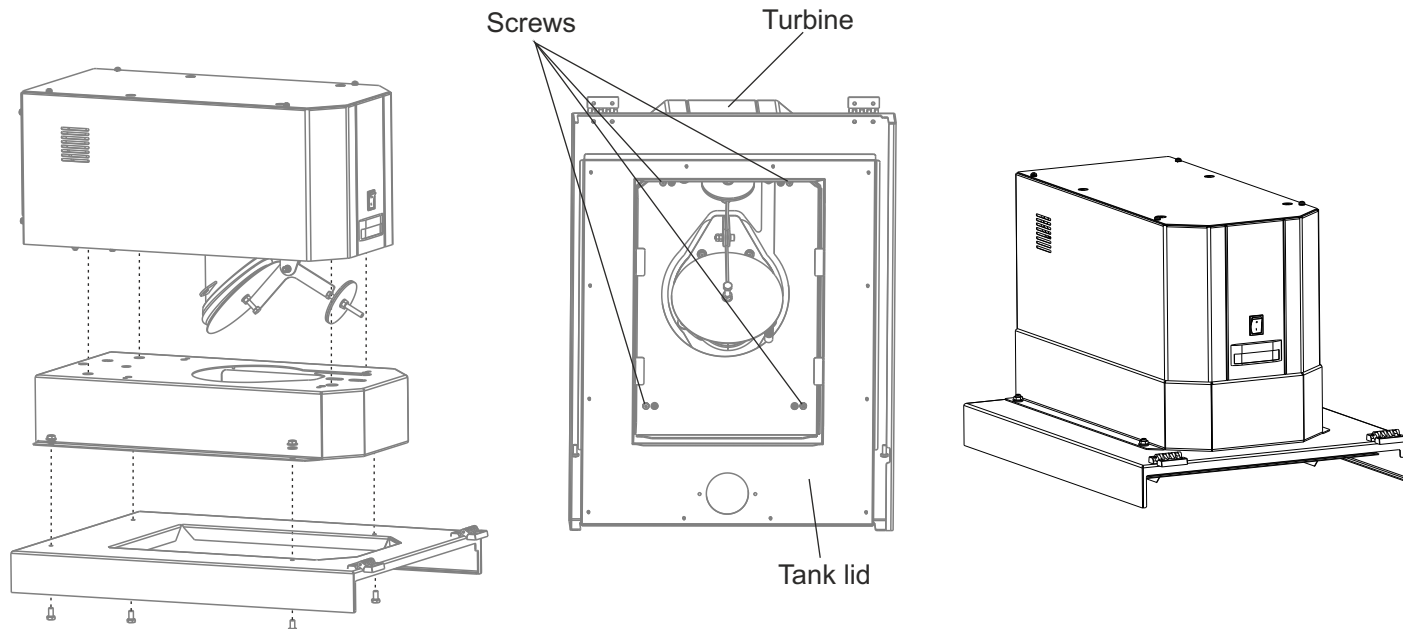
2.1. PLACEMENT OF THE TURBINE ON TOP OF THE TANK LID

PelTec & PelTec-lambda & PelTec II Lambda & EKO-CK(B)P / CentroPlus + Cm Pelet-set (/Touch)

The upper tank lid is needed to be fastened with 4 screws on the lower side as shown on the pictures below (the tank lid may differ depending upon the tank type).

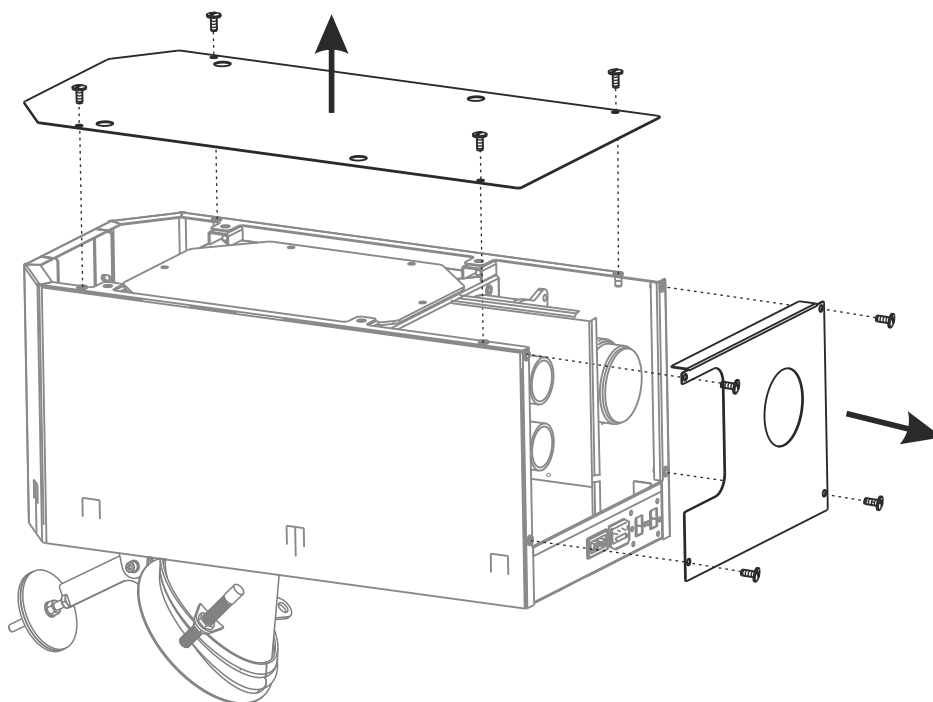


BioTec Plus



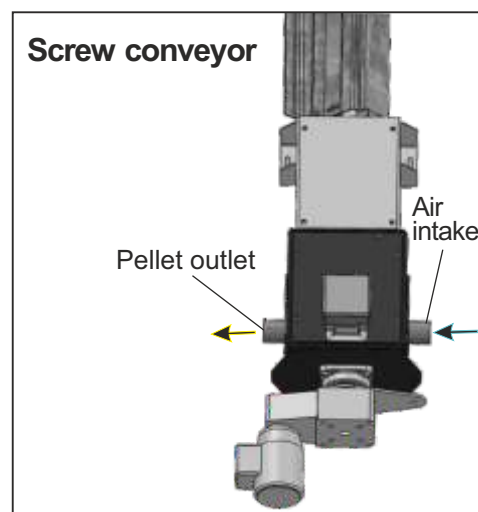
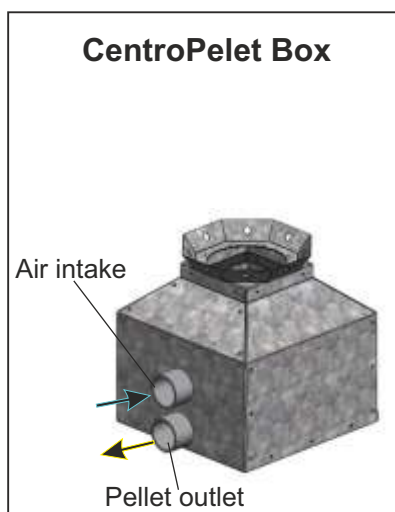
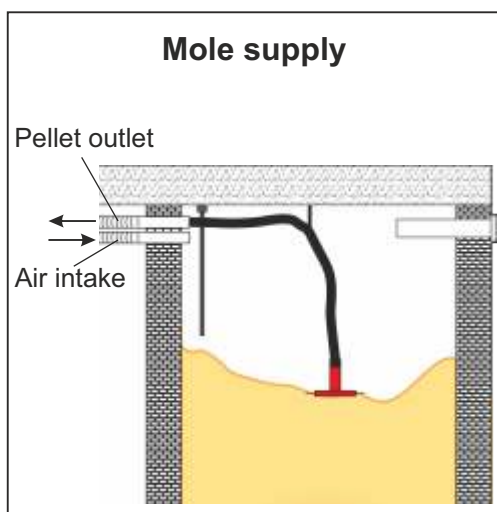
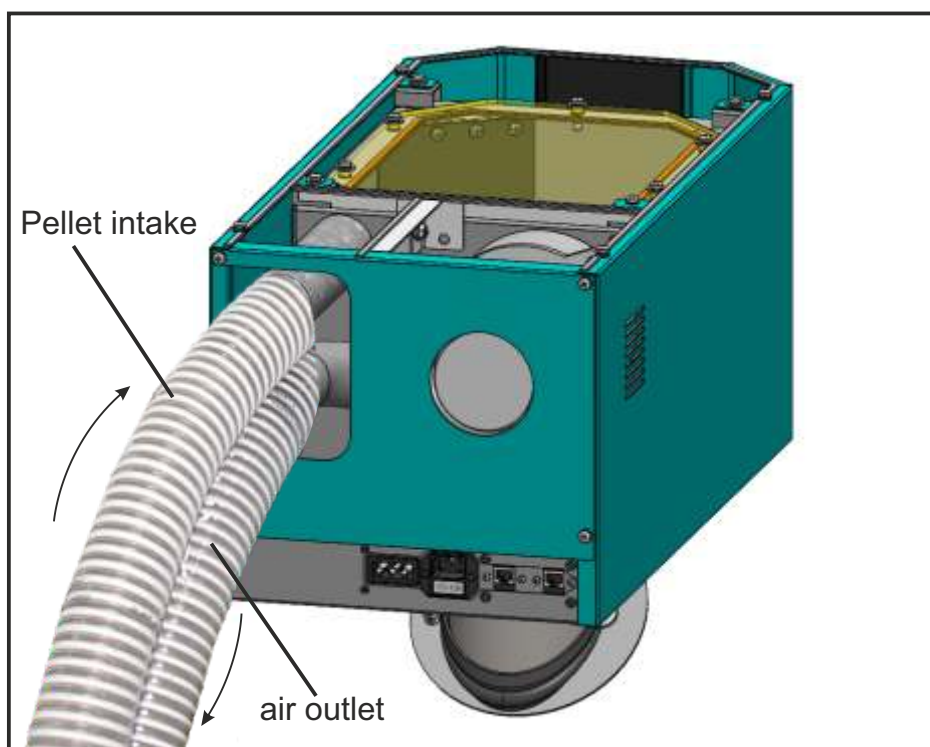
2.2. CONNECTION AND EARTHING OF THE TUBES ON THE TURBINE

In order to be able to connect the tubes on the turbine it is first necessary to take off the rear and upper turbine lid. Unscrew the screws and take off the rear and upper turbine lid as shown on the picture below.



The tubes have to be fastened with the clamps (1). After the tubes are fastened it is necessary to connect the earthing by help of the wire which is placed in the tubes (2), it is needed to ground every tube separately. The earthing is connected with the factory prepared yellow - green wires. The upper tube is the pellet intake into the turbine tank. The lower tube on the turbine is being used for the air outlet (and dust) and has to be connected or with the other (second) connection on the big tank or with a dust bag.





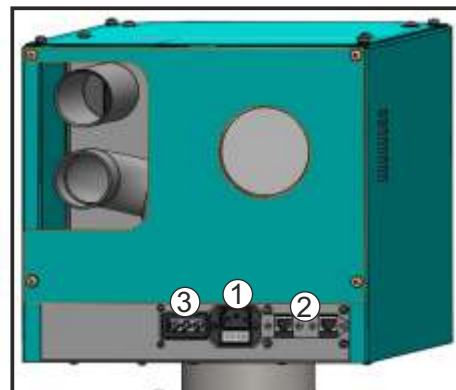
3. ELECTRIC CONNECTION



Before any work on the boiler, electric energy must be switched off.

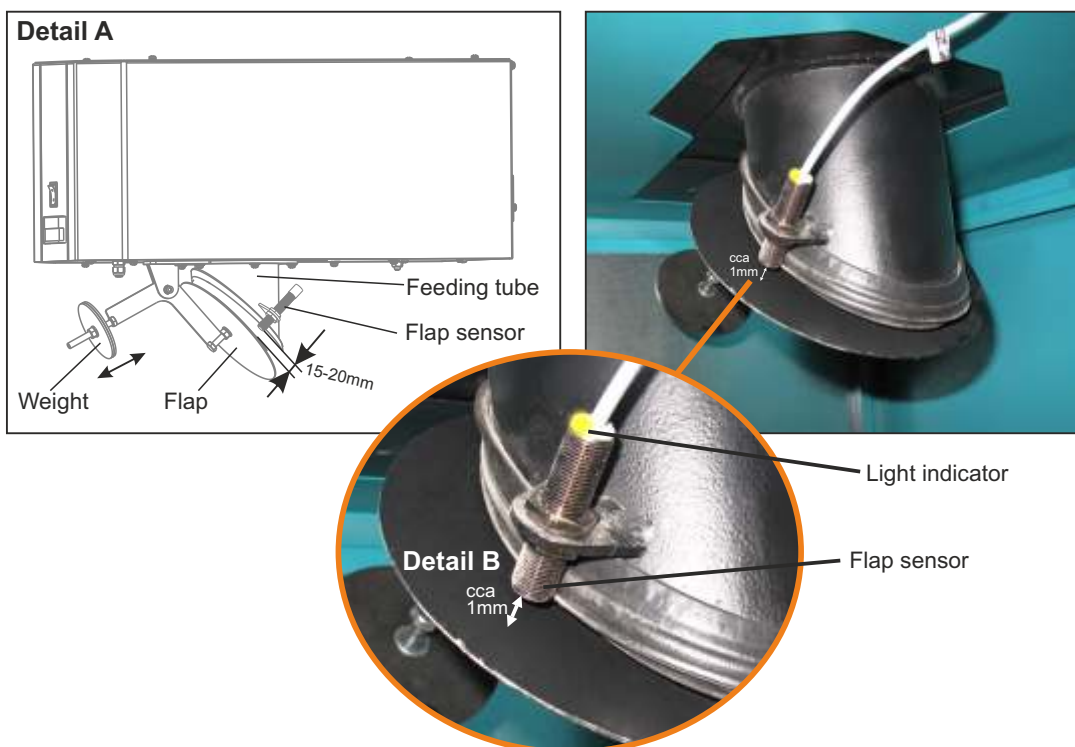
3.1. POWER CONNECTING OF THE TURBINE

The turbine with the flap is factory wired and it is needed to connect it with the power 230V/50 Hz (1). The turbine must be connected with the boiler control by the UTP cable (2). When using the mole for pellet transportation out of the room / storage or when using the transportation from a room by the feeder screw it is needed to additionally connect the mole / feeder screw with the turbine with a connector (3). In case of pellet feeding out of the big CentroPelet Box tank this connector is not being used.



3.2. FLAP AND INDUCTIVE FLAP SENSOR

The flap and the flap sensor are factory preset. When finishing the installation of the suction system it is needed to check the flap and sensor settings to avoid an irregular operation of the system. To insure a correct operation of the suction system, in the state of immobility the opening between the flap and the feeding tube must be 15-20 mm (detail A). If the space is greater or smaller than required, the space can be set by moving the weights.



The flap sensor must be installed on the side of the checkup opening on the lateral side of the cover (it is factory installed on the right side, if necessary it can be moved onto the left side by unscrewing the nuts). On top of the sensor is a light indicator which when it lights signals the tightness of the flap. The sensor distance from the flap, during the turbine operation, must be about 1 mm (detail B). When the turbine operates, the light indicator must be switched on in order to insure vacuum in the system and a correct operation of the control.

EKO-CK(B) P / CentroPlus + Cm Pelet-set (not valid for Cm Pelet-set_Touch)

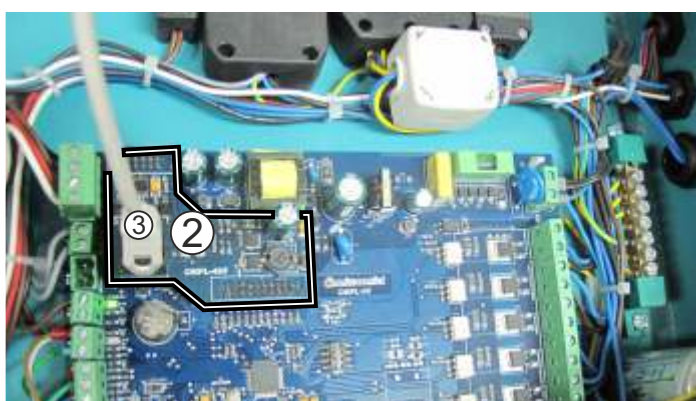
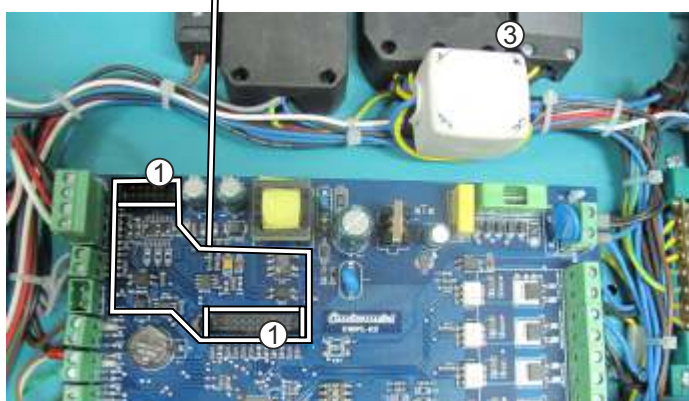
The installation of the additional electric board CMPL - 485, fuel level sensor CMSR - 100 in the tank (CPSP-M, CPSP-370, CPSP-800)

The CPREG controller from the Cm Pelet-set must have the software (14-50kW) = 02:82 F2, (60-90kW) = 02:83 L2.



**Additional board
CMPL-485**

On the connectors of the mother board (1) the additional board CMPL-485 (2) must be installed on which the UTP connector from the suction system (3) is connected.

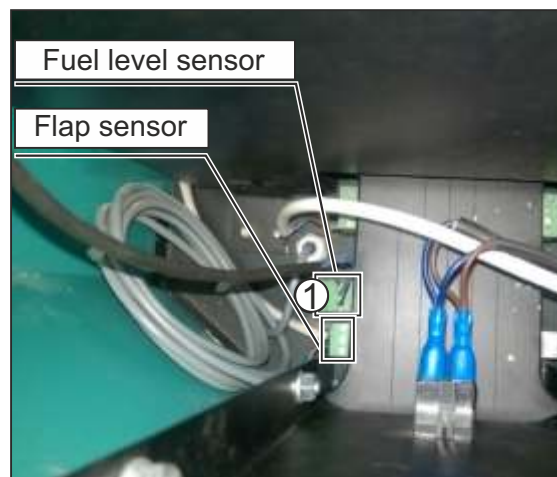
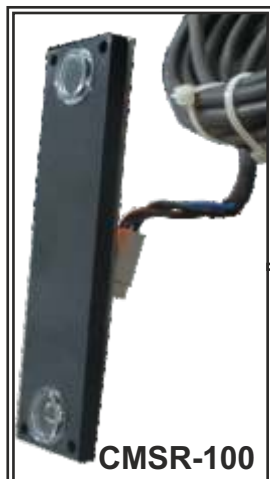


A CMSR-100 Fuel level sensor should be installed on the pellet tank (CPSP-M, CPSP-370, CPSP-800)

EKO-CK(B) P / CentroPlus + Cm Pelet-set (/Touch)

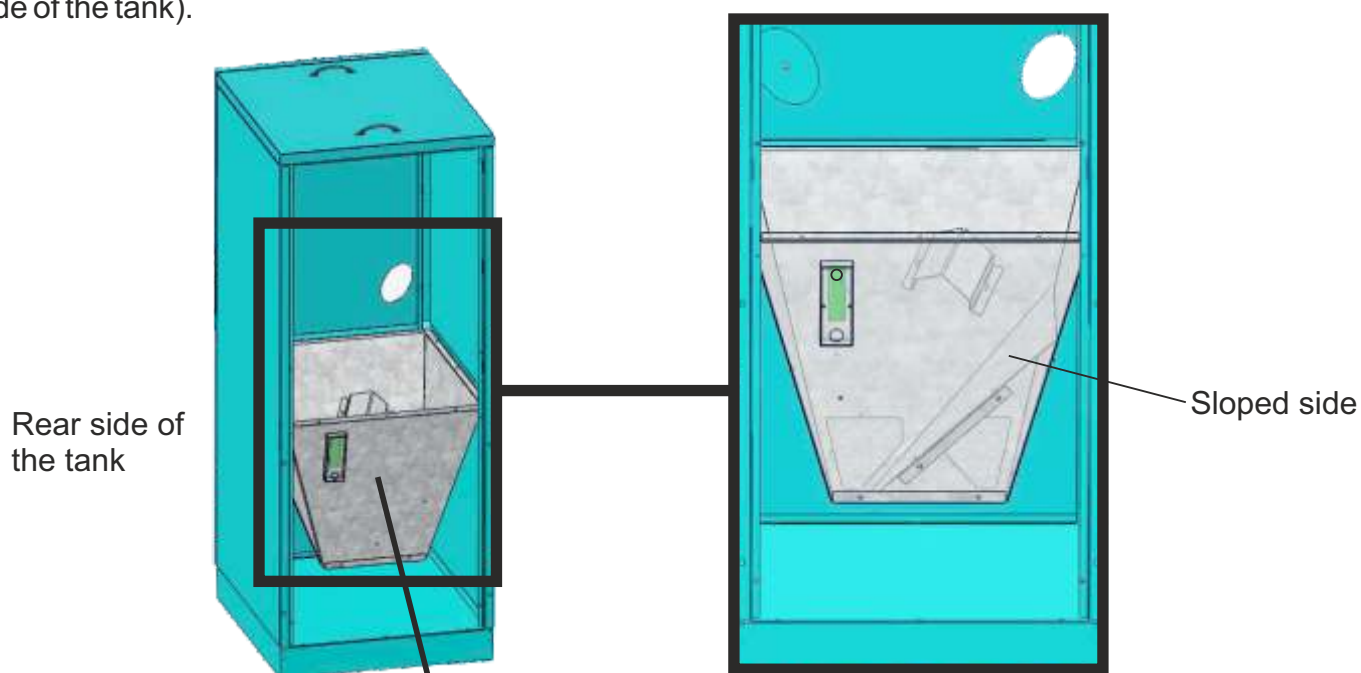
Installing CMSR-100 Fuel level sensor on CPSP-M and CPSP-370 Tanks.

In the pellet tank (CPSP-M, CPSP-370) the fuel level sensor CMSR-100 needs to be mounted (is delivered back inner side with perforated holes for fuel level sensor installation). Fuel level sensor must be installed from left or right side of pellet tank (perforated holes) depend about position and direction of feeder screw installation. For the Cm Pelet-set, the fuel level sensor must be connected to the corresponding connector on the turbine (1), while for the Cm Pelet-set_Touch the fuel level sensor connects to the boiler controller.

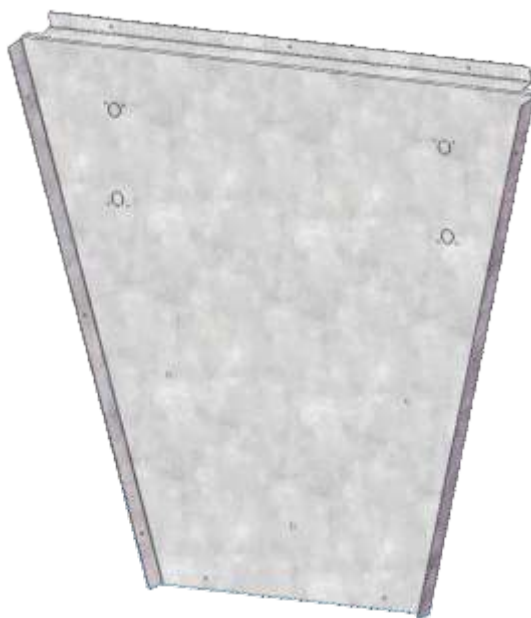


Installation

Pellet sensor CMSR-100 is placed from the left or right edge of the tank depending on the screw transporter orientation and angled side of tank (sensor must be placed on the opposite side of the sloped side of the tank).



Back inner side with perforated holes for fuel level sensor installation



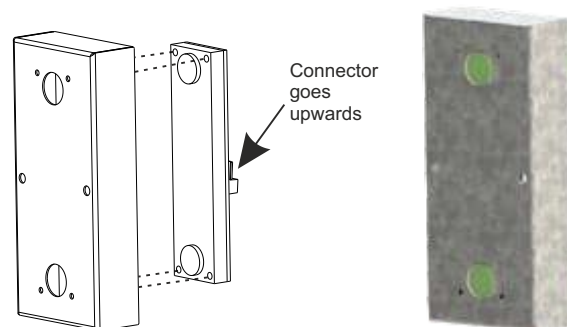
On the rear side of the pellet tank is necessary to drill a hole $\varnothing 13\text{mm}$ and install a plastic cable gland PG-7 through which goes cable of the sensor CMSR-100.



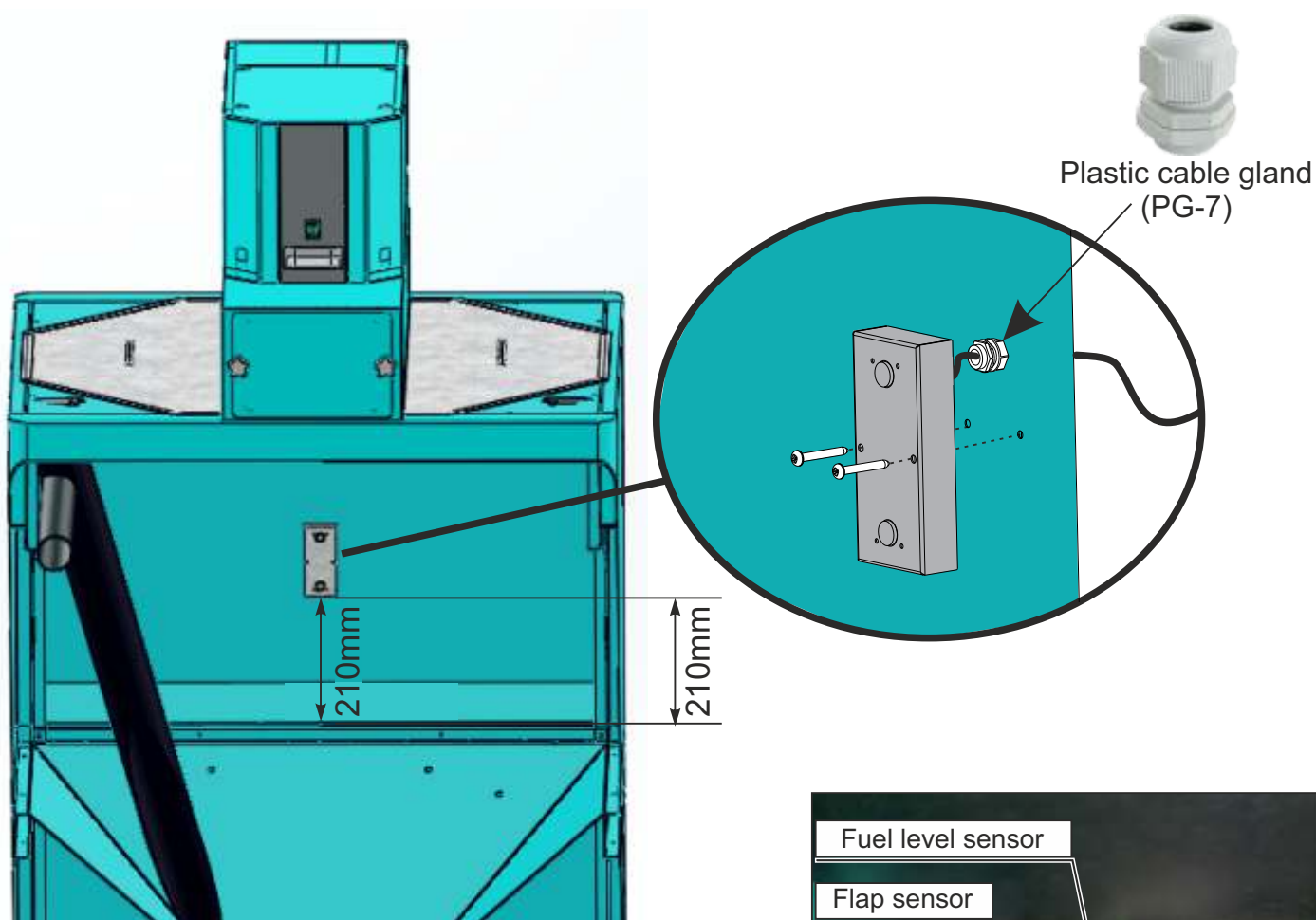
Plastic cable gland (PG-7)

Installing CMSR-100 Fuel level sensor on CPSP-800 Tanks

The CMSR-100 Fuel level sensor must first be placed in its protective box. Secure the CMSR-100 sensor to the protective case using 4 Ø2.9x13 mm screws as shown. The CMSR-100 sensor connector must face upwards.



The CMSR-100 Fuel level sensor, together with the box, is attached to the back upper side of the CPSP-800 tank using screws Ø4.2x32mm (drill two Ø3.5 mm holes for Ø4.2x32 mm screws). Vertical 210 mm from the beginning of the back top side (see picture below) and horizontally in the middle of the side. Drill a Ø13mm hole directly behind the sensor box on the back side and install the PG-7 plastic cable gland through which the CMSR-100 sensor cable comes out.

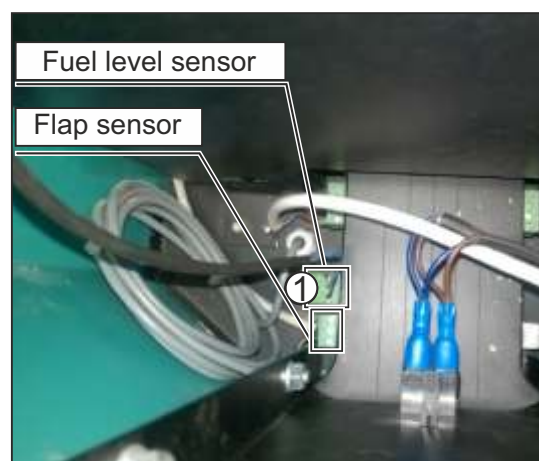


Cm pelet-set

The Fuel level sensor must be connected to the corresponding connector on the turbine (1).

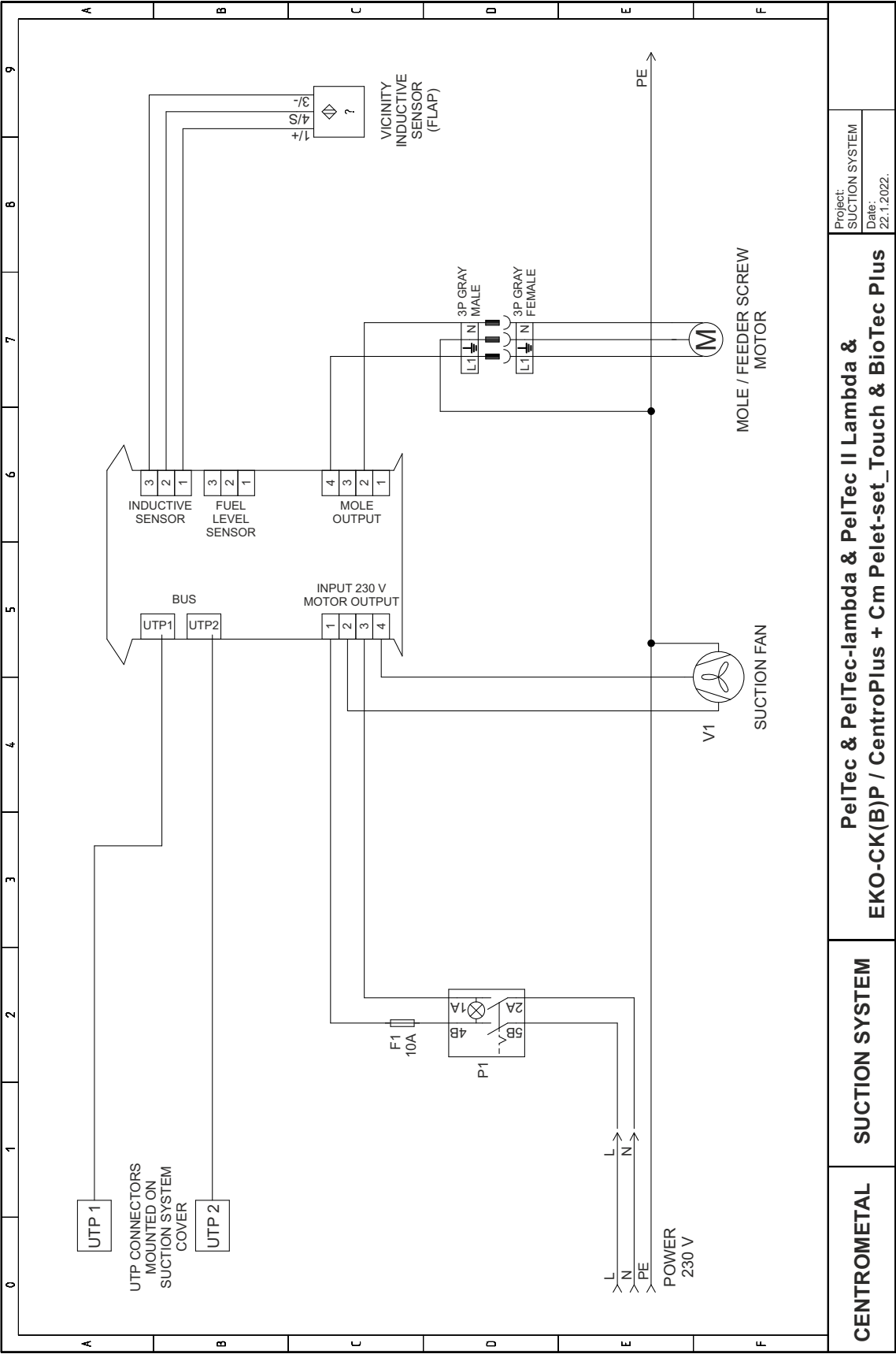
Cm pelet-set_Touch

The Fuel level sensor must be connected to the appropriate connector on the boiler control unit.

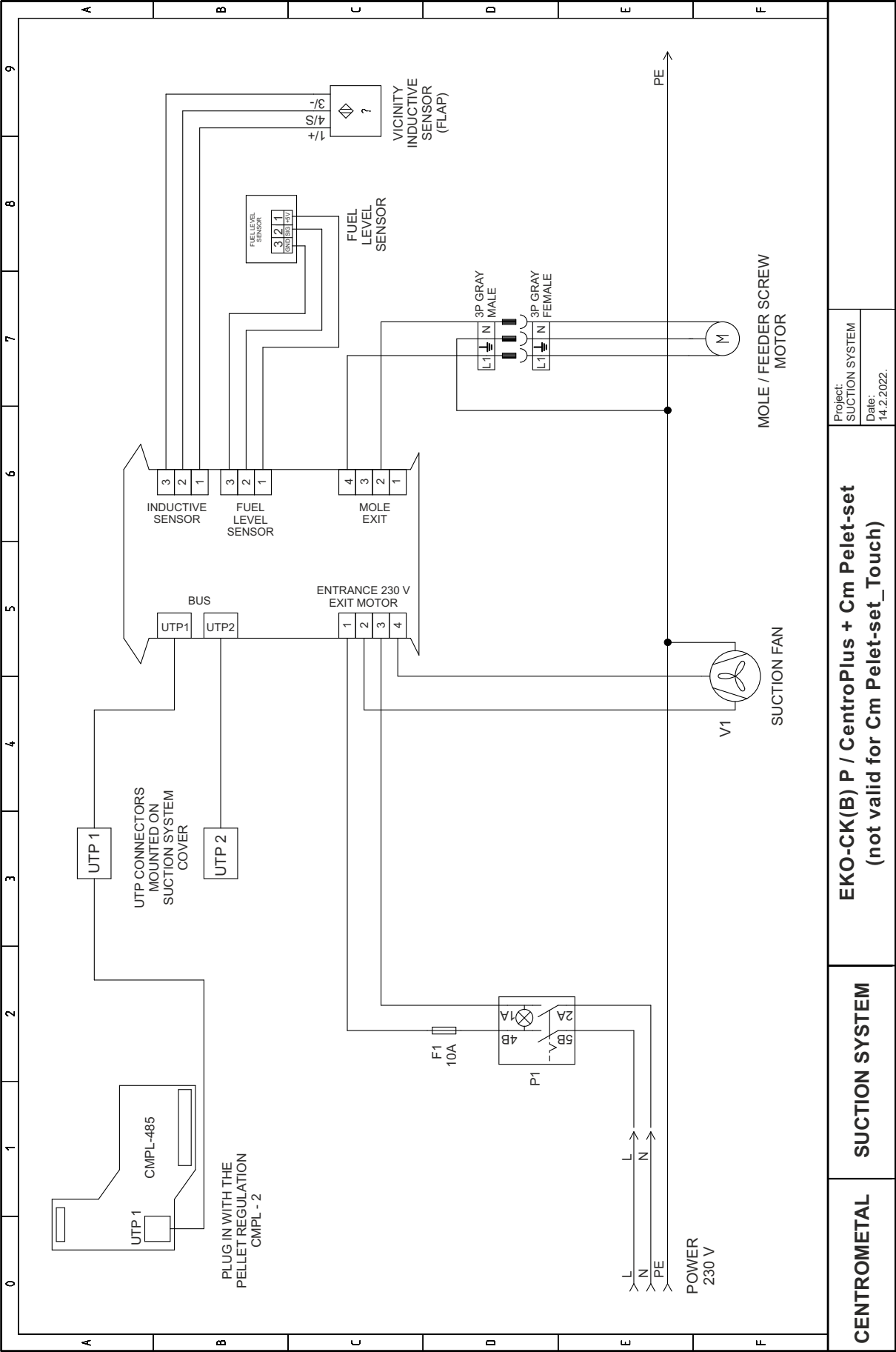


3.3. ELECTRIC SCHEME

PelTec & PelTec-lambda & PelTec II Lambda & EKO-CK(B)P /
CentroPlus + Cm Pelet-set_Touch & BioTec Plus



EKO-CK(B) P / CentroPlus + Cm Pelet-set (not valid for Cm Pelet-set_Touch)



Project:
SUCTION SYSTEM
Date:
14.2.2022.

EKO-CK(B) P / CentroPlus + Cm Pelet-set
(not valid for Cm Pelet-set_Touch)

SUCTION SYSTEM

CENTROMETAL

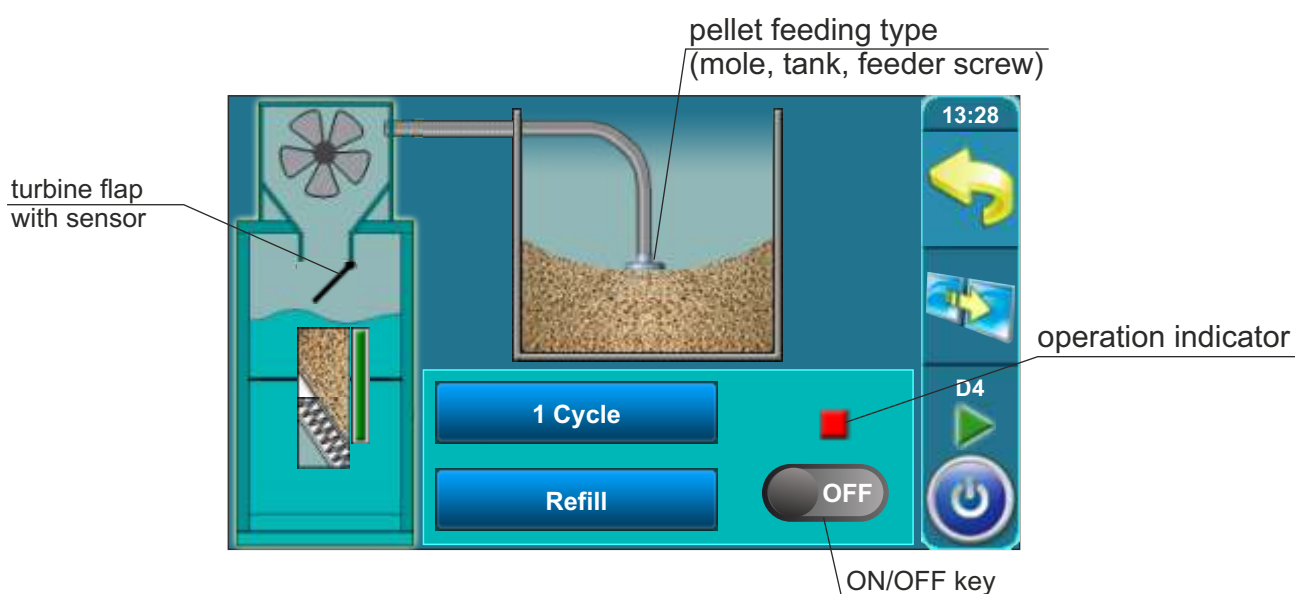
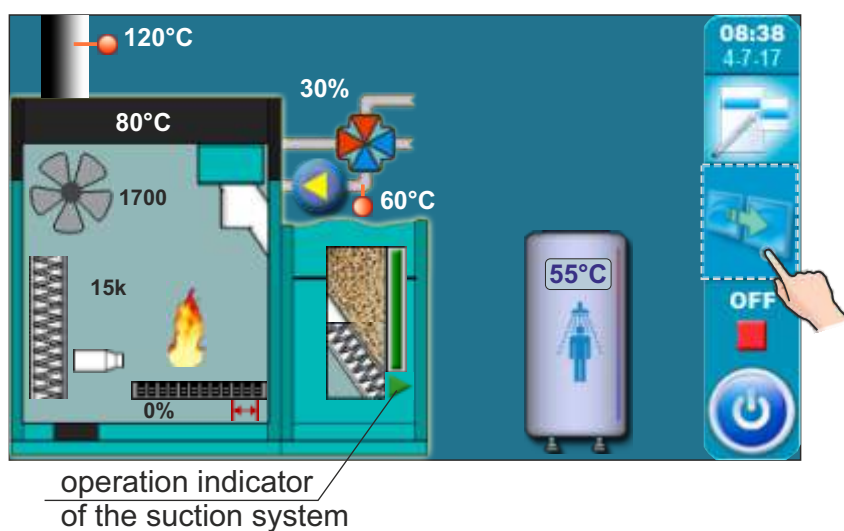
4. MANAGING / DIRECTING



Boiler must not be used by children or disabled persons (either physically or mentally), as well as by person without knowledge or experience, unless they are under control or trained by a person responsible for their safety. Children must be supervised in the vicinity of the product.

4.1. PelTec / PelTec-lambda

After configuring the pellet suction system, on the main page under the pellet sensor symbol appears a new indicator which shows if the suction system is in operation or not. During the operation of the suction system the indicator ► appears and when the system is still the symbol ■ shows up. If the suction system is switched on but is not in operation for the moment as the pellet tank is filled on the main screen the symbol || will show up. To open a detailed view it is necessary to press the key

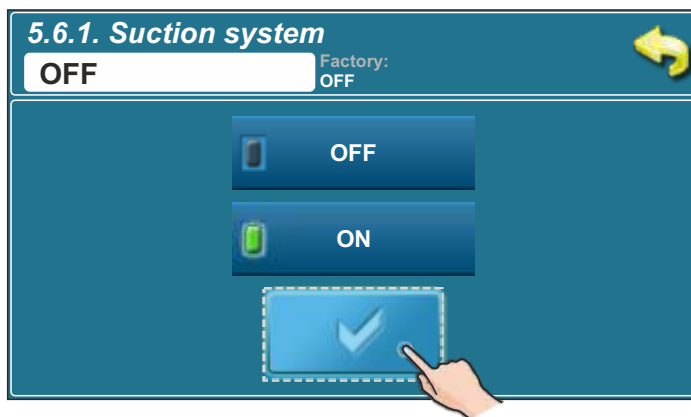
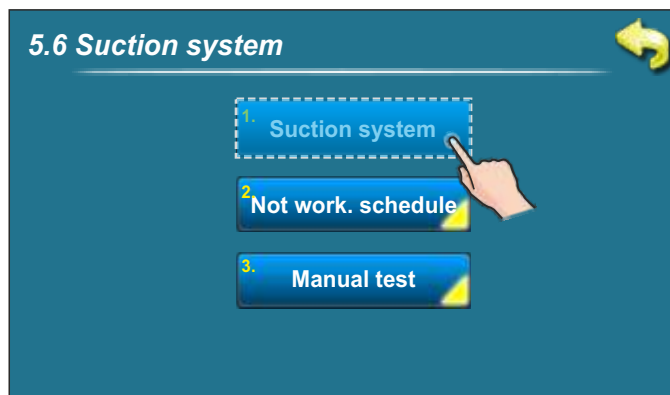


4.1.1. USER MENU

The user can manage the operation of the suction system in the menu "OPERATION" > "SUCTION SYSTEM"



4.1.2. SUCTION SYSTEM ON/OFF

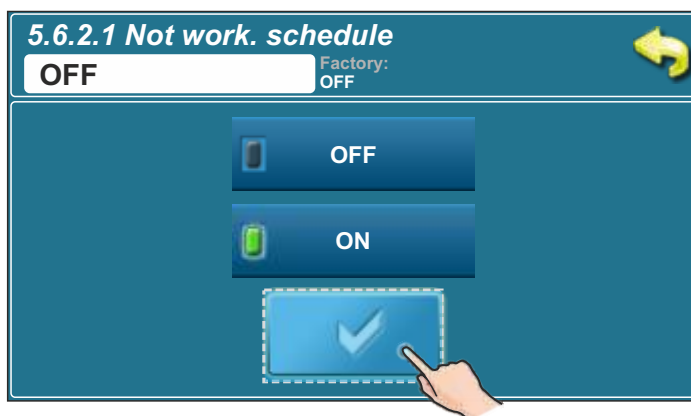
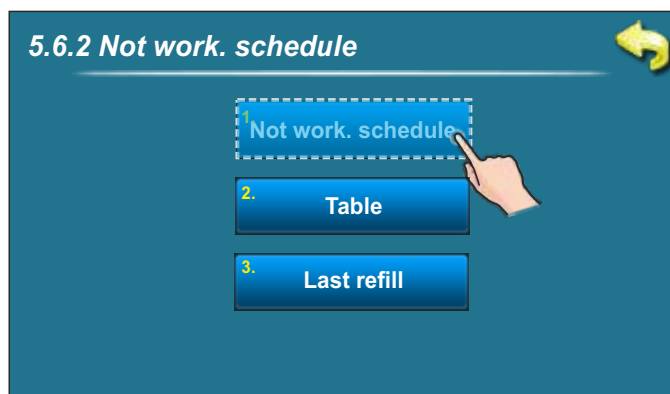
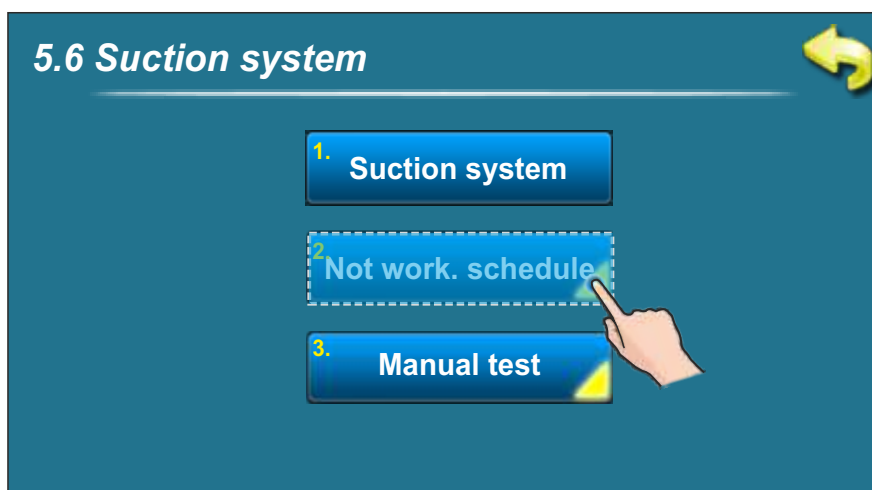


Possible selection:

- Factory: **OFF**
- OFF, ON

This option allows the off/on operation mode of the pellet suction system.

4.1.3. NOT WORK SCHEDULE ON/OFF

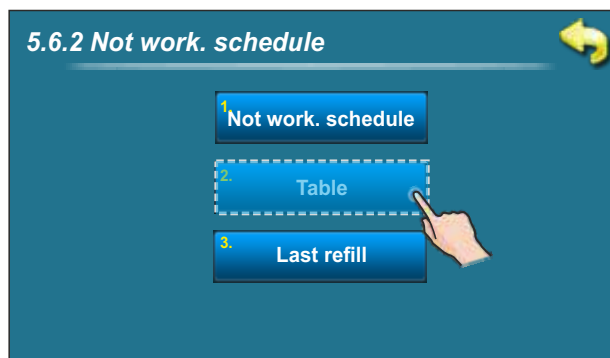


Possible selection:

- Factory: **OFF**
- OFF, ON

Not working schedule allows the prohibition of the suction system operation (as an example, during the night to prevent noises). When this option is switched on, the suction system will not operate during times set in the table (see point 4.1.4. "Table").

4.1.4. TABLE (NOT WORK SCHEDULE OF THE SUCTION SYSTEM)



Not working schedule - Table							
	MON	TUE	WED	THU	FRI	SAT	SUN
	00:00	00:00	00:00	00:00	00:00	00:00	00:00
	07:00	07:00	07:00	07:00	07:00	07:00	07:00
	19:00	19:00	19:00	19:00	19:00	19:00	19:00
	23:59	23:59	23:59	23:59	23:59	23:59	23:59

①

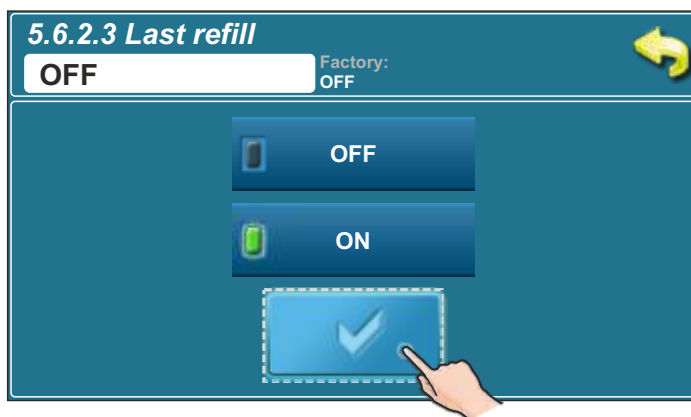
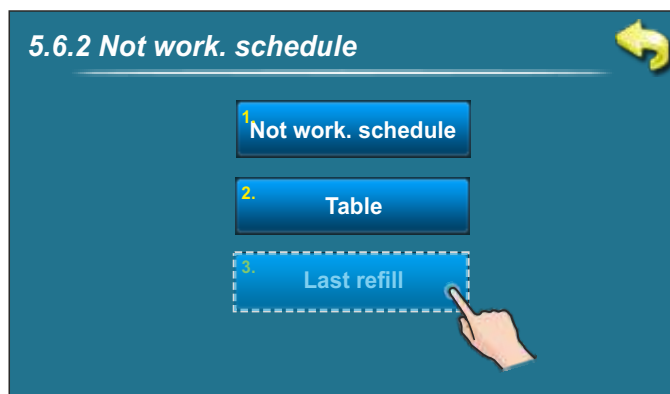
①

Not working start

Not working stop

According to the table shown above, on Monday at 00:00 hours starts the prohibition of the suction system operation until 07:00 hours when the prohibition stops. It means that the suction system will not operate on Monday from 00.00 hours until 07:00 hours. At 19:00 hours the operation prohibition starts again which lasts until 23:59. For each day during a week it is possible to set a different not working schedule, in this case for all days during the week the same schedule is set.

4.1.5. LAST REFILL



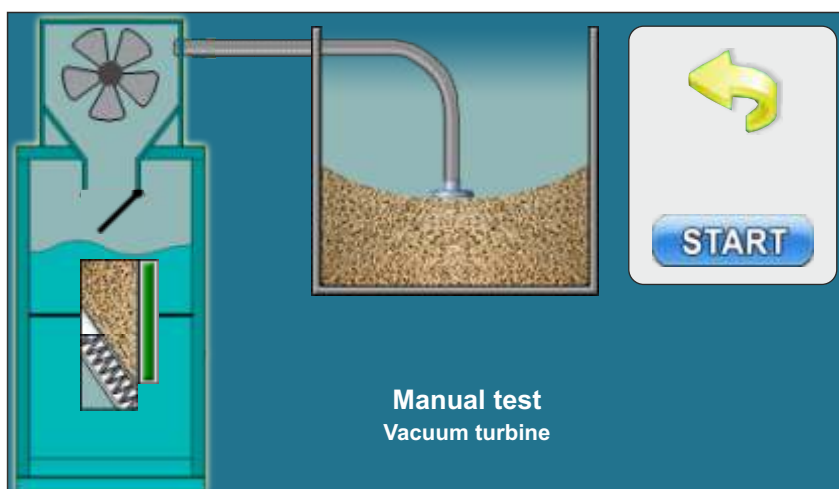
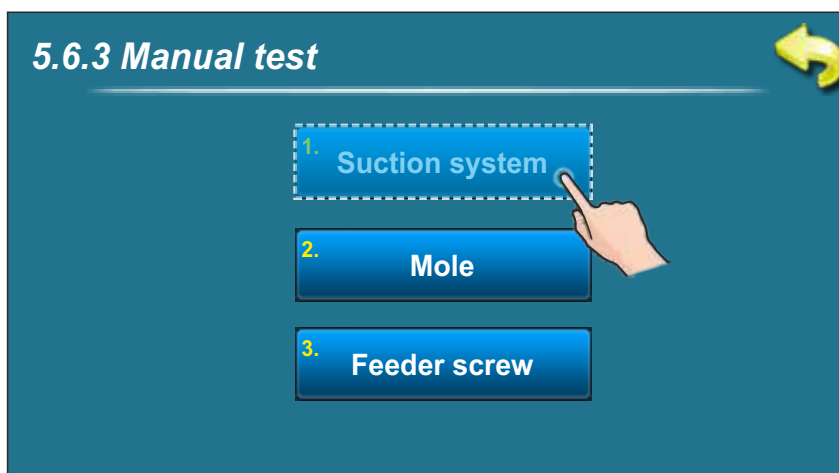
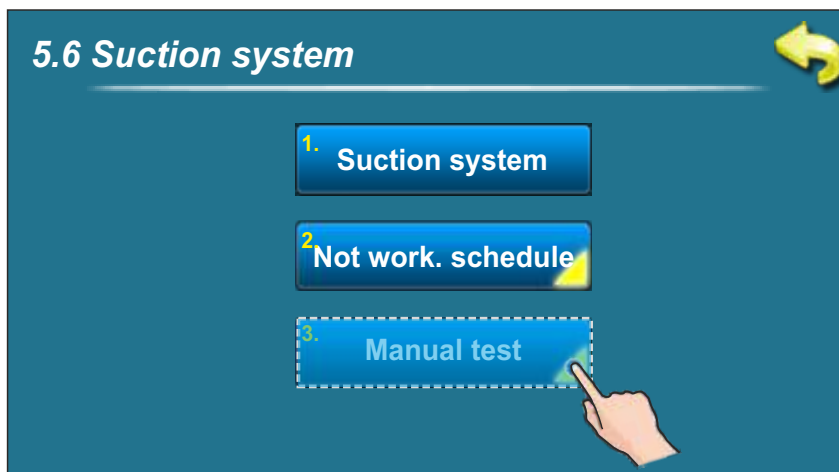
Possible selection:

- Factory: **OFF**
- OFF, ON

If this option is switched on, during the time when the operation prohibition is switched on, the suction system will one more time fill up the pellet tank to the top in order to avoid pellet shortage during the time when the prohibition of the suction system operation is switched on.

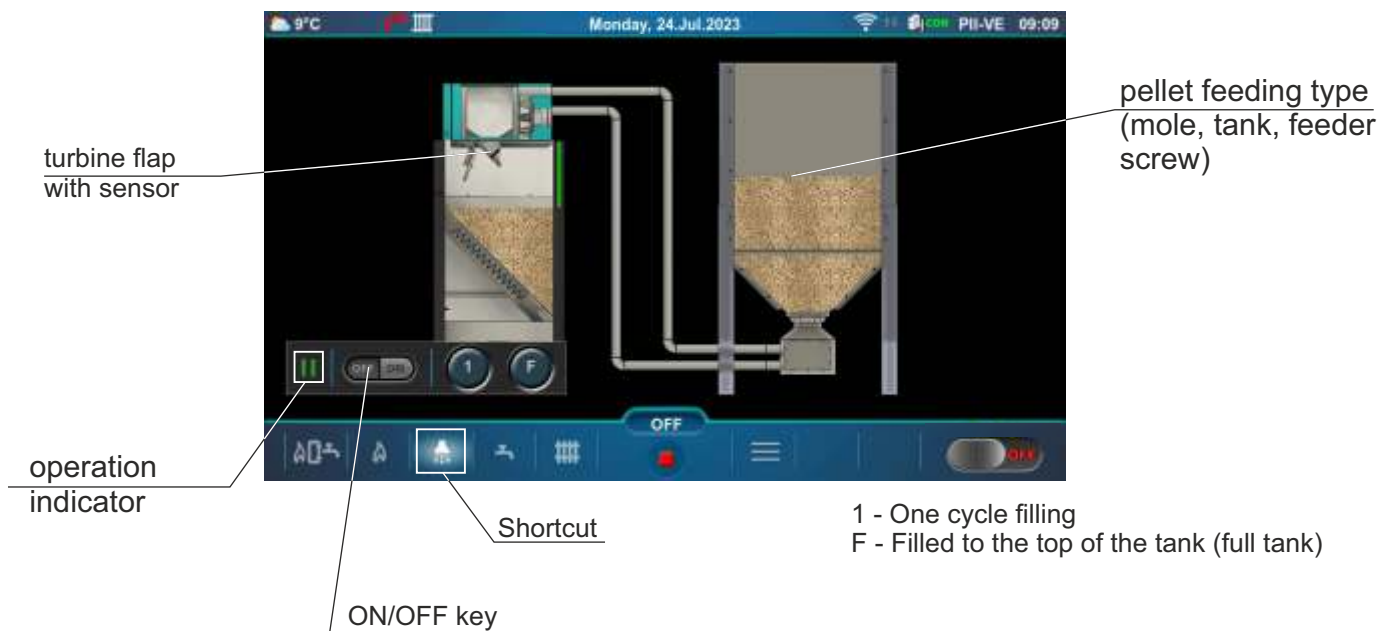
4.1.6. MANUAL TEST

The manual test is a option which allows to test parts of the suction system to check their technical accuracy. It is possible to separately test the suction system turbine, the mole/feeder screw in case this elements are used as pellet feeding means. When entering the menu for manual test, it is necessary to press the key „START“ to check the operation.



4.2. PelTec II Lambda

After configuring the pellet suction system, on the main page under the pellet sensor symbol appears a new indicator which shows if the suction system is in operation or not. During the operation of the suction system the indicator ► appears and when the system is still the symbol ■ shows up. If the suction system is switched on but is not in operation for the moment as the pellet tank is filled on the main screen the symbol ■ will show up.

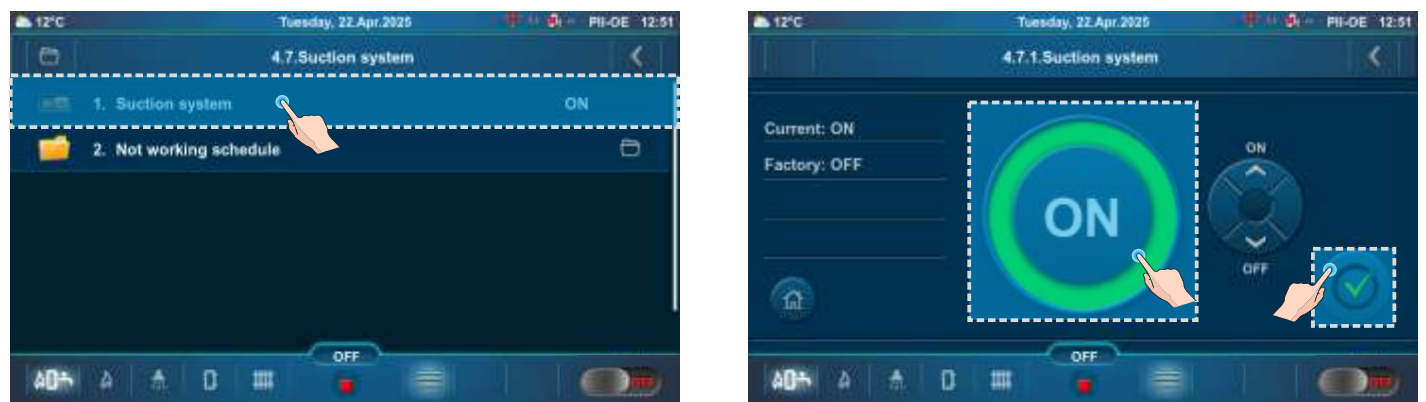


4.2.1. USER MENU

The user can manage the operation of the suction system in the menu "OPERATION" > "SUCTION SYSTEM"



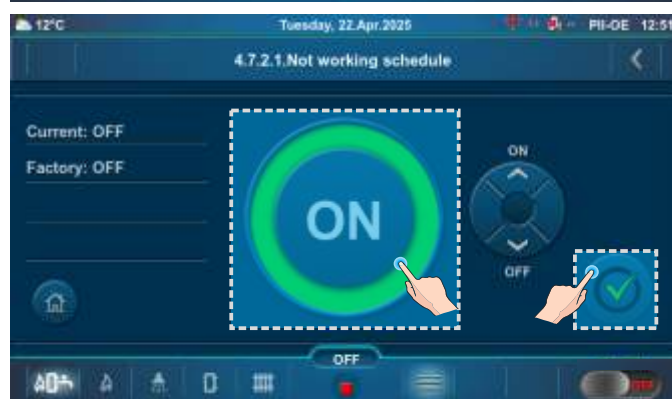
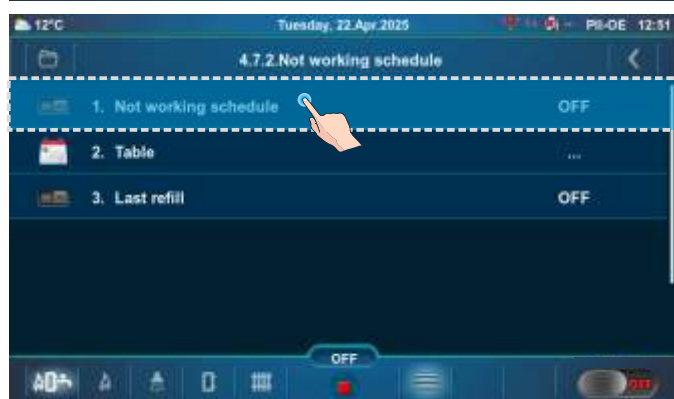
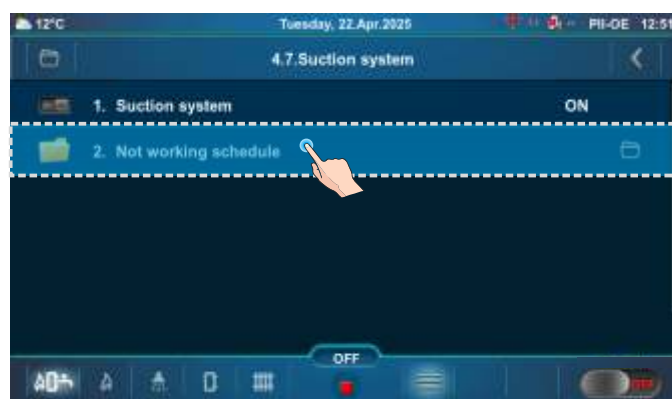
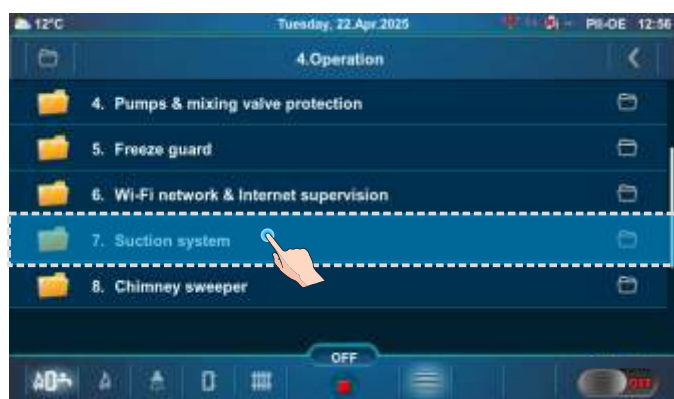
4.2.2. SUCTION SYSTEM ON/OFF



Possible selection: - Factory: OFF
- OFF, ON

This option allows the off/on operation mode of the pellet suction system.

4.2.3. NOT WORK SCHEDULE ON/OFF

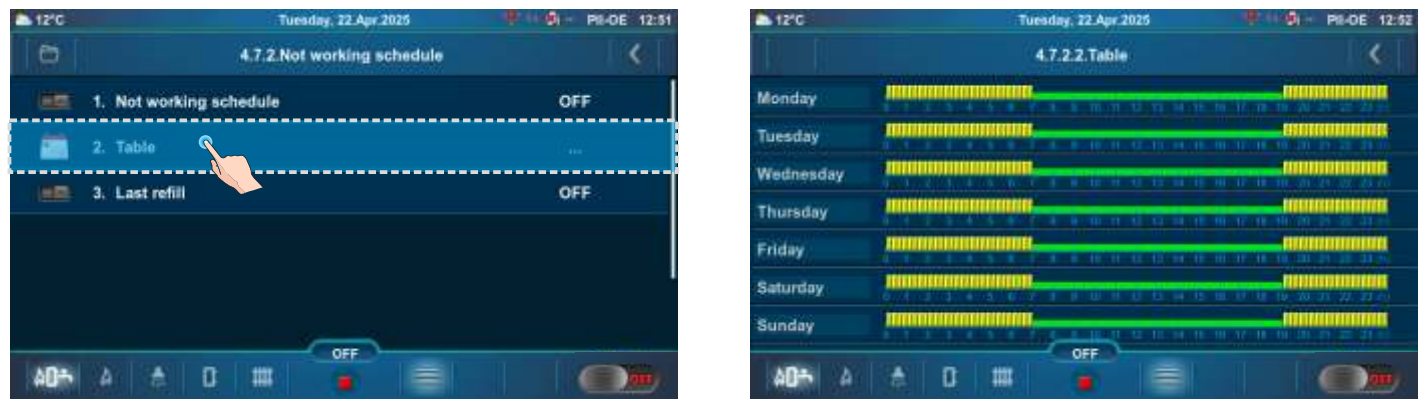


Possible selection:

- Factory: **OFF**
- OFF, ON

Not working schedule allows the prohibition of the suction system operation (as an example, during the night to prevent noises). When this option is switched on, the suction system will not operate during times set in the table (see point 4.2.4. "Table").

4.2.4. TABLE (NOT WORK SCHEDULE OF THE SUCTION SYSTEM)



According to the table shown above, on Monday at 00:00 hours starts the prohibition of the suction system operation until 07:00 hours when the prohibition stops. It means that the suction system will not operate on Monday from 00.00 hours until 07:00 hours. At 19:00 hours the operation prohibition starts again which lasts until 23:59. For each day during a week it is possible to set a different not working schedule, in this case for all days during the week the same schedule is set.



4.2.5. LAST REFILL



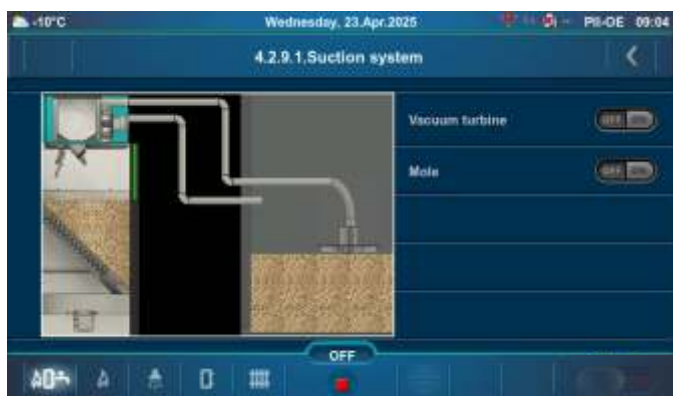
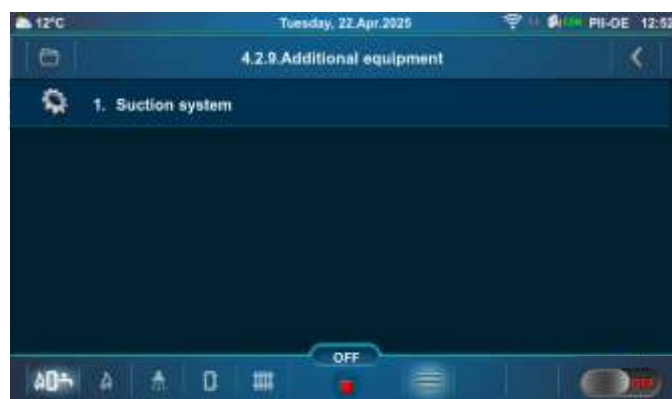
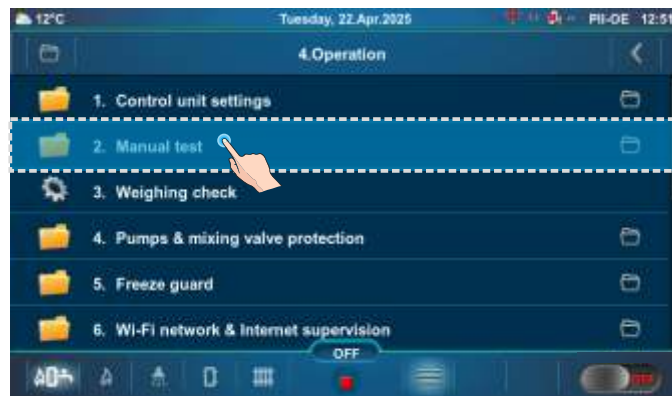
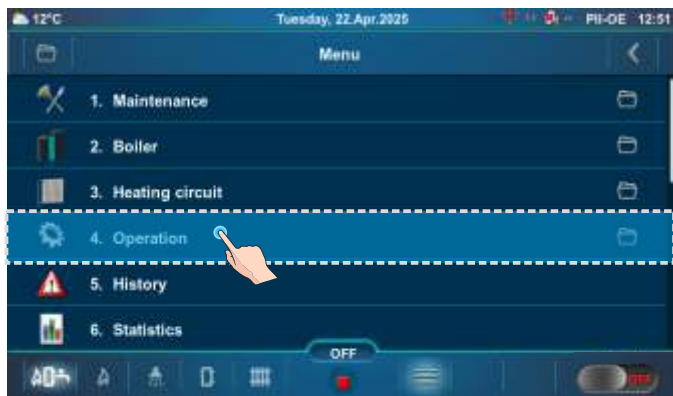
Possible selection:

- Factory: **OFF**
- OFF, ON

If this option is switched on, during the time when the operation prohibition is switched on, the suction system will one more time fill up the pellet tank to the top in order to avoid pellet shortage during the time when the prohibition of the suction system operation is switched on.

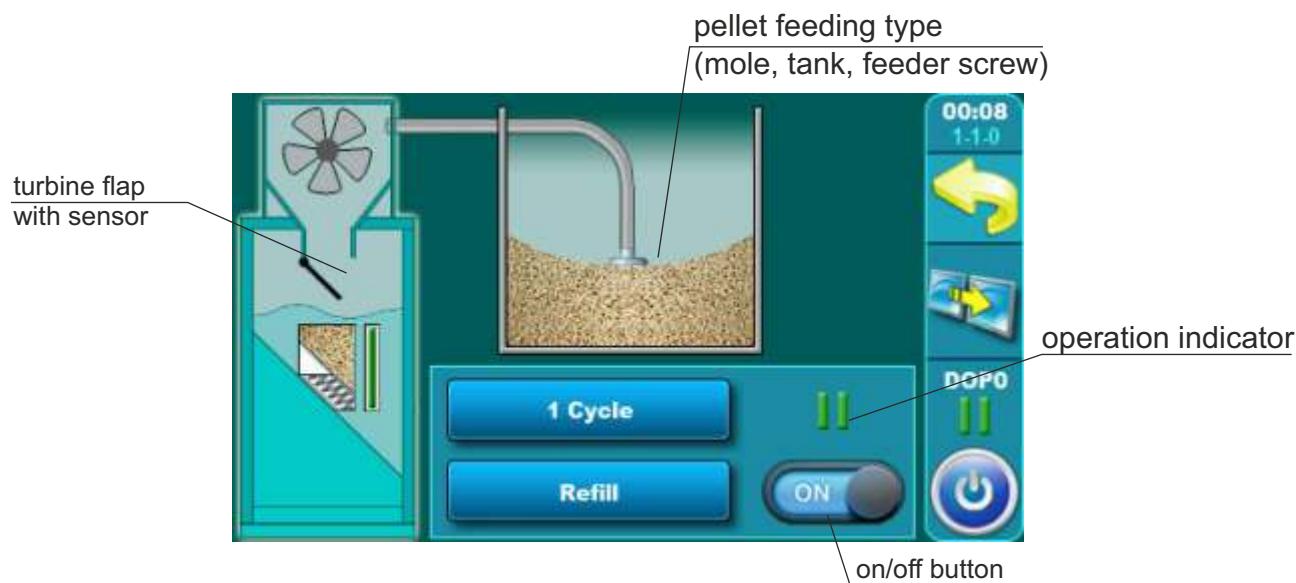
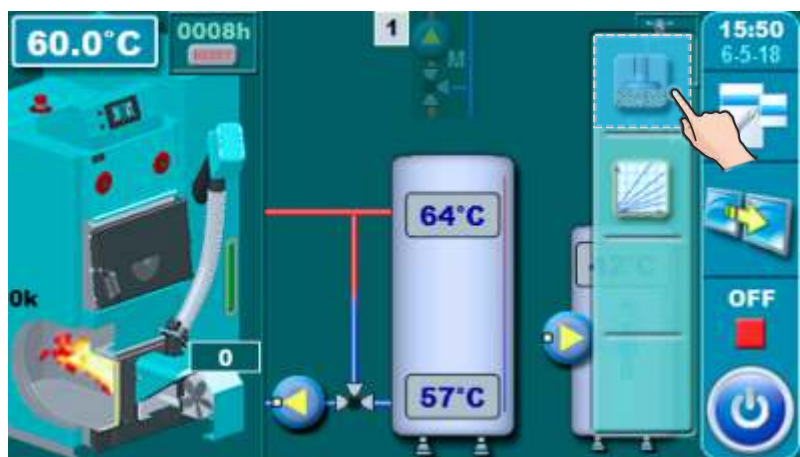
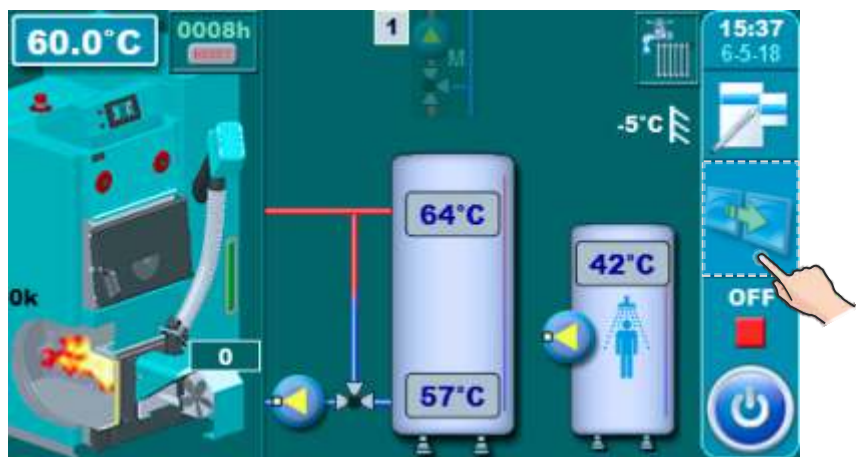
4.2.6. MANUAL TEST

The manual test is a option which allows to test parts of the suction system to check their technical accuracy. It is possible to separately test the suction system turbine, the mole/feeder screw in case this elements are used as pellet feeding means. When entering the menu for manual test, it is necessary to press the button „ON“ to check the operation.



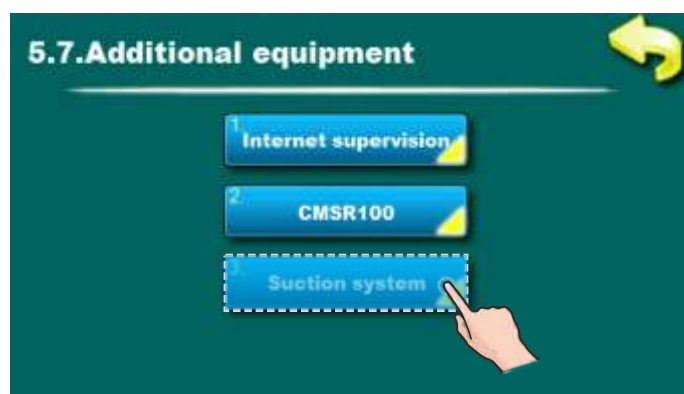
4.3. EKO-CK(B)P / CentroPlus + Cm Pelet-set_Touch

When the Pellet suction system is configured, the Pellet suction system display can be viewed and opened from the front page by pressing the "boiler operation display" button. Press the "boiler operation display" button repeatedly until the accessories Pellet suction system appears on the screen as shown below



4.3.1. USER MENU

The user can manage the operation of the suction system in the menu „OPERATION“ > „ADDITIONAL EQUIPMENT“ > „SUCTION SYSTEM“



4.3.2. SUCTION SYSTEM ON/OFF

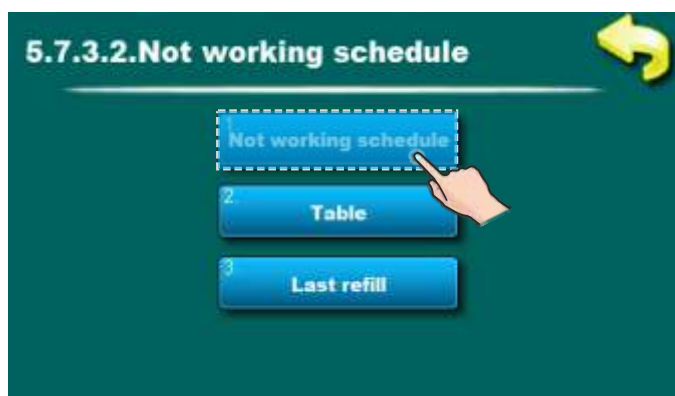
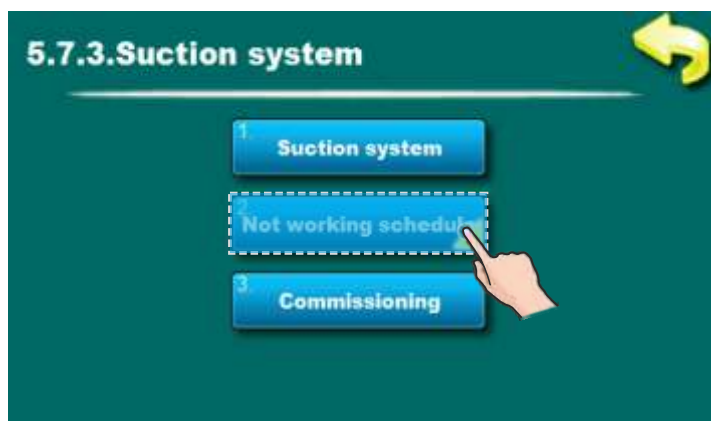


Possible selection:

- Factory: **OFF**
- OFF, ON

This option allows the off/on operation mode of the pellet suction system.

4.3.3. NOT WORKING SCHEDULE ON/OFF

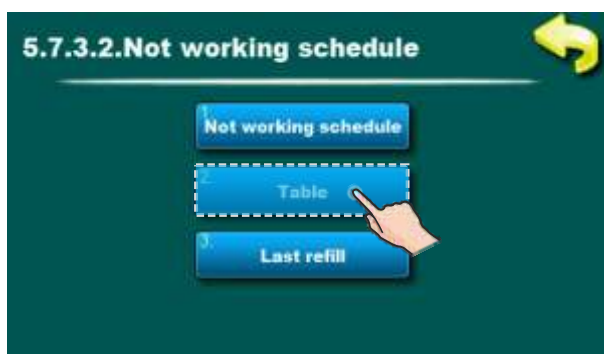


Possible selection:

- Factory: **OFF**
- OFF, ON

Not working schedule allows the prohibition of the suction system operation (as an example, during the night to prevent noises). When this option is switched on, the suction system will not operate during times set in the table (see point 4.3.4. "Table").

4.3.4. TABLE (NOT WORK SCHEDULE OF THE SUCTION SYSTEM)



Not working schedule - Table

	MON	TUE	WED	THU	FRI	SAT	SUN
00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00
19:00	19:00	19:00	19:00	19:00	19:00	19:00	19:00
23:59	23:59	23:59	23:59	23:59	23:59	23:59	23:59

①

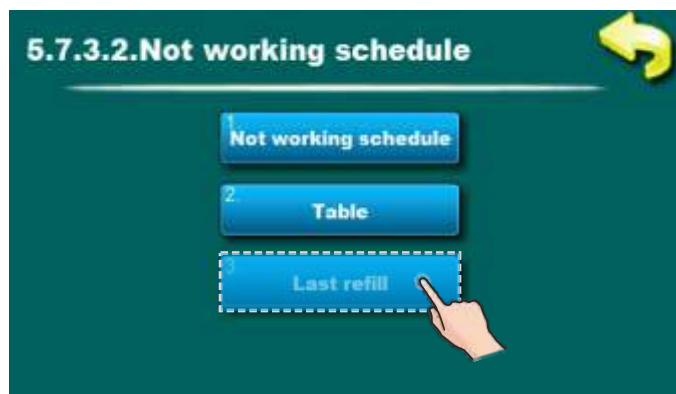
①

Not working start

Not working stop

According to the table shown above, on Monday at 00:00 hours starts the prohibition of the suction system operation until 07:00 hours when the prohibition stops. It means that the suction system will not operate on Monday from 00.00 hours until 07:00 hours. At 19:00 hours the operation prohibition starts again which lasts until 23:59. For each day during a week it is possible to set a different not working schedule, in this case for all days during the week the same schedule is set.

4.3.5. LAST REFILL



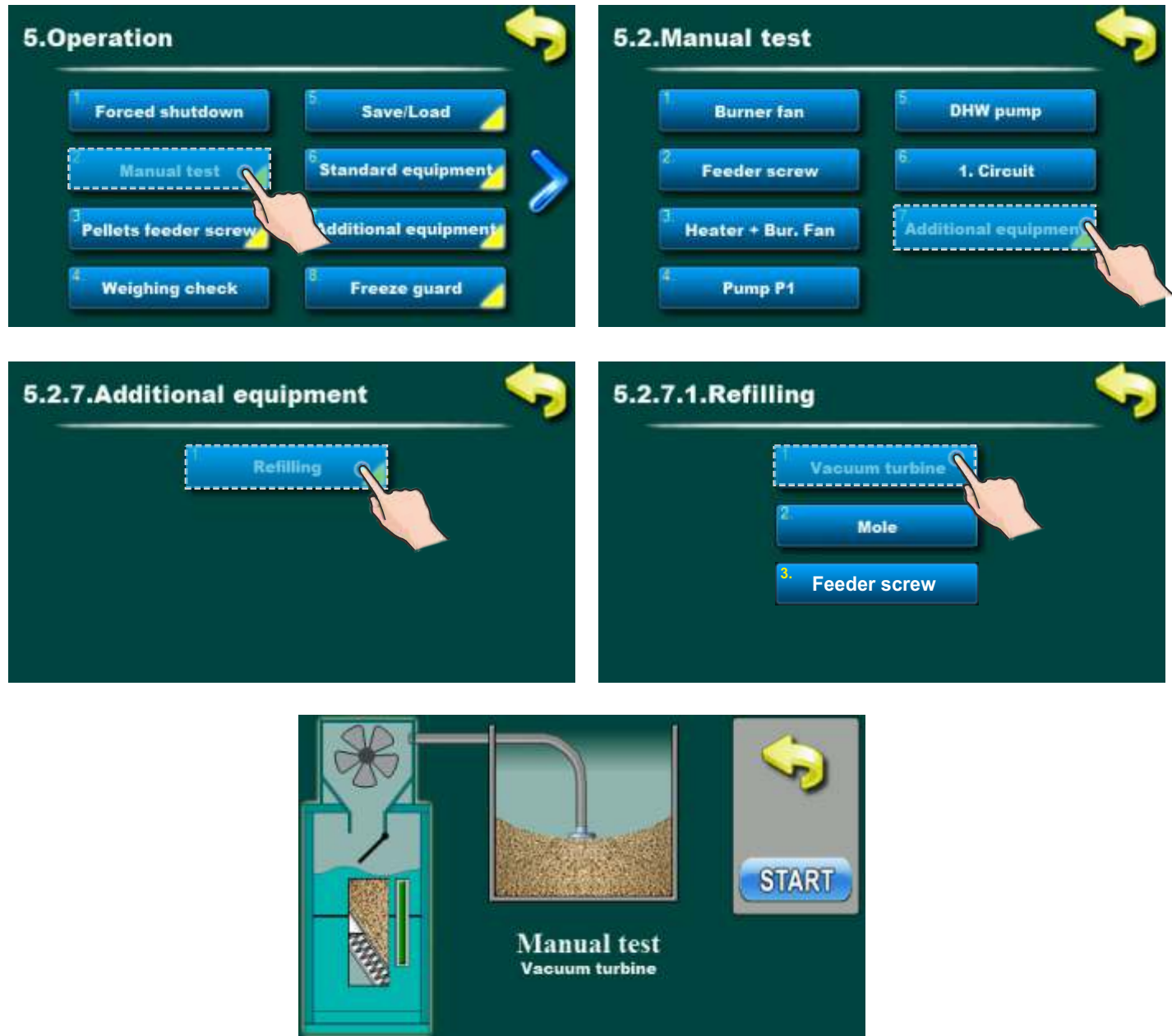
Possible selection:

- Factory: **OFF**
- OFF, ON

If this option is switched on, during the time when the operation prohibition is switched on, the suction system will one more time fill up the pellet tank to the top in order to avoid pellet shortage during the time when the prohibition of the suction system operation is switched on.

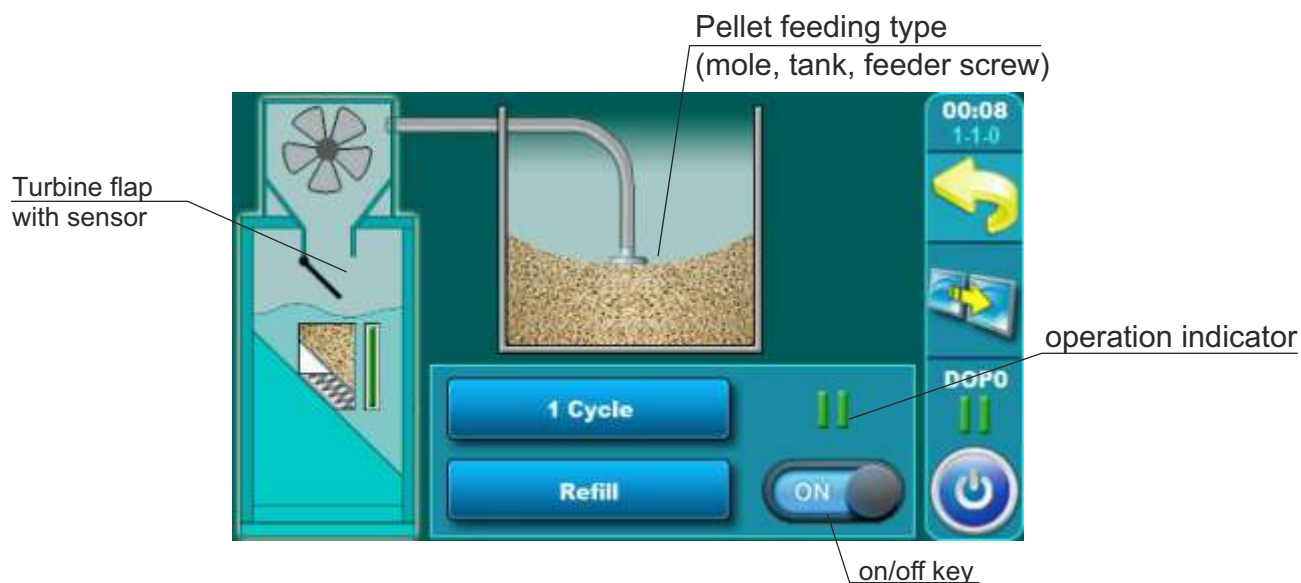
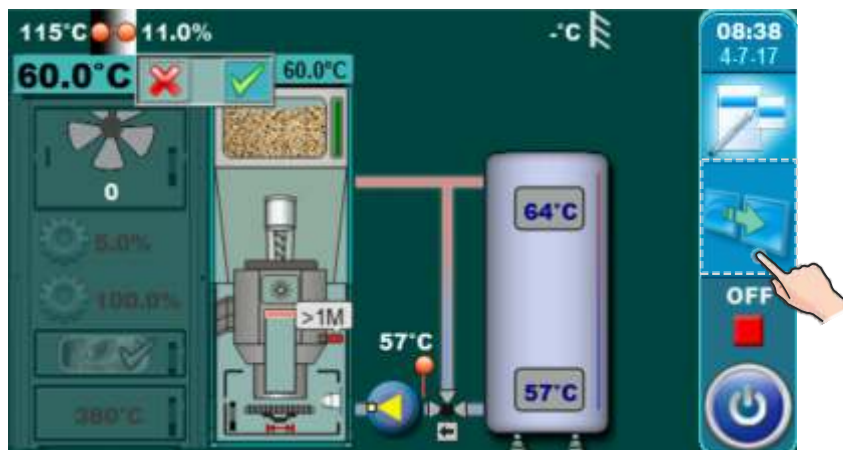
4.3.6. MANUAL TEST

The manual test is a option which allows to test parts of the suction system to check their technical accuracy. It is possible to separately test the suction system turbine, the mole/feeder screw in case this elements are used as pellet feeding means. When entering the menu for manual test, it is necessary to press the key „START“ to check the operation.



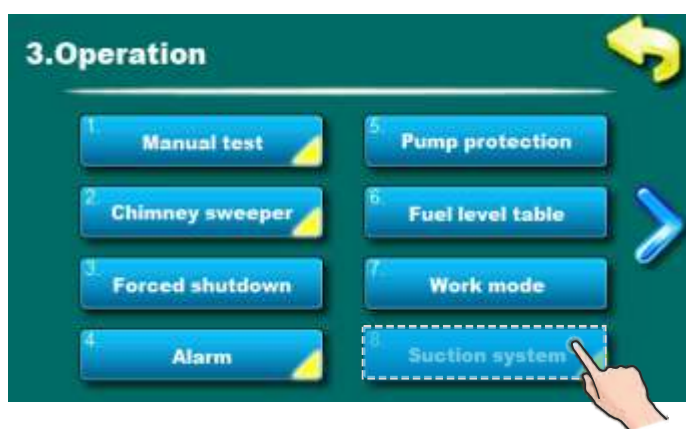
4.4. BioTec Plus

When the Pellet suction system is configured, the Pellet suction system display can be viewed and opened from the front page by pressing the "boiler operation display" button. Press the "boiler operation display" button repeatedly until the accessories Pellet suction system appears on the screen as shown below.

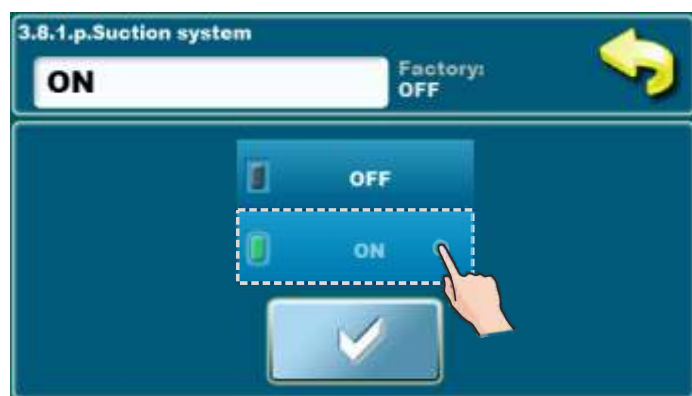
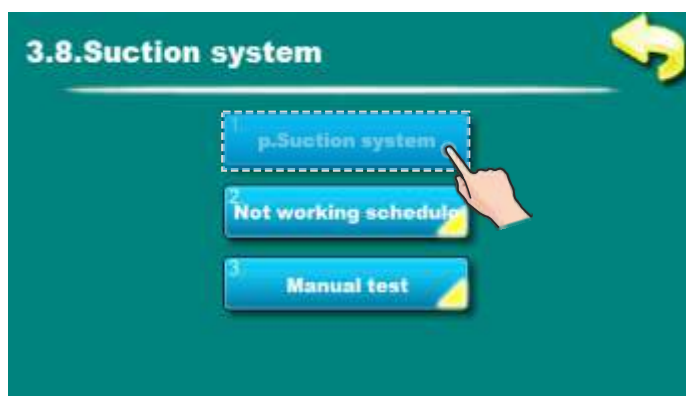


4.4.1. USER MENU

The user can manage the operation of the suction system in the menu „OPERATION MODE,, > „SUCTION SYSTEM“



4.4.2. SUCTION SYSTEM ON/OFF

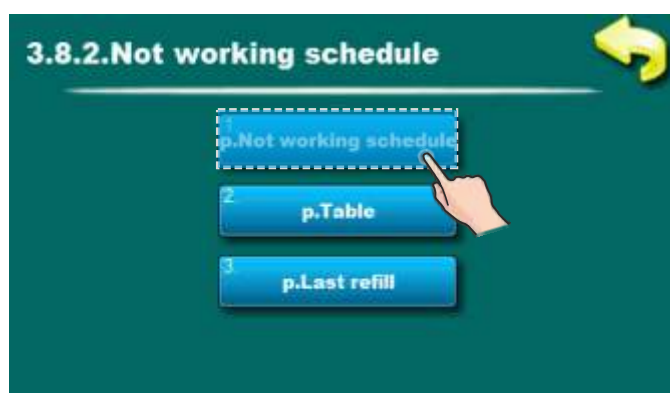
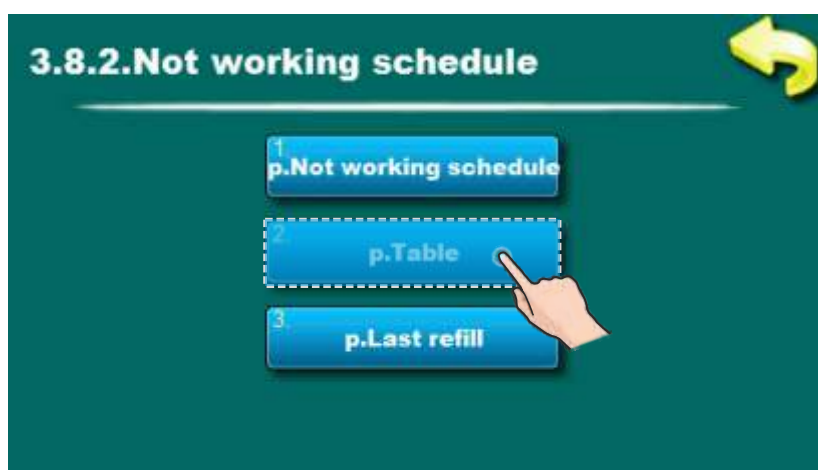


Possible selection:

- Factory: **OFF**
- OFF, ON

This option allows the off/on operation mode of the pellet suction system.

4.4.3. NOT WORKING SCHEDULE

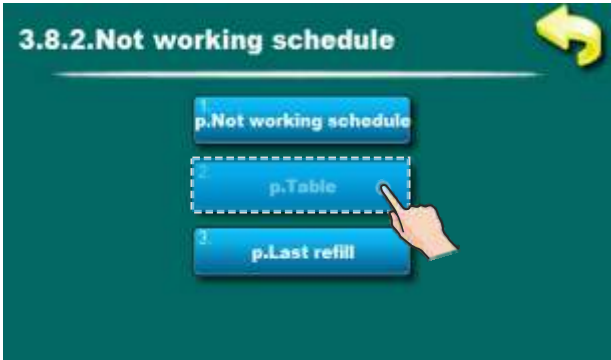


Possible selection:

- Factory: **OFF**
- OFF, ON

Not working schedule allows the prohibition of the suction system operation (as an example, during the night to prevent noises). When this option is switched on, the suction system will not operate during times set in the table (see point 4.4.4. "Table").

4.4.4. TABLE (NOT WORK SCHEDULE OF THE SUCTION SYSTEM)



Not working schedule - Table							
	MON	TUE	WED	THU	FRI	SAT	SUN
	00:00	00:00	00:00	00:00	00:00	00:00	00:00
	07:00	07:00	07:00	07:00	07:00	07:00	07:00
	19:00	19:00	19:00	19:00	19:00	19:00	19:00
	23:59	23:59	23:59	23:59	23:59	23:59	23:59

1

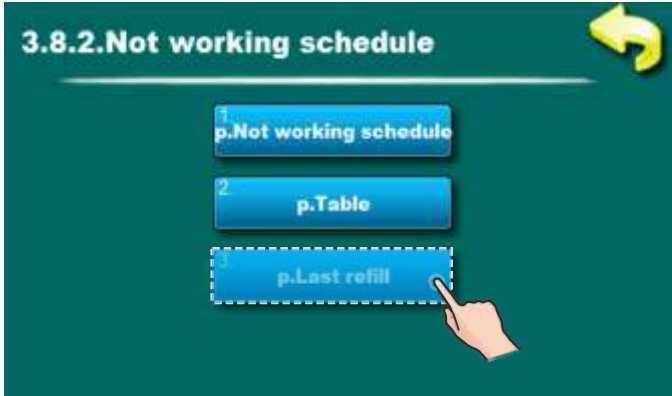
1

Not working start

Not working stop

According to the table shown above, on Monday at 00:00 hours starts the prohibition of the suction system operation until 07:00 hours when the prohibition stops. It means that the suction system will not operate on Monday from 00.00 hours until 07:00 hours. At 19:00 hours the operation prohibition starts again which lasts until 23:59. For each day during a week it is possible to set a different not working schedule, in this case for all days during the week the same schedule is set.

4.4.5. LAST REFFIL



Possible selection: - Factory: OFF
- OFF, ON




If this option is switched on, during the time when the operation prohibition is switched on, the suction system will one more time fill up the pellet tank to the top in order to avoid pellet shortage during the time when the prohibition of the suction system operation is switched on.





4.4.6. MANUAL TEST

The manual test is a option which allows to test parts of the suction system to check their technical accuracy. It is possible to separately test the suction system turbine, the mole/feeder screw in case this elements are used as pellet feeding means. When entering the menu for manual test, it is necessary to press the key „START“ to check the operation.



EKO-CK(B) P / CentroPlus + Cm Pelet-set

In order to enter the menu PE10 it is necessary to reach PR10 by the key , then press  and afterwards SET  again. Now you have entered the menu Pr10. The parameters are set in the same way as when setting the boiler's temperature.

Pr10		
Parameter	Term	Description
rF01	Suction system ON/OFF	This option allows the user the ON/OFF operation of the pellet suction system.
rF02	Prohibition table ON/OFF	Not working schedule is an option which allows the prohibition of the suction system operation (for example during the night to prevent noises. When this option is switched on the suction system will not operate during times which are set in the table).
rF03	Prohibition table	In this option it is possible to set the not working table of the pellet suction system.
rF04	Last refill ON/OFF	It this option is switched on, during the time when the prohibited operation is being switched on, the suction system will one more time fill up the pellet tank to the top in order to prevent pellet shortage during the time when the suction system operation is prohibited (the prohibition is switched on).
rF05	Manual test	<p>Key  Manual test of the mole operation</p> <p>Key  Manual test of the suction system operation</p> <p>Remark : Parameter rF01 must be set on OFF</p>
rF06	Manual start 1 cycle/1 filling	<p>Key  Manual start of the 1st cycle filling</p> <p>Key  Manual start of the complete tank filling</p> <p>Remark: Parameter rF01 must be set on ON.</p>

Remark:

- When you enter the manual test, the lights of the pumps mark the sensor condition.
- When there is a need (request) for the suction system operation, the LED light beside error symbol is flashing (when a real error appears, the symbol lights and on the screen the error is being written).
- When the error E12 appears (no fuel in the big tank/room), PR10 automatically shuts off and after refilling the big tank it is necessary to start the suction system.



THE ACCESS AND DISPLAY OF THE MENU PR10 IS POSSIBLE AFTER CONFIGURATING THE SUCTION SYSTEM IN THE SERVICE MENU UNDER PIN.

5.0. MAINTENANCE - IT APPLIES TO ALL BOILERS

Minimum once a year (or more often if the pellets contain more dust) it is needed to:

- Check and clean the net from dust in front of the fan (the net is visible through the pellet lid on the turbine tank)
- Check and clean the turbine tank from dust.
- Inspect and clean the damper and damper seal and damper enclosure sensor.
- Check the seals of the turbine tank plexi lid, the fan and the connections of the return and flow of the pellets.
- Check the flexible tubes if dust builds in them and if there are cracks on the tubes.

PROTECTIVE GLOVES ARE OBLIGATORY!



PelTec / PelTec-lambda



PelTec II Lambda



EKO-CK(B) P + Cm Pelet-set



EKO-CK(B) P + Cm Pelet-set_Touch



CentroPlus + Cm Pelet-set



CentroPlus + Cm Pelet-set_Touch



BioTec Plus

ONLY FOR AUTHORISED SERVICE

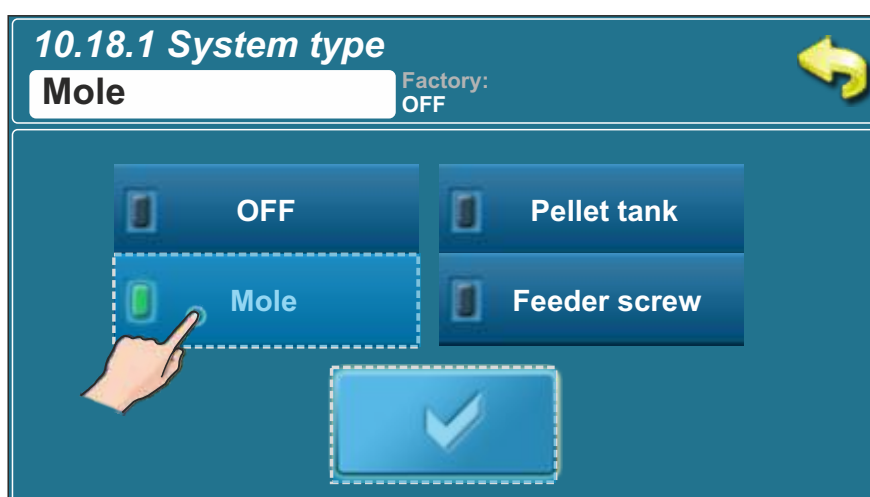
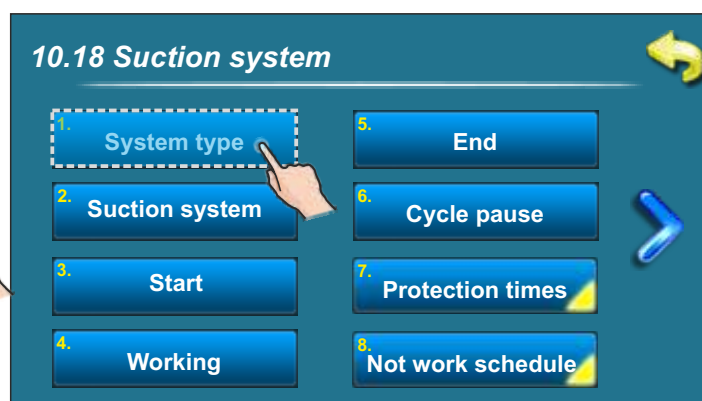
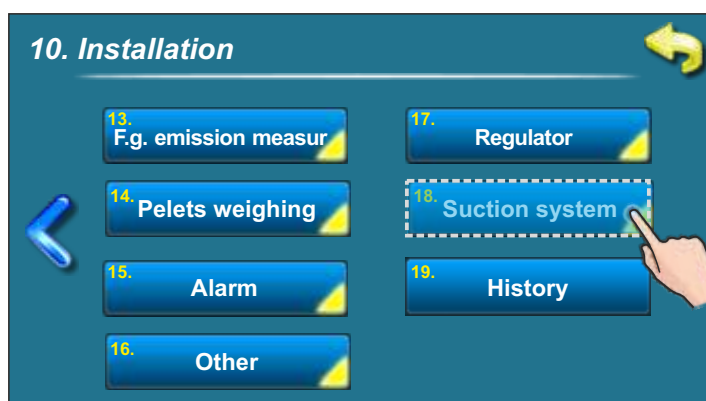
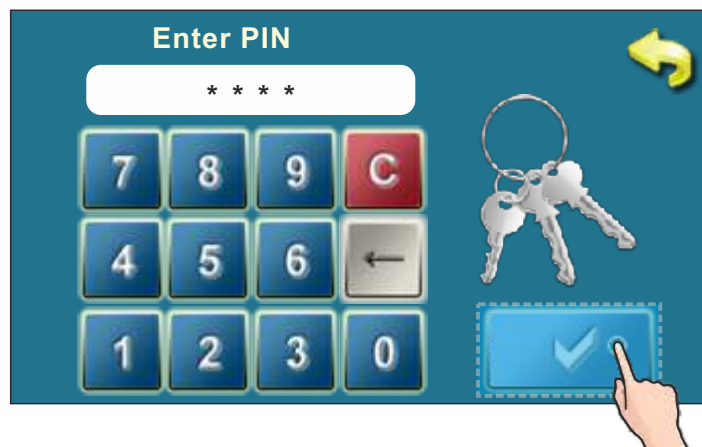
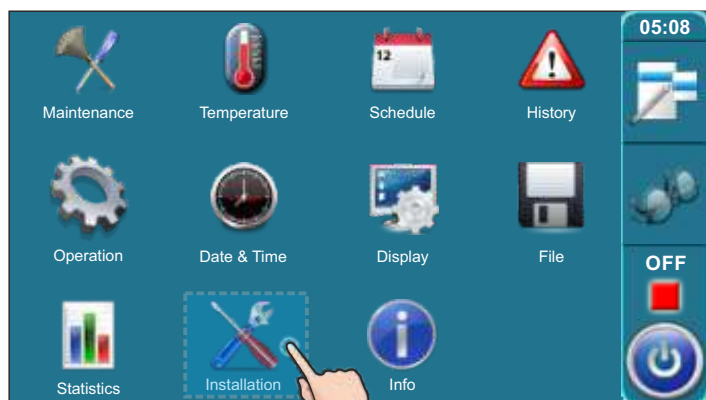


Next pages are assigned only to be used by authorized service personal.

6.0. SERVICE MENU

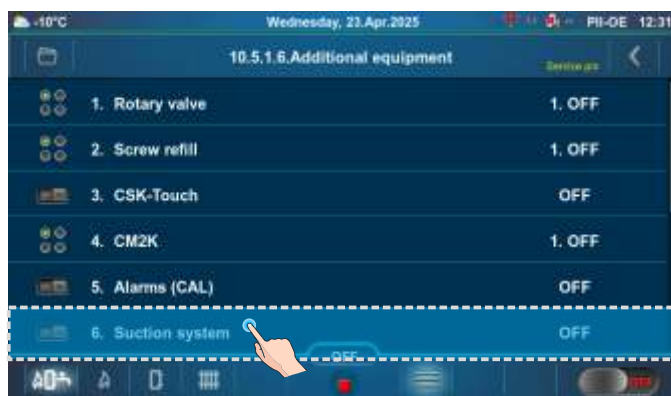
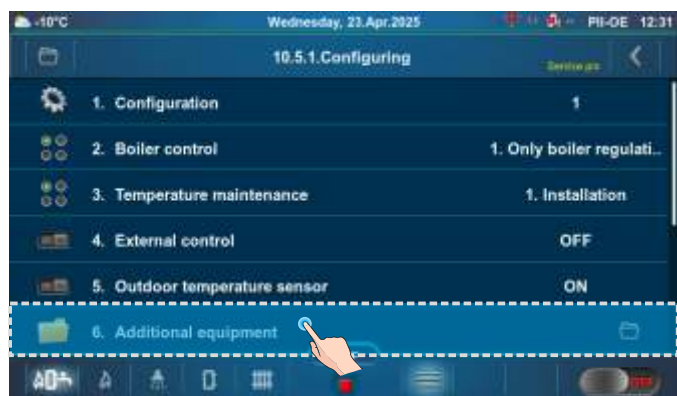
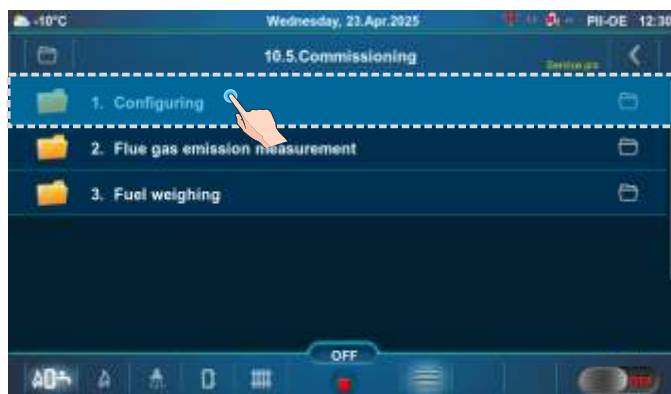
PelTec / PelTec-lambda

In order to enable the operation of the suction system it is necessary to activate the suction system in the boiler regulation. This option can be switched on in the installation menu. The access has only authorized personal (by entering the PIN).

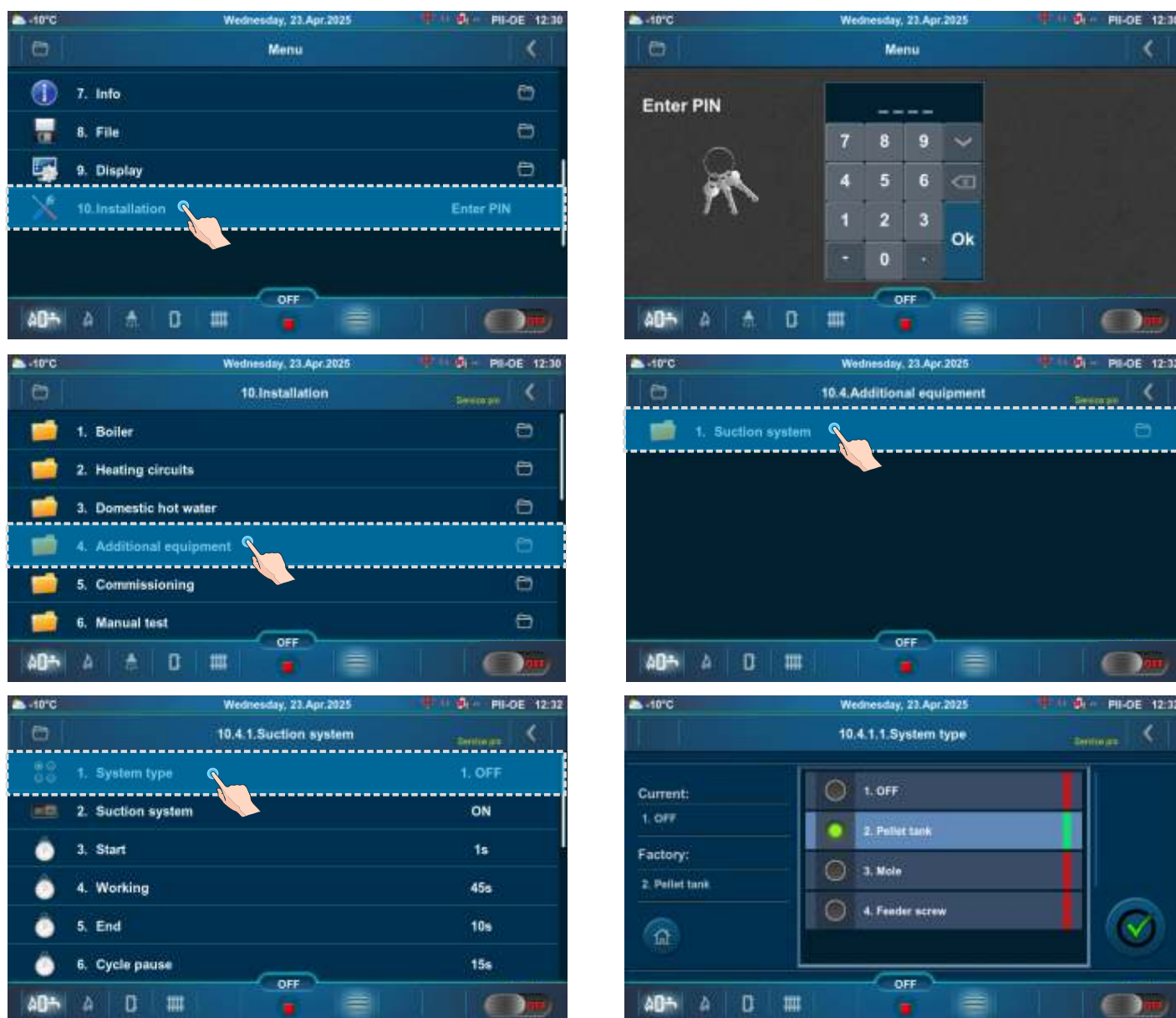


PelTec II Lambda

In order to enable the operation of the suction system it is necessary to activate the suction system in the boiler regulation. This option can be switched on in the installation menu. The access has only authorized personal (by entering the PIN).



After the Suction system has been configured as an additional equipment, the system type must be set in the "Additional equipment" > "Suction system" > "System type" menu.



To activate Suction system:

Installation - PIN - Commissioning - Configuring - Additional equipment - Suction system - ON

To select the type of Suction system:

Installation - PIN - Additional equipment - Suction system - System type

To activate the Suction system operation:

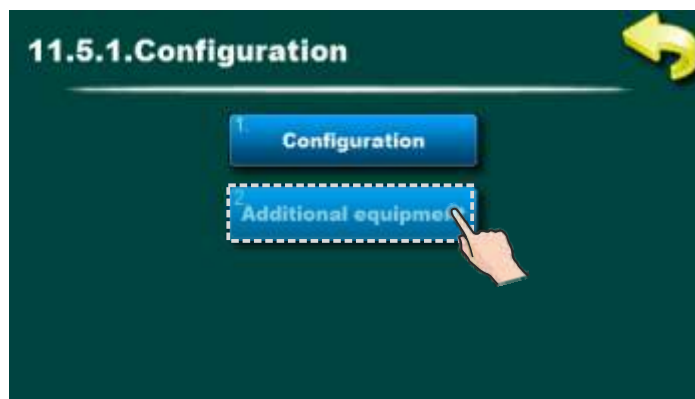
Installation - PIN - Additional equipment - Suction system - ON

To configure Suction system operation:

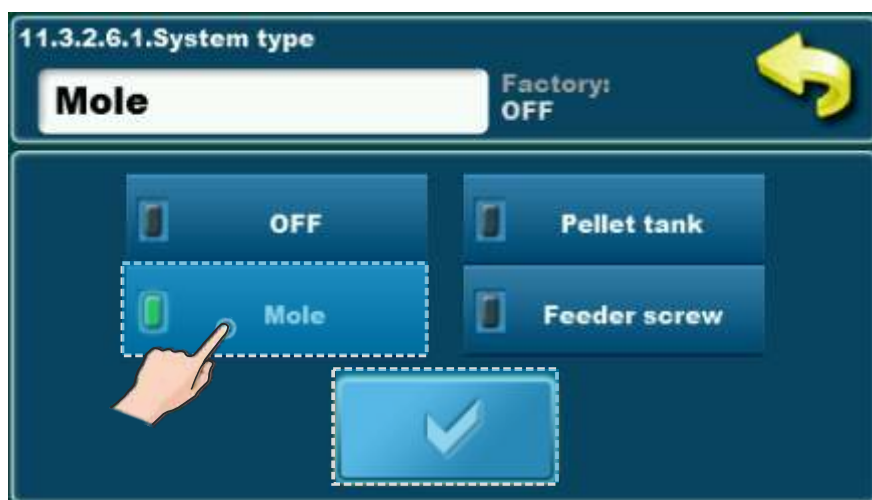
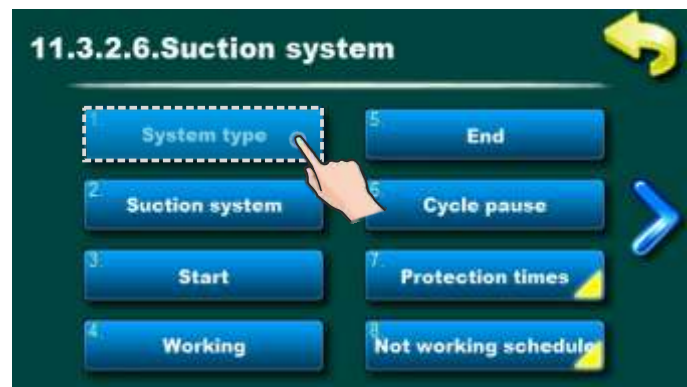
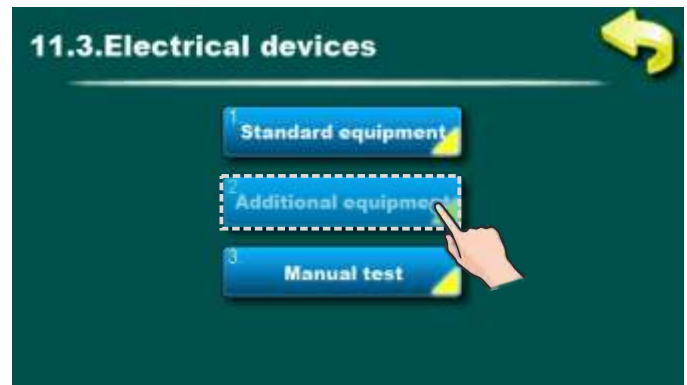
Installation - PIN - Additional equipment - Suction system

Cm Pelet-set_Touch

In order to enable the operation of the Pellet suction system, it is necessary to activate the Pellet suction system in the boiler controller. This option can be activated in the Installation menu, which is only accessible to authorized persons (by entering a PIN code).

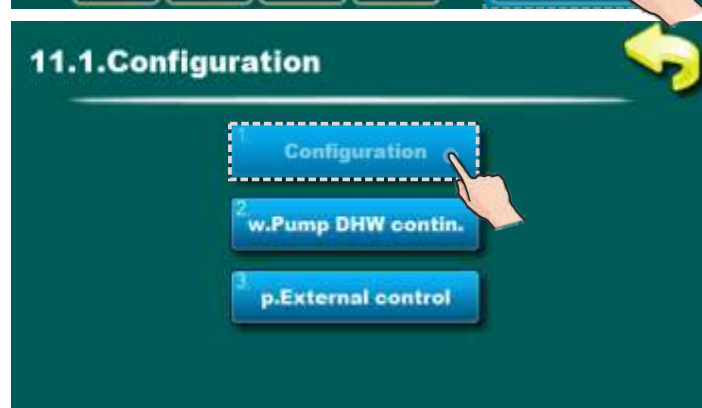


After the Pellet suction system is configured as an additional equipment the system type must be set in the "Electrical Devices" > "Additional equipment" > "Suction system" > "System type" menu.



BioTec Plus

In order to enable the operation of the suction system it is necessary to activate the suction system in the boiler regulation. This option can be switched off in the installation menu. The access has only authorized personal (by entering the PIN).



When the Suction system is configured, you can change settings in menu:
"Installation > Pellets > Suction System"

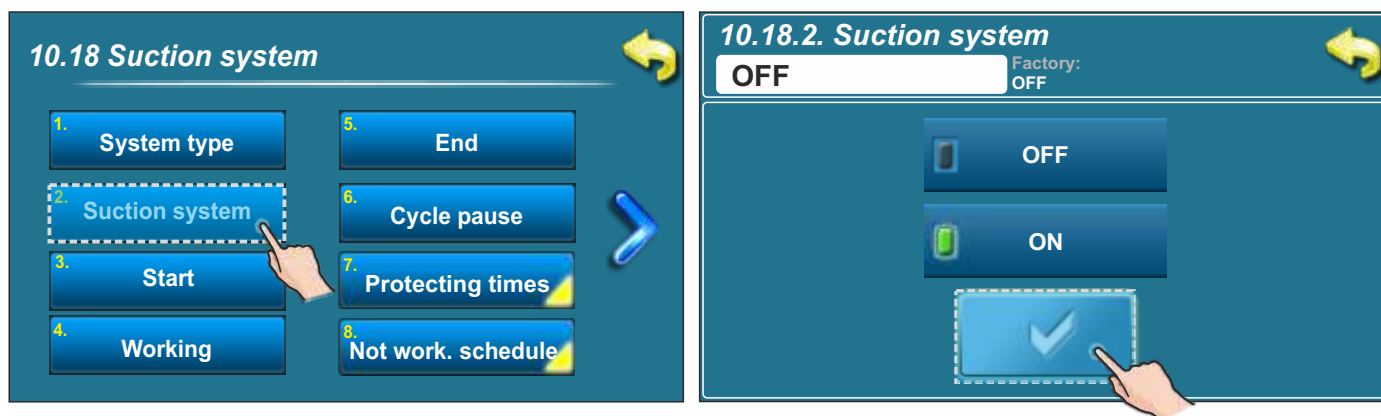


PelTec / PelTec-lambda / EKO-CK(B) P + Cm Pelet-set (/Touch), CentroPlus(-B) + Cm Pelet-set (/Touch)



The descriptions below show the menu numbering from the PelTec boiler. Other boilers have the same menus with different numbering.

6.1. SUCTION SYSTEM ON/OFF

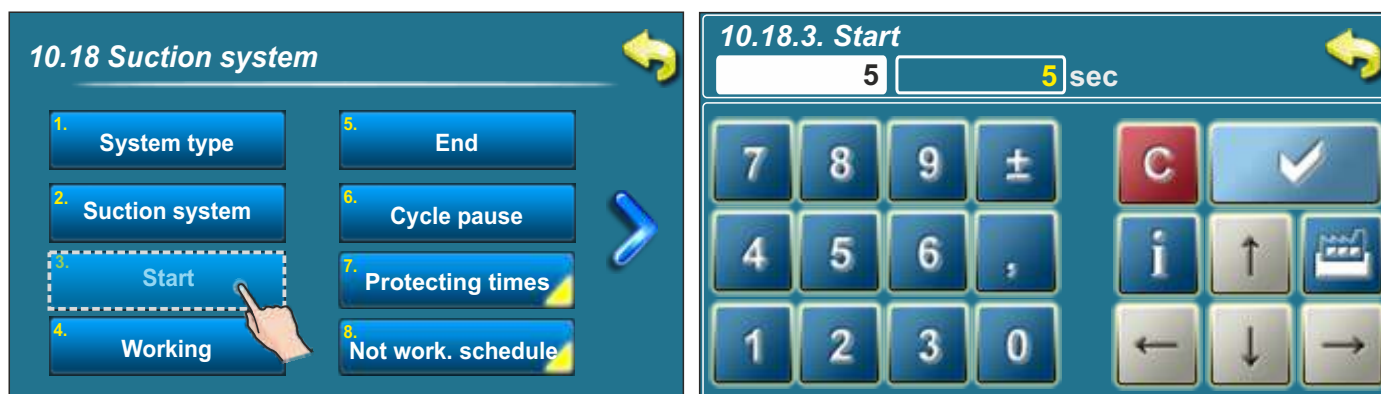


Possible selection:

- Factory: **OFF**
- OFF, ON

This option allows the off/on operation mode of the pellet suction system.

6.2. START

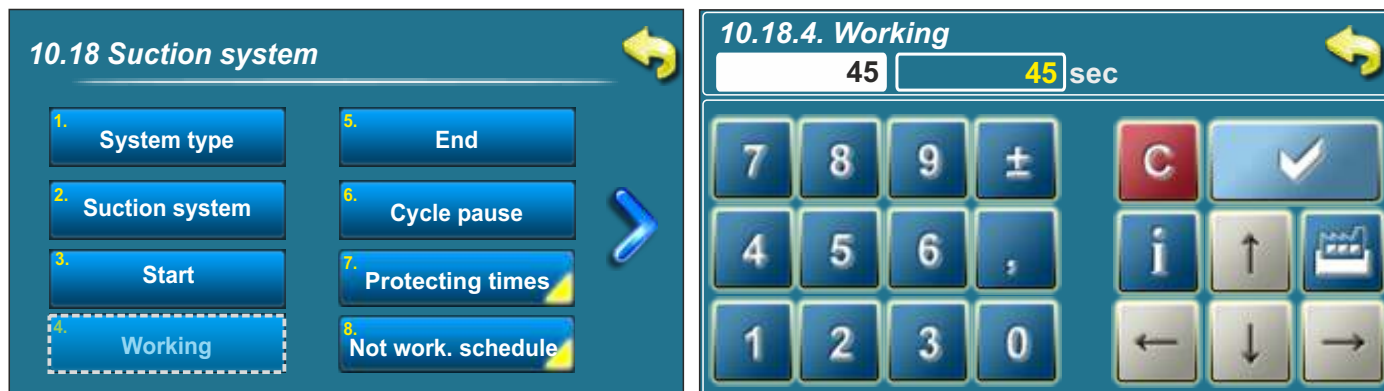


Possible selection:

- Factory: **5 sec**
- Minimum: 1 sec
- Maximum: 20 sec

This parameter defines how long will only the suction turbine work before the start of the mole or the feeder screw in the tank in order to empty the flexible tubes from pellets which are remaining inside from the last cycle. When selecting „Tank,, parameter Start is set on 1 sec.

6.3. WORKING

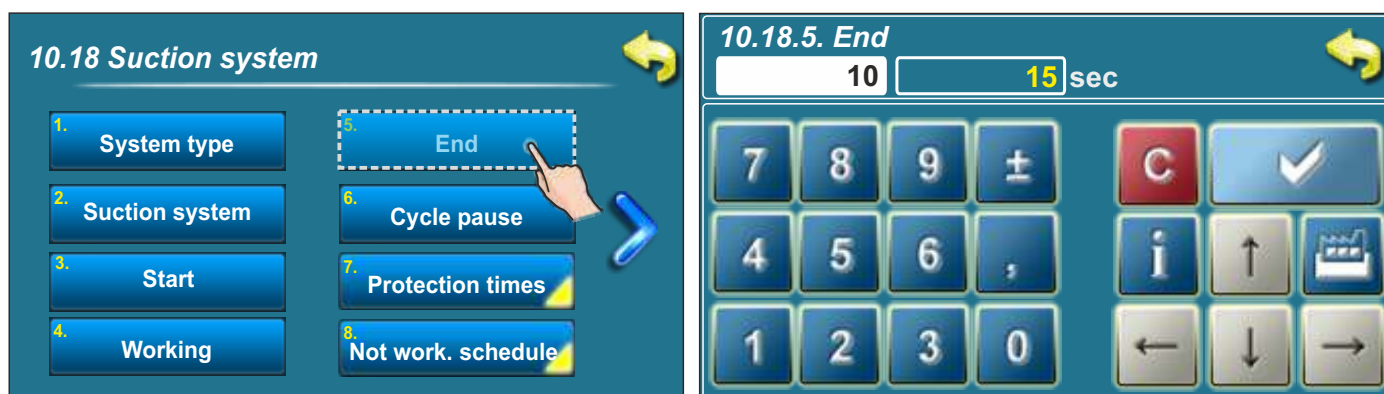


Possible section:

- Factory: **45 sec**
- Minimum: 1 sec
- Maximum: 360 sec

This parameter defines how long will the suction system work turbine together with the „mole,, or „feeder screw,, . With this parameter we define how much the turbine tank will be filled. It is necessary to adjust that the turbine tank fills itself maximum together with the time START and END and that the turbine stops working when its tank is filled up. This parameter depends upon the flexible tubes length and the difference in height between the big tank (storage) and the pellet tank beside the boiler.

6.4. END

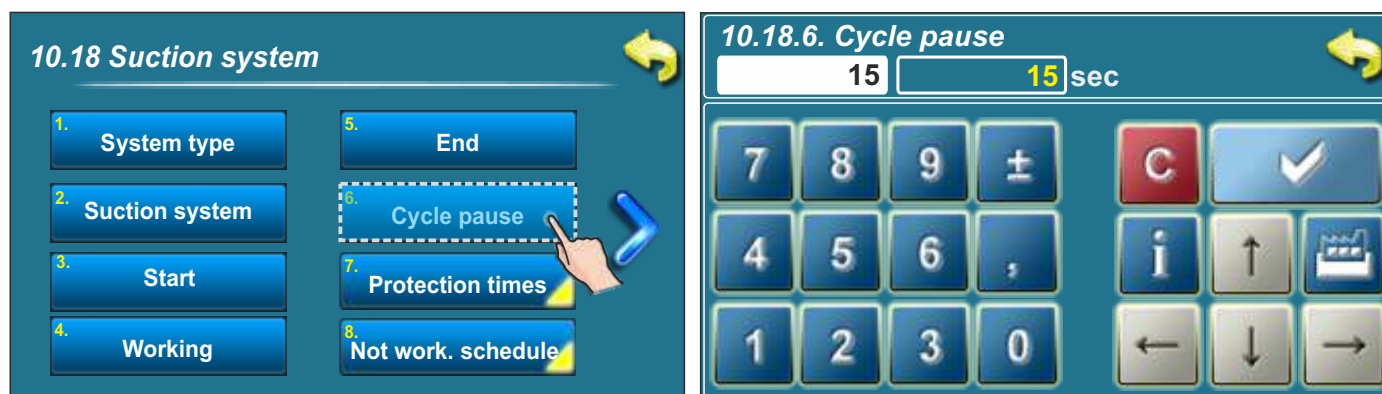


Possible selection:

- Factory: **10 sec**
- Minimum: 1 sec
- Maximum: 60 sec

This parameter defines how long only the turbine in the end of the filling cycle will work to empty the pellets which are remaining in the flexible tubes („Mole,, or „Feeder screw,, are not operating at that time. When selecting „tank,, the parameter END is set on 1 sec.

6.5. CYCLE PAUSE



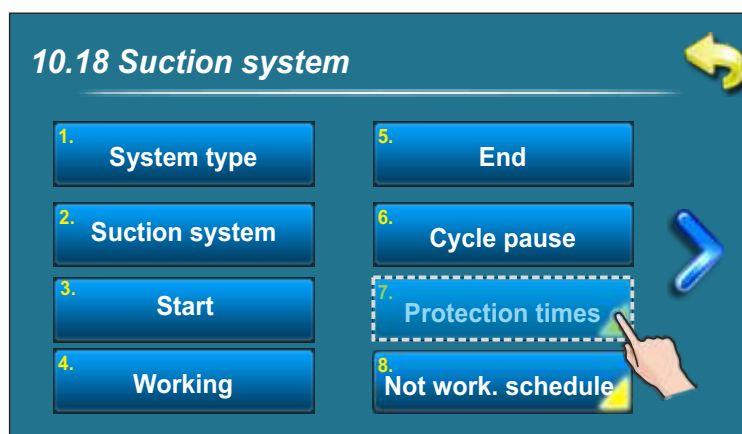
Possible selection:

- Factory: 15 sec
- Minimum: 1 sec
- Maximum: 60 sec

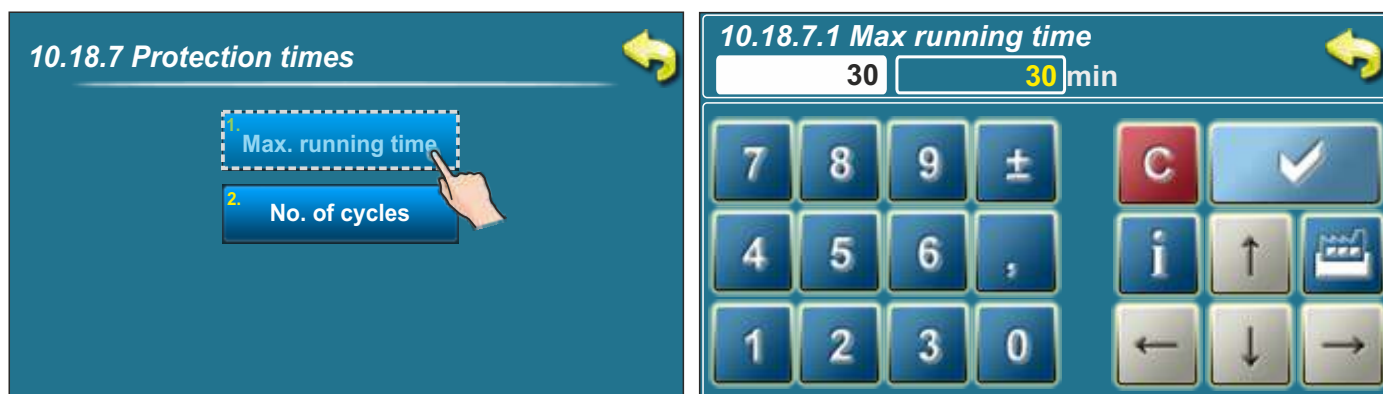
This parameter defines the pause between two cycles of filling. This parameter has to be adjusted to enable a complete discharge of the turbine tank after one filling cycle and before the start of the next cycle. In case the new cycle starts too early there is a possibility that the flap cannot close due to remaining pellets.

6.6. PROTECTION TIMES

This parameter defines after how much time the suction system will stop operating if by some reason the tank by here defined conditions is not filled.



6.6.1. MAXIMUM RUNNING TIME

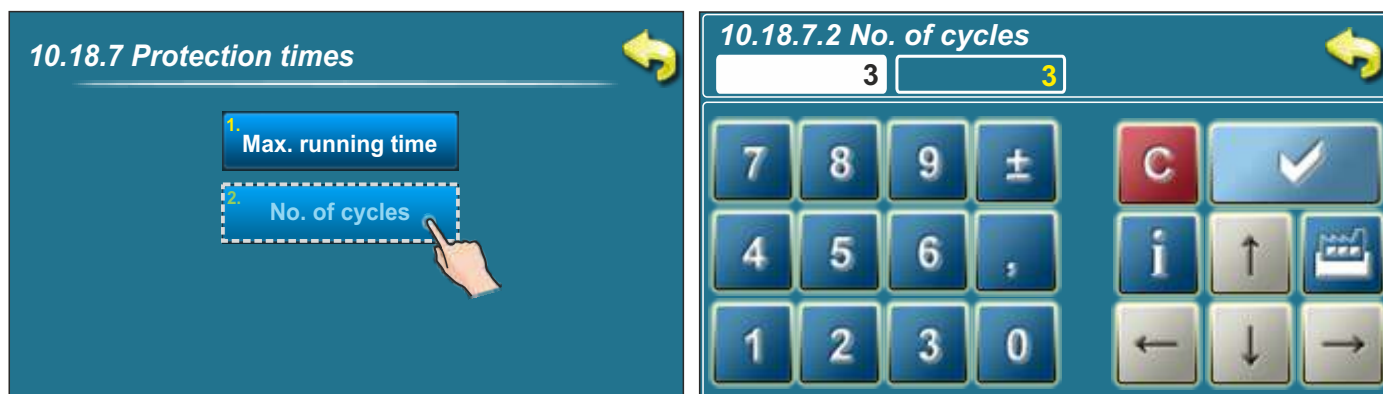


Possible selection:

- Factory: **30 min**
- Minimum: 1 min
- Maximum: 600 min

This parameter defines the max. running time of the filling cycle. If the tank beside the boiler does not fill during this time (the tank is full when the flap due to the full tank is no longer able to close itself) the assumption is that there is an operation problem (the suction system does not have pellets in the big tank or the feeding tube is blocked).

6.6.2. NUMBER OF CYCLES

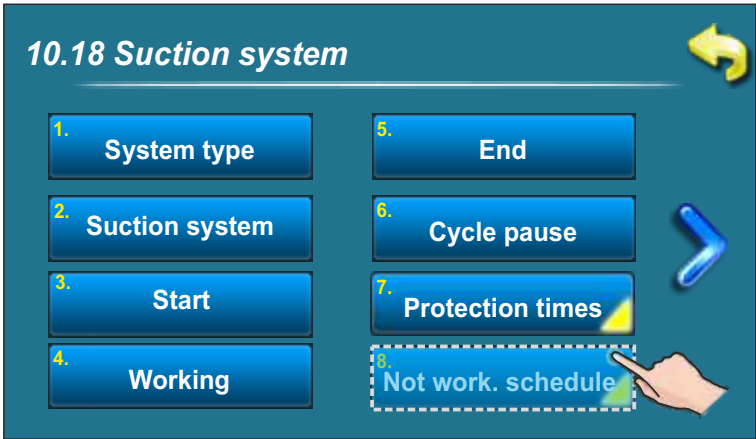


Possible selection:

- Factory: **3**
- Minimum: 1
- Maximum: 20

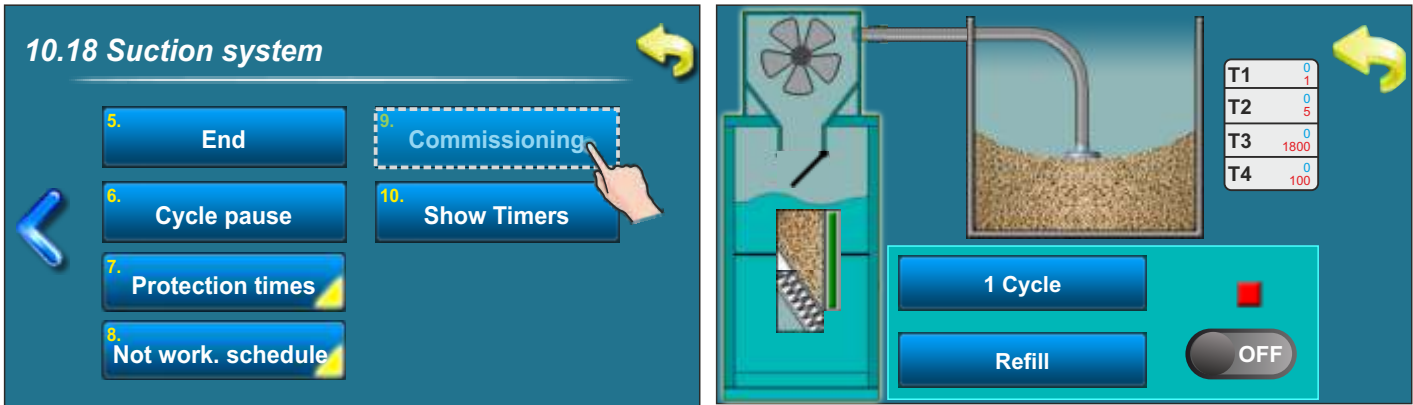
This parameter defines the maximum number of cycles after which the flue level sensor must be covered in the tank beside the boiler. If the flue level sensor in the tank beside the boiler is not covered during the defined number of cycles the assumption is that there is an operation problem (the suction system does not have fuel in the big tank (storage) or the feeding tube is blocked).

6.7. NOT WORKING SCHEDULE



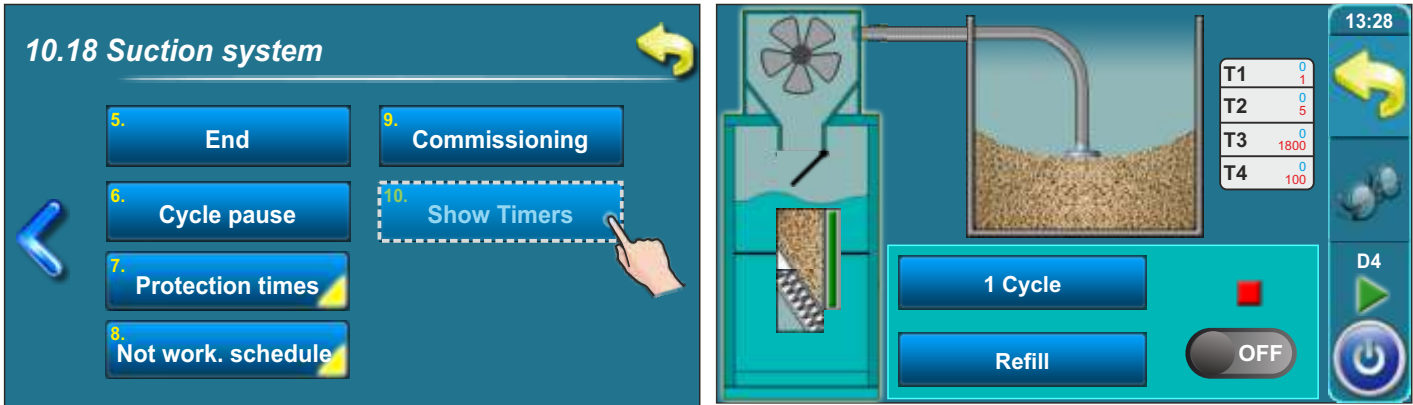
This menu is described in the part 4.1.4. in the previous pages.

6.8. SETTINGS/COMMISSIONING



In this option the service personal can easily set the running time of the suction system. By switching on the option 1 cycle or Fill and by tracking the time in the table as also the. replenishment of the turbine tank (through the transparent turbine tank plexi lid) the operation cycles are defined: Start, Operation (Running) and End.

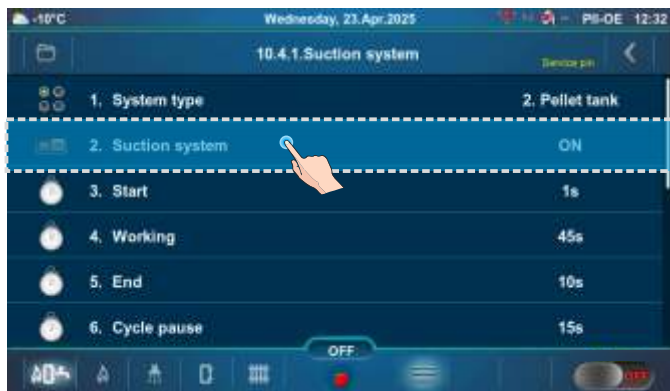
6.9. SHOW TIMERS



By switching this option on, the initial screen which is also visible for the end user, has the set times of the suction system operation written out and counted down. For the suction system setting the option "Settings/Commissioning" is used and in case of a faulty operation it is possible to switch on "Show timers".

PelTec II Lambda

6.1. SUCTION SYSTEM

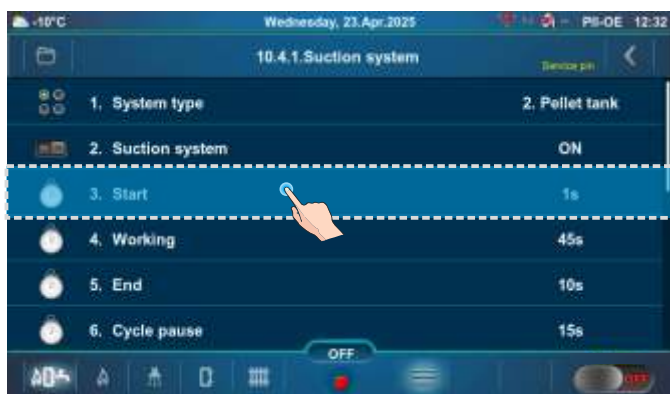


Possible selection:

- Factory: **OFF**
- OFF, ON

This option allows the off/on operation mode of the pellet suction system.

6.2. START

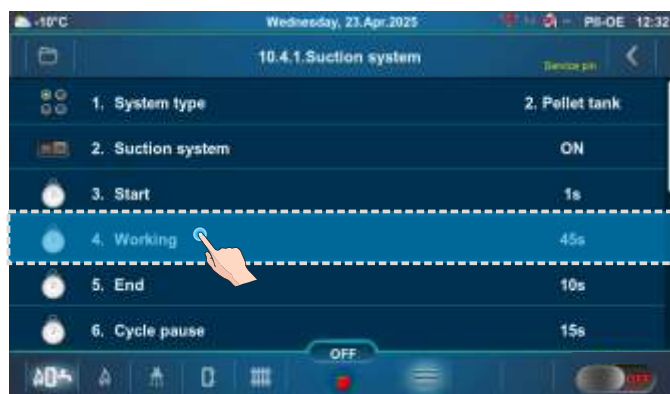


Possible selection:

- Factory: **1 sec**
- Minimum: 1 sec
- Maximum: 20 sec

This parameter defines how long will only the suction turbine work before the start of the mole or the feeder screw in the tank in order to empty the flexible tubes from pellets which are remaining inside from the last cycle. **When selecting „Tank,, parameter Start is set on 1 sec.**

6.3. WORKING

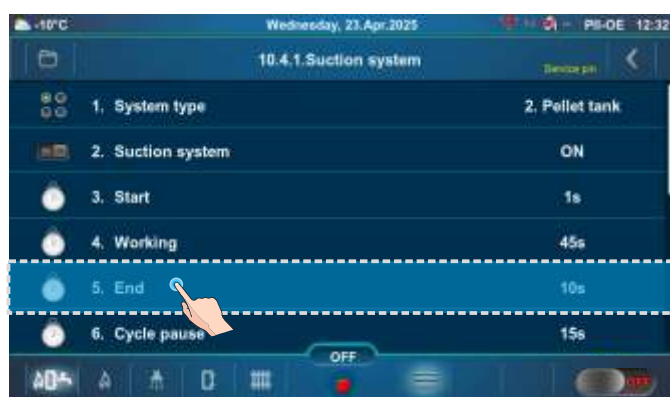


Possible section:

- Factory: **45 sec**
- Minimum: 1 sec
- Maximum: 360 sec

This parameter defines how long will the suction system work turbine together with the „mole,, or „feeder screw,. With this parameter we define how much the turbine tank will be filled. It is necessary to adjust that the turbine tank fills itself maximum together with the time START and END and that the turbine stops working when its tank is filled up. This parameter depends upon the flexible tubes length and the difference in height between the big tank (storage) and the pellet tank beside the boiler.

6.4. END

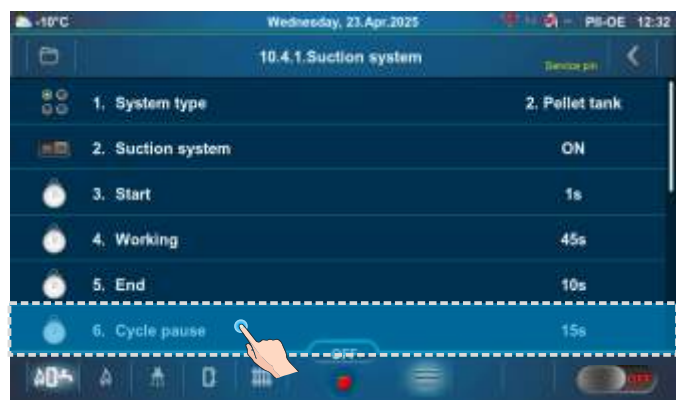


Possible selection:

- Factory: **10 sec**
- Minimum: 1 sec
- Maximum: 60 sec

This parameter defines how long only the turbine in the end of the filling cycle will work to empty the pellets which are remaining in the flexible tubes („Mole,, or „Feeder screw,, are not operating at that time. **When selecting „tank,, the parameter END is set on 1 sec.**

6.5. CYCLE PUSE



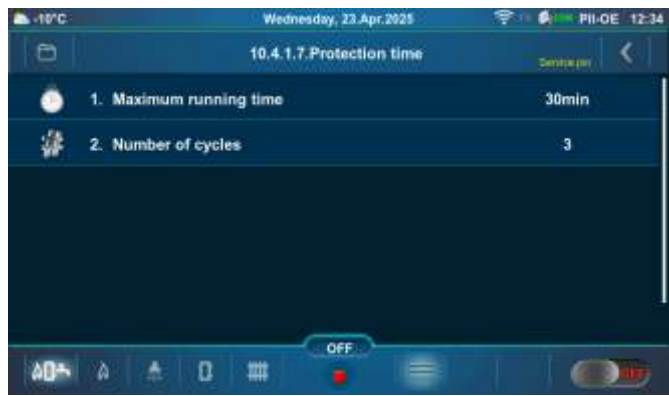
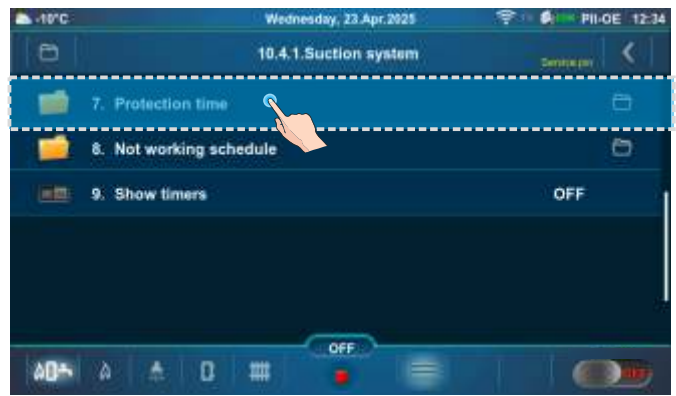
Possible selection:

- Factory: 15 sec
- Minimum: 1 sec
- Maximum: 60 sec

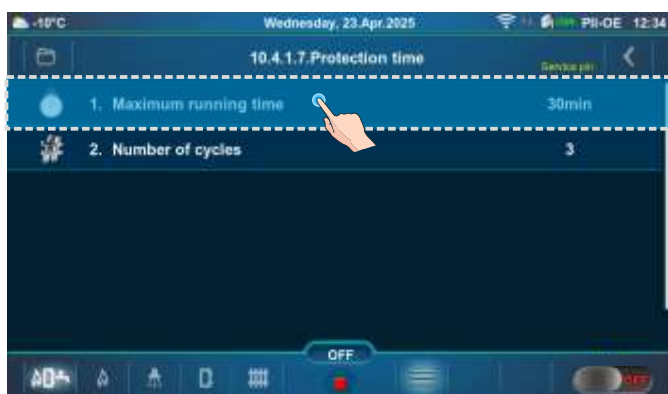
This parameter defines the pause between two cycles of filling. This parameter has to be adjusted to enable a complete discharge of the turbine tank after one filling cycle and before the start of the next cycle. In case the new cycle starts too early there is a possibility that the flap cannot close due to remaining pellets.

6.6. PROTECTION TIME

This parameter defines after how much time the suction system will stop operating if by some reason the tank by here defined conditions is not filled.



6.6.1. MAXIMUM RUNNING TIME

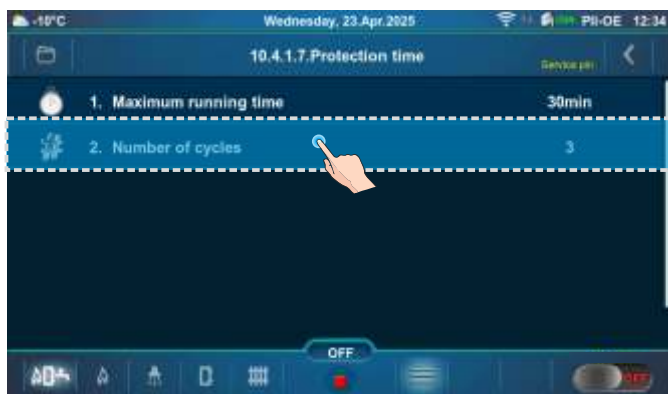


Possible selection:

- Factory: **30 min**
- Minimum: 1 min
- Maximum: 600 min

This parameter defines the max. running time of the filling cycle. If the tank beside the boiler does not fill during this time (the tank is full when the flap due to the full tank is no longer able to close itself) the assumption is that there is an operation problem (the suction system does not have pellets in the big tank or the feeding tube is blocked).

6.6.2. NUMBER OF CYCLES

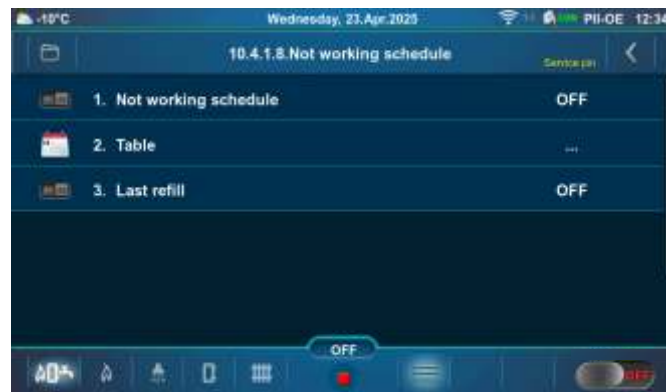
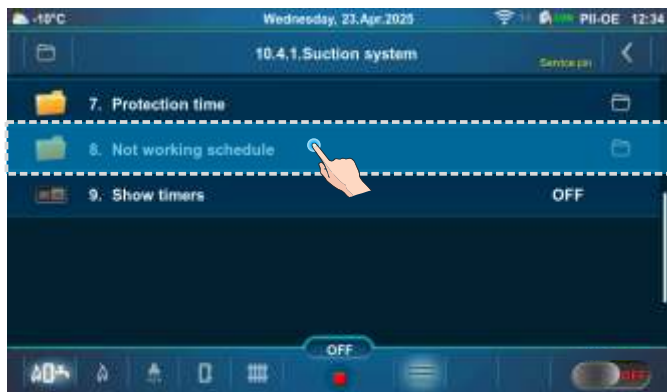


Possible selection:

- Factory: **3**
- Minimum: 1
- Maximum: 20

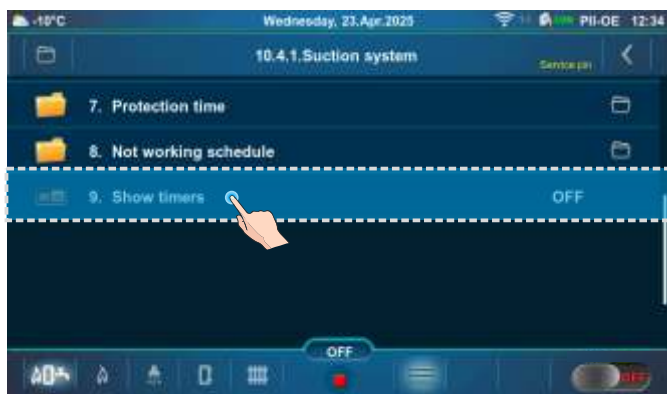
This parameter defines the maximum number of cycles after which the flue level sensor must be covered in the tank beside the boiler. If the flue level sensor in the tank beside the boiler is not covered during the defined number of cycles the assumption is that there is an operation problem (the suction system does not have fuel in the big tank (storage) or the feeding tube is blocked).

6.7. NOT WORKING SCHEDULE



This menu is described in the part 4.2.4. in the previous pages.

6.8. SHOW TIMERS



By switching this option on, the initial screen which is also visible for the end user, has the set times of the suction system operation written out and counted down. For the suction system setting the option "Settings/Commissioning" is used and in case of a faulty operation it is possible to switch on "Show timers".

EKO-CK(B) P / CentroPlus + Cm Pelet-set

Menu Pr08			
Parameter	Name	Factory set	Description
FP37	Suction system configuration	0	0 - suction system is not installed 1 - suction system is installed
FP38	START time (sec)	5	This parameter defines how long will only the suction turbine work before the start of the mole or the feeder screw in the tank in order to empty the flexible tubes from pellets which are remaining inside from the last cycle. When in the pellet feeding system is neither the mole nor the feeder screw (feeding is done from a big tank) the START parameter is set on 1 sec.
FP39	RUNNING time (sec)	45	This parameter defines how long will the suction system work (turbine together with the „mole„ or „feeder screw„). With this parameter we define how much the turbine tank will be filled. It is necessary to adjust that the turbine tank fills itself maximum and that the turbine stops working when its tank is filled up. This parameter depends upon the flexible tubes length and the difference in height between the big tank (storage) and the pellet tank beside the boiler.
FP40	END time (sec)	10	This parameter defines how long only the turbine in the end of the filling cycle will work to empty the pellets which are remaining in the flexible tubes („Mole„ or „Feeder screw„ are not operating at that time). When in the pellet suction system is no mole or feeder screw (the feeding is from a big tank) the parameter END is set on 1 sec.
FP41	CYCLE PAUSE time (sec)	15	This parameter defines the pause between two cycles of filling. This parameter has to be adjusted to enable a complete discharge of the turbine tank after one filling cycle and before the start of the next cycle.
FP42	Maximum RUNNING TIME (min)	30	This parameter defines the max. running time of the filling cycle. If the tank beside the boiler does not fill during this time the assumption is that there is an operationproblem (the suction system does not have pellets in the bigtank or the feeding tube is blocked).
FP43	NUMBER OF CYCLES until the sensor is covered	3	This parameter defines the maximum number of cycles after which the flue level sensor must be covered in the tank beside the boiler.If the flue level sensor in the tank beside the boiler is not covered during the defined number of cycles the assumption is that there is an operation problem (the suction system does not have fuel in the big tank (storage) or the feeding tube is blocked).
FP44	TYPE OF SENSOR	0	This parameter must be always set on 0.

7.0. COMMISSIONING

PROTECTIVE GLOVES ARE OBLIGATORY!



- Mount the suction turbine on the pellet tank lid and mount the lateral side of the pellet tank with the checkup opening (if necessary move the flap sensor on the side of the revision opening).
- In the big tank according to the technical manual mount: or the mole or the box under the CentroPelet-box tank or the feeder screw in the room.
- Connect the flexible tubes on the turbine from the big tank and fasten them with clamps - max. tubes length in one direction is 10 m, maximum height difference is 2,5 to 5 m ($H = 2,5 \text{ m}$ - total length $L_{\text{tot}} = 20 \text{ m}$; $H = 5 \text{ m}$ – total length $L_{\text{tot}} = 15 \text{ m}$) and minimum tube radius is 30 cm.
- Ground the tubes according to the technical manual.
- Check the flap openness and the distance from the sensor according to the technical manual.
- **(PelTec, PelTec-lambda, PelTec II Lambda, Cm Pelet-set_Touch, BioTec Plus)** connect the turbine with the boiler regulation with a UTP cable and the main power (on the Cm Pelet-set_Touch it is necessary to install and connect the CMSR-100 fuel level sensor to the Touch PCB).
- **(Cm Pelet-set)** on the mother board install the additional board **CMPL-485** and with the UTP cable connect with the turbine, install the fuel level sensor **CMSR-100** on the pellet tank and connect it on the electric board bus (connector) inside the turbine.

The menu number may vary depending on the selected configurations.

PelTec / PelTec-lambda

Configuration of the suction system:

- Configure the suction system -> 10. Installation -> PIN -> 10.18. Suction system.
- Select the system type -> 10. Installation -> PIN -> 10.18. Suction system -> 10.18.1 System type.
- By help of the option 10.18.9 Commissioning (Settings) set the times Start, Working, End – if the system has an installed CentroPelet Box tank, set the time Start and End (time for discharging the flexible tubes) on 1 sec. If the system has an installed mole or feeder screw the time Start and End depend upon the length and the position of the flexible tubes and this must be defined in a manner to have this tubes emptied in the end of this mentioned times. The WORKING time also depends upon the length and position of the flexible tubes and is defined according to the replenishment of the turbine tank – the tank must be filled during one cycle (Start + Working + End) (see picture)



- Check the time 10.18.6 – Cycle pause – the turbine must rest as long as needed until the turbine tank is completely empty.
- Set the Not working schedule, i.e. the time when we would like the suction system not to be in operation (due to noise) 10.18.8. Not working schedule -> 10.18.8.2 Table.
- According to the end user's wish switch on the option 10.18.8.3 Last refill – Entering the prohibition time, the suction systems switches on (independent from how much the flue gas sensor is covered) and fills up the tank in order to have the tank full with pellets on the start of the operation prohibition time.
- By manual testing check all installed components -> 5. Operation mode -> 5.6 Suction system -> 5.6.3. Manual test.

PelTec II Lambda

Configuration of the suction system:

- Configure the suction system - > 10. Installation -> PIN -> 10.5. Commissioning -> 10.5.1. Configuring -> 10.5.1.5. Additional equipment -> 10.5.1.6.5. Suction system -> ON
- Select the system type -> 10. Installation -> PIN -> 10.4. Additional equipment -> 10.4.1. Suction system -> 10.4.1.1. Suction system
- By help of the option 10.4.1. Suction system set the times Start, Working, End – if the system has an installed CentroPelet Box tank , set the time Start and End (time for discharging the flexible tubes) on 1 sec. If the system has an installed mole or feeder screw the time Start and End depend upon the length and the position of the flexible tubes and this must be defined in a manner to have this tubes emptied in the end of this mentioned times. The WORKING time also depends upon the length and position of the flexible tubes and is defined according to the replenishment of the turbine tank – the tank must be filled during one cycle (Start + Working + End) (see picture)



- Check the time 10.4.1.6. Cycle pause – the turbine must rest as long as needed until the turbine tank is completely empty.
- Set the Not working schedule, i.e. the time when we would like the suction system not to be in operation (due to noise) 10.4.1.8. Not working schedule -> 10.4.1.8.2. Table.
- According to the end user's wish switch on the option 10.4.1.8.3. Last refill – Entering the prohibition time, the suction systems switches on (independent from how much the flue gas sensor is covered) and fills up the tank in order to have the tank full with pellets on the start of the operation prohibition time.
- By manual testing check all installed components -> 4. Operation -> 4.2. Manual test -> Additional equipment -> Suction system

Cm Pelet-set_Touch

Configuration of the suction system:

- Configure the suction system -> 11. Installation -> PIN -> 10.18. Commissioning -> 11.5.1 Configuration -> 11.5.1.2. Additional equipment -> Suction system
- Select the system type -> 11. Installation -> PIN -> 11.3. Elektrical devices -> 11.3.2. Additional equipment -> 11.3.2. Suction system -> 11.3.2.2.1. System type
- By help of the option 11.3.2.2.9 Commissioning (Settings) set the times Start, Working, End – if the system has an installed CentroPelet Box tank, set the time Start and End (time for discharging the flexible tubes) on 1 sec. If the system has an installed mole or feeder screw the time Start and End depend upon the length and the position of the flexible tubes and this must be defined in a manner to have this tubes emptied in the end of this mentioned times. The WORKING time also depends upon the length and position of the flexible tubes and is defined according to the replenishment of the turbine tank – the tank must be filled during one cycle (Start + Working + End) (see picture).



- Check the time 11.3.2.2.6. Cycle pause – the turbine must rest as long as needed until the turbine tank is completely empty.
- Set the Not working schedule, i.e. the time when we would like the suction system not to be in operation (due to noise) 11.3.2.2.8. Not working schedule -> 11.3.2.2.8.2. Table.
- According to the end user's wish switch on the option 11.3.2.2.8.3. Last refill – Entering the prohibition time, the suction systems switches on (independent from how much the flue gas sensor is covered) and fills up the tank in order to have the tank full with pellets on the start of the operation prohibition time.
- By manual testing check all installed components -> 5. Operation mode -> 5.7. Additional equipment 5.7.2. Suction system -> 5.7.2.3. Manual test.

BioTec Plus

Configuration of the suction system:

- Configure the suction system -> 11. Installation -> PIN -> 11.1.Configuration -> 11.1.1. Configuration -> Suction system
- Select the system type -> 11. Installation -> PIN -> 11.3. Pellets -> 11.3.12. Suction system -> 11.3.12.1 p.System type
- By help of the option 11.3.12.9. Commissioning (Settings) set the times Start, Working, End – if the system has an installed CentroPelet Box tank, set the time Start and End (time for discharging the flexible tubes) on 1 sec. If the system has an installed mole or feeder screw the time Start and End depend upon the length and the position of the flexible tubes and this must be defined in a manner to have this tubes emptied in the end of this mentioned times. The WORKING time also depends upon the length and position of the flexible tubes and is defined according to the replenishment of the turbine tank – the tank must be filled during one cycle (Start + Working + End) (see picture).



- Check the time 11.3.12.6. Cycle pause – the turbine must rest as long as needed until the turbine tank is completely empty.
- Set the Not working schedule, i.e. the time when we would like the suction system not to be in operation (due to noise) 11.3.12.8. Not working schedule -> 11.3.12.8.2. Table.
- According to the end user's wish switch on the option 11.3.12.8.2. Last refill – Entering the prohibition time, the suction systems switches on (independent from how much the flue gas sensor is covered) and fills up the tank in order to have the tank full with pellets on the start of the operation prohibition time.
- By manual testing check all installed components -> 3.Operation mode -> 3.9.Suction system -> 3.9.3. Manual test.

EKO-CK(B) P / CentroPlus + Cm Pelet-set

Configuration suction system :

- Configure the suction system -> Pr08 -> PIN -> FP37 -> 1
- In the menu set the Pr08 time Start (Fp38), Working (FP39), End (FP40) if the system has an installed CentroPelet Box tank, set the time Start and End (time for discharging the flexible tubes) on 1 sec. If the system has an installed mole or feeder screw the time Start and End depend upon the length and the position of the flexible tubes and this must be defined in a manner to have this tubes emptied in the end of this mentioned times.
The WORKING time also depends upon the length and position of the flexible tubes and is defined according to the replenishment of the turbine tank – the tank must be filled during one cycle (Start – Working – End) (see picture). It is possible to follow the timers -> Pr08 -> PIN
exit from the menu by pressing the key On/Off and the mutual pressing of the keys „-„ and „screw„



- Check the time Cycle pause (FP41) – the turbine must rest as long as needed until the turbine tank is completely empty.
- Set the Not working schedule for the turbine, i.e. the time when we would like the suction system not to be in operation (due to noise) Pr10 -> rF02 (on/off prohibition table); Pr10 -> rF03 (table).
- According to the end user's wish switch on the option Last refill Pr10 -> rF04 -> On - Entering the prohibition time, the suction systems switches on (independent from how much the flue gas sensor is covered) and fills up the tank in order to have the tank full with pellets on the start of the operation prohibition time.
- By manual testing check all installed components -> Pr10 -> rF05 – key „+„ = turbine, key „-„ = mole/feeder screw.
- Explain the end user possible settings and the maintenance of the suction system

PelTec / PelTec-lambda

	ERROR	DESCRIPTION
E31	The flap is not closed	Check if the flap is blocked with pellets, if the sensor is soiled with dust, if the sensor is about 1 mm distant from the flap, if the sensor reacts on the flap (the LED lamp is switching on the sensor).
E32	There are no pellets in the big tank/room	Check the pellet level in the big tank/room, check if the flexible tubes are blocked, check if the turbine net is full with dust.
E33	The Mole or Feeder screw does not work	Check the electric connections on the mole/feeder screw, check the filthiness of the mole/feeder screw
E34	Communication error with the CMVAC	Check the UTP cable and its connections with the electric boards.

PelTec II Lambda

E31	ERROR FLAP NOT CLOSED	<p>Boiler status: Boiler works normally. The problem (stoppage) occurs in the operation of the additional equipment for Vacuum supply of pellets (Pellet suction system).</p> <p>Troubleshooting: Check if: the flap is not blocked by pellets, the sensor is not soiled with dust, the sensor is placed at a distance of 1 mm from the flap, and if the LED light on the sensor lights up when it touches the flap.</p>
E32	EMPTY PELLET STORAGE CLOGGED PELLET DELIVERY PIPE	<p>Boiler status: Boiler works normally. The problem (stoppage) occurs in the operation of the additional equipment for Vacuum supply of pellets (Pellet suction system).</p> <p>Troubleshooting: Check the pellet level in the big tank/room, check if the flexible tubes are blocked, check if the turbine net is full of dust, check the equipment for taking pellets from the big tank.</p>
E34	COMMUNICATION ERROR WITH CMVAC	<p>Boiler status: Boiler works normally. The problem occurs in the operation of the additional equipment for Vacuum supply of pellets (Pellet suction system).</p> <p>Troubleshooting: Check the UTP Ethernet cable and its connections to the boiler controller and the suction system.</p>

EKO-CK(B) P / CentroPlus + Cm Pelet-set_Touch

	ERROR	DESCRIPTION
E120	The flap is not closed	Check if the flap is blocked with pellets, if the sensor is soiled with dust, if the sensor is about 1 mm distant from the flap, if the sensor reacts on the flap (the LED lamp is switching on the sensor).
E121	There are no pellets in the big tank/room	Check the pellet level in the big tank/room, check if the flexible tubes are blocked, check if the turbine net is full with dust.
E122	The Mole or Feeder screw does not work	Check the electric connections on the mole/feeder screw, check the filthiness of the mole/feeder screw
E100_8	Communication error with the CMVAC	Check the UTP cable and its connections with the electric boards.

BioTec Plus

	ERROR	DESCRIPTION
Ep40	The flap is not closed	Check if the flap is blocked with pellets, if the sensor is soiled with dust, if the sensor is about 1 mm distant from the flap, if the sensor reacts on the flap (the LED lamp is switching on the sensor).
Ep41	There are no pellets in the big tank/room	Check the pellet level in the big tank/room, check if the flexible tubes are blocked, check if the turbine net is full with dust.
Ep42	The Mole or Feeder screw does not work	Check the electric connections on the mole/feeder screw, check the filthiness of the mole/feeder screw
Ep43	Communication error with the CMVAC	Check the UTP cable and its connections with the electric boards.

EKO-CK(B) P / CentroPlus + Cm Pelet-set

	ERROR	DESCRIPTION
E10	There are no pellets in the tank beside the boiler.	The flue gas sensor in the pellet tank is not covered with pellets. Check if there are pellets in the big tank/room, check if the turbine works, if the turbine net is full with dust, if the flexible tubes are blocked.
E11	The flap is not closed	Check if the flap is blocked with pellets, if the sensor is soiled with dust, if the sensor is about 1 mm distant from the flap, if the sensor reacts on the flap (the LED lamp is switching on on the sensor).
E12	There are no pellets in the big tank/room	– Check the pellet level in the big tank/room, check if the flexible tubes are blocked, check if the turbine net is full with dust.
E13	The Mole or Feeder screw does not work	Check the electric connections on the mole/feeder screw, check the filthiness of the mole/feeder screw
E14	Communication error with the CMVAC	Check the UTP cable and its connections with the electric boards.

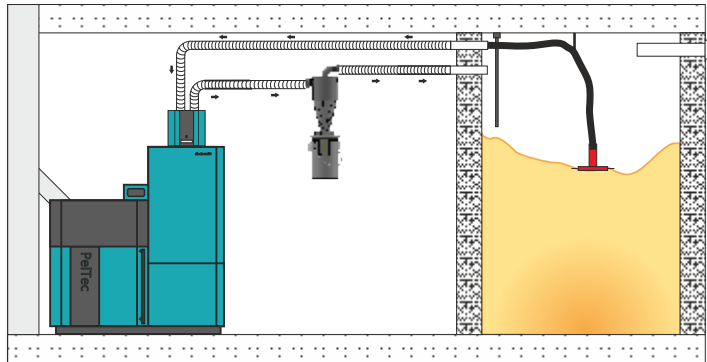
8. RECOMMENDED ADDITIONAL EQUIPMENT

Dust extraction cyclone (Type: CVDOP)

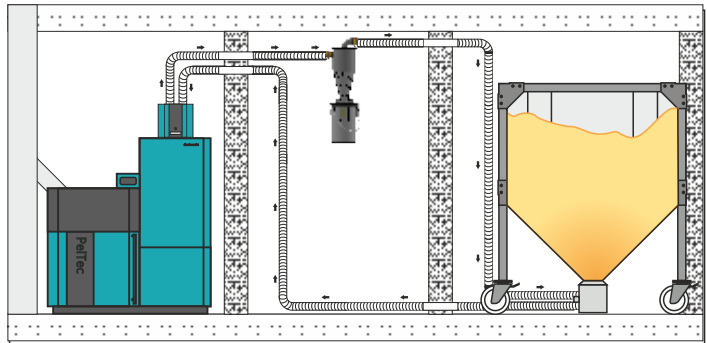
The cyclone is used for dust extraction from pellet suction feeding system in order to prevent dust accumulation in seasonal pellet storage through a longer usage period.

Configuration examples (with additional equipment)

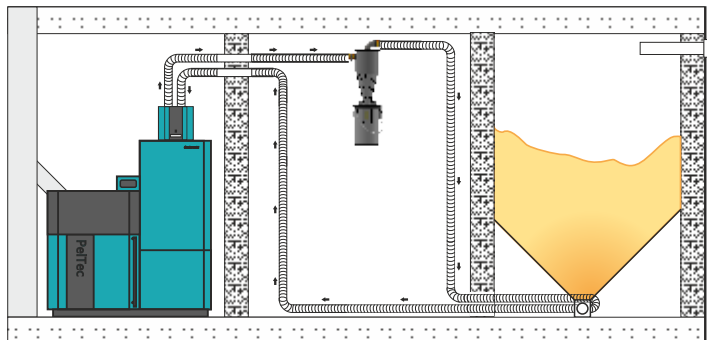
1. CVT + Mole + CVDOP
(Dust extraction cyclone)



2. CVT + CentroPelet Box + CVDOP
(Dust extraction cyclone)



3. CVT + Feeder screw + CVDOP
(Dust extraction cyclone)



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HEATING TECHNIQUE



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