User manual for Ekoheat pellet boiler

Dear Customer

Congratulations on your new Ekoheat pellet boiler from Ekopower.

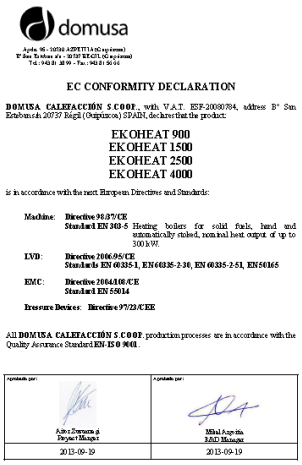
Please read this manual thoroughly *before* starting the installation.

The pellet boiler from Ekopower has been tested by Dansk Teknologisk Institut according to the following norm:

Ekoheat 900 = EN 303-5:1999
Ekoheat 1500 = EN 303-5:1999
Ekoheat 2500 = EN 303-5:1999
Ekoheat 4000 = EN 303-5:2012

All systems are marked AA

A = Efficiency / A = Environment
Ekoheat pellet boilers are CE marked.



domusa

EC CONFORMITY DECLARATION

DOMUSA CALEFACCIÓN S COOP., with V.A.T. ESF-20080784, address B° San Esteban s/n 20737 Razil (Guipúzcoa) SPAIN, declares that the product:

EKOHEAT 900
EKOHEAT 1500
EKOHEAT 2500
EKOHEAT 4000

is in accordance with the next European Directives and Standards:

Machine: **Directive 98/37/CE** **Standard EN 303-5** Heating boilers for solid fuels, hand and automatically stoked, nominal heat output of up to 300 kW.

LVD: **Directive 2006/95/CE** **Standards EN 60335-1, EN 60335-2-36, EN 60335-2-51, EN 50165**

EMC: **Directive 2004/108/CE** **Standard EN 55014**

Pressure Devices: **Directive 97/23/CEE**

All **DOMUSA CALEFACCIÓN S COOP.** production processes are in accordance with the Quality Assurance Standard **EN-ISO 9001**.

Aprobado por:	Aprobado por:
Aitor Zumarraga Project Manager	Mikel Aspiolea R&D Manager
2013-09-19	2013-09-19

Warning

Ekoheat pellet boiler must not be operated by minors.

Top plate as well as front gate, must always be mounted during operation.

Best regards

Dan Elkjær
Managing
director

Mounting of the Ekoheat pellet boiler

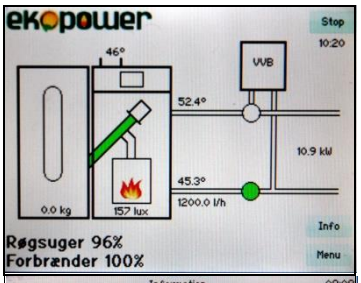
Mounting of the Ekoheat pellet boiler must be done in accordance to firetechnical guidelines, and *must* be mounted by an of Ekopower authorised technical assistant.
It is also recommended by Ekopower to contact the chimney sweeper before mounting is started, and that the pellet boiler is carefully checked for damages occured during transportation.
Do only mount the Ekoheat pellet boiler in an appropriate dry and insulated room with good ventilation. Please ensure that the boiler gets plenty of fresh air due to which it is demanded there is an opening in the boiler room to the outside of at least 20 cm^2.
The floor must not be of combustible material and must be plane, as it is required the boiler is levelled. (The legs must not be adjusted, as these keep the casing)
When putting the boiler in place be careful as the covering of the boiler is ”loose” and is only resting on the bottom plate. It is recommended to demount the burner and the ashpan to minimize the weight. Remember the front gate must be mounted when pushing the boiler in space.
Once the boiler is levelled, connect it to the chimney with the flue gas pipe. Note that the flue gas outlet of the boiler is universal and can be mounted directly on top of or on the back of the boiler. If you choose the back side fit the prepared plate and move the cover plate on the back to the top of the boiler. You then do not have to fit the top plate.
The flue pipe should not be more than 0,5 m long and must always be rising. If the flue pipe extend more than 0,5 meter, or if bendings are mounted, then it must *always* be insulated.
The draught in the chimney must be stable and not below 0,15 mb (15 Pa). If the draught varies more than +/- 0,05 mBar, a draught stabilizer must be mounted. Mounting of a draught stabilizer in the chimney must minimum be 0,5 meter above the flue gas inlet of the boiler.

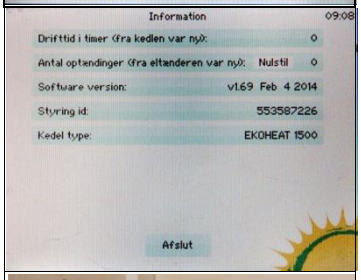
The enclosed retards must not be mounted at initial start-up. They can be mounted if the flue gas temperature extend more than 150° constantly after 14 days. Please note that if retards are mounted all retards must be mounted. Eventually contact Ekopower for more information.
The Ekoheat pellet boiler *must* be mounted with shunt valve so that the return water is maximum 15° lower than the flow temperature. The flow temperature *must* minimum be 60°C.

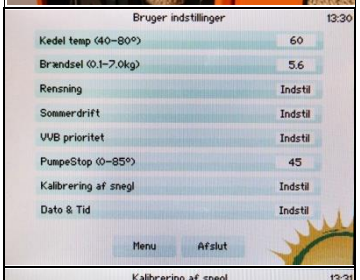
Please note that if the flue pipe and the shunt valve not are correctly mounted the warranty will be null and void.

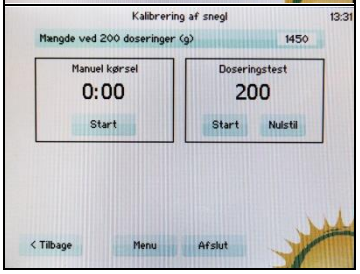
Now place the hopper on the side of the boiler you prefer, and place the cover plate for the auger hole on the opposite side. Do the same for as well the boiler as the hopper.
The whole control board must be demounted by 4 screws and place it carefully on the top of the boiler. Now the auger is carefully “reversed” pushed through the hole from the boiler and into the hopper. The auger is in place when the outlet is over the fall pipe of the boiler. Then mount the control board again and insert the plug from the auger in the control board. Note that there are 2 similar plugs where it says “Ekocompress” on one and “External feeder” on the other. The auger is mounted in “External feeder”.

Initial start-up









Check if there is water on the system and if the system has been ventilated. The power supply for the boiler **MUST** be connected to earth.

Now connect the power and the display will immediately lighten up with the Ekopower logo and after app. 5 sec. a grapich picture will emerge on the screen. Press ”INFO” for a start and check that it is the same type of Ekoheat which is mentioned in the control as just have been installed. (Look for more info under **Fault Finding**, if it is the wrong size).

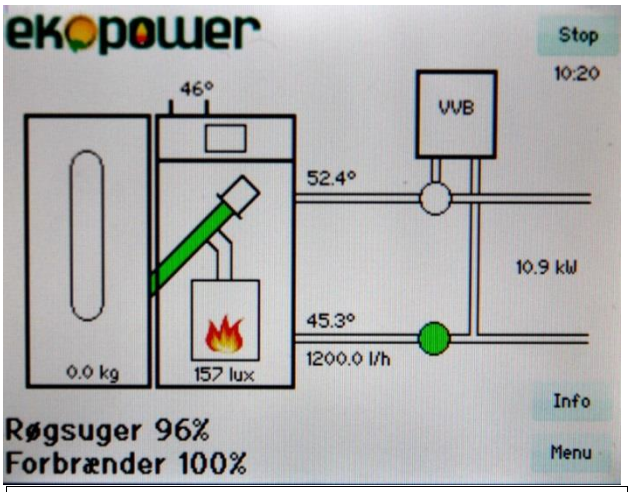
Now adjust the watch and the date. This is done by pressing Menu/user settings/watch and date. Press on the number which you would like to insert and press OK when the number has been inserted.

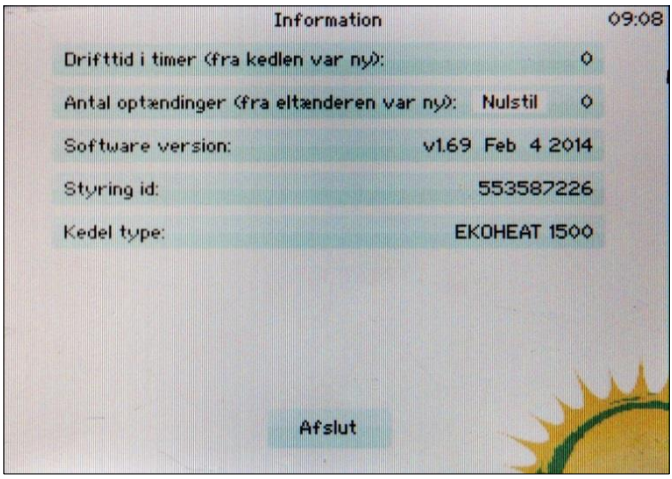
Check the time of moving of the ashplate. Press Menu/user settings/clean now. Choose 1 and wait for 80 seconds. (The burner must be mounted in the boiler while this is done). When the time has elapsed, take out the burner and the bottom plate must then be at the same line as the back plate of the burner. If this is not the case, then correct the time in Menu/serviceman/movement back plate up or down by 1 second at a time.

Calibration of the auger ***must*** be done before start-up of the boiler, as it then will not obtain the ultimate combustion and thus have a lower efficiency. Press Menu/user settings/adjust/calibration auger. Now start with demounting of the flexible tube on the outlet. Then mount a bag on the outlet of the external auger and then press ”Start” under ”Manual operation”. Let the auger run for minimum 15 minutes and then put the wood pellets in the hopper again.
Then mount the bag on the outlet of the auger again and press ”Start” under ”Dosing test”. The control now starts to count down from 200 and has finished when it reaches 0. Then weigh the bag, and the weight of the pellets is inserted under “Amount by 200 dosings” which by standard is 1450 g.
This calibration *must* be repeated again after passing through 200 kg of wood pellets or at the latest when the boiler has been running for 14 days. This must also be done again if the magazine has been emptied, when you change the size of wood pellets or the mark of wood pellets.
Now press “Finish” and mount the flexible tube on the outlet of the auger. Mount the front gate of the boiler again. The boiler is now ready for the initial start-up, then press “Start”.

If the boiler does not start after this, then look for more info under Fault Finding.

The controller



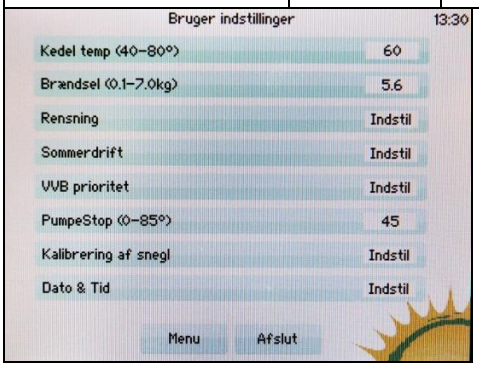


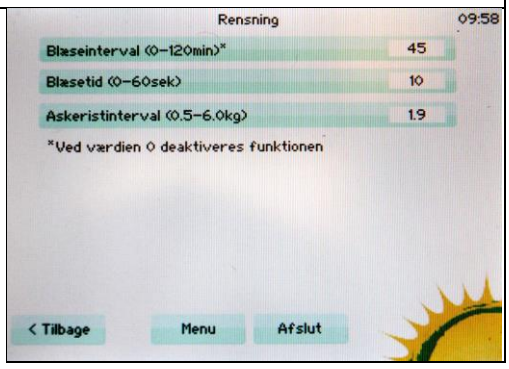
Start: When you press this button, the boiler starts and the text changes to ”Stop”.
Stop: When you press this button, the boiler stops and the text changes to ”Start”.

Info: Here you find information concerning the boiler.

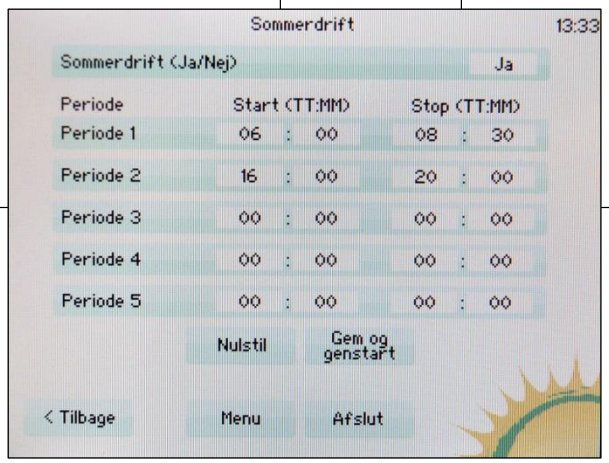
Operation time in hours.
Number of ignitions (reset by changing electrical igniter).
Software version.
Controller id.

Menu / User settings/			
Designation	**Area**	**Standard**	**Description**
Boiler temperature	40˚ – 80˚	60˚	Here you set the wanted boiler temperature. Should not be below 60° and always 10° higher than the set point of the shunt valve.
Fuel	0 > *		Kilogram pellets, which are added per hour, at 100 % combustion. Ekoheat type 900 = 2,2 Ekoheat type 2500 = 5,6
Menu / User settings/Cleaning/Adjust/			
Fan interval	0 - 120	45	Minutes between air cleaning of flue gas ducts in the boiler.
Time for air cleaning	10 - 30	10	Seconds the flue suction runs during air cleaning of flue gas ducts per time.
Ash plate	0>	**	Number of kilogram pellets, which the boiler takes in, between cleanings.

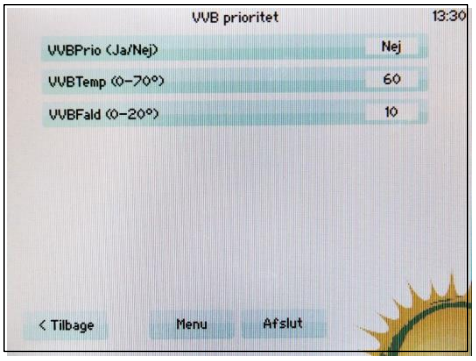




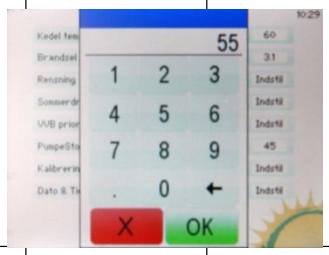
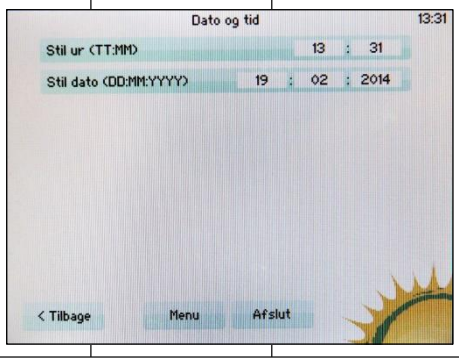
Menu / User settings/Summer operation

Designation	Area	Standard	Description
Summer operation	1 >		Summer operation can optional be set for 1 to 5 periods. Each period must minimum be 1 hour. Hours are typed under TT and minutes under MM. If not all periods are being used, nothing are typed in these. Once the periods have been typed, press “No” and this changes to “Yes”. After this press “Save and restart”.
			If there is a temperature sensor installed in the hot water tank and connected to the controller, you can reset the summer operation in all periods and only run the boiler when hot water is needed. The temperature of this must be set under VVB priority. Summer operation must be activated to do this and this can be checked by the appearance of a sun in the graphics on the front page.

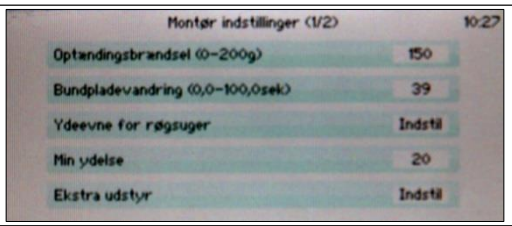
Menu / User settings /VVB Priority

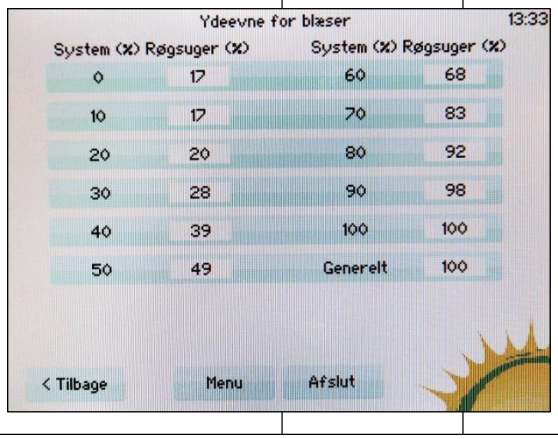
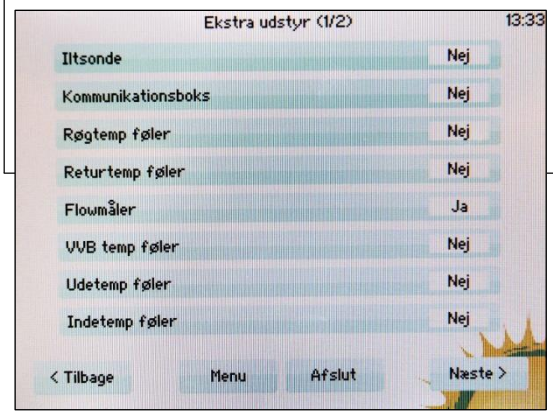
Designation	Area	Standard	Description
VVB Priority			Make the boiler produce hot water (domestic water). To use the function use an Ekopower priority sensor and a 230 V motor powered valve. In the menu you set the wanted hot water temperature, and how much the temperature is allowed to drop before the domestic water need heating again.
			
VVB Priority	Yes/No	No	Change to Yes, if this is connected to the installation.
VVB Temp.	0 - 70˚	60˚	The temperature in the hot water tank.
VVB Drop	0 - 20˚	10˚	Temperature drop in the hot water tank before the boiler makes priorities. We recommend that the temperature drop does not get below 10°.

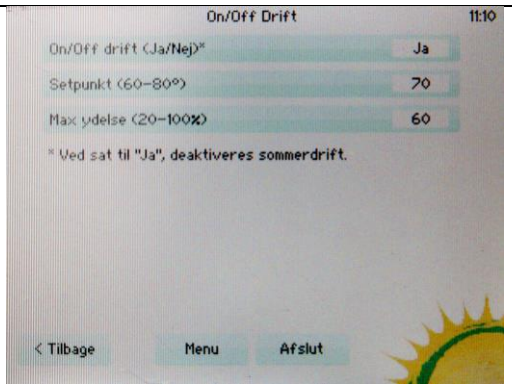
Menu / User settings /

Designation	Area	Standard	Description
Pump stop 	5 – 85˚	45	If the circulation pump is connected to the boiler, this will run when the temperature of the boiler is above set point, and stops when this is below again. Ekopower recommends to set pump stop at 55˚ and the boiler temperature at 65˚by engagement of summer operation. Pump stop must not be set at null.
Calibration of auger			See page 3. 
Date and time 			Adjustment of date and time.

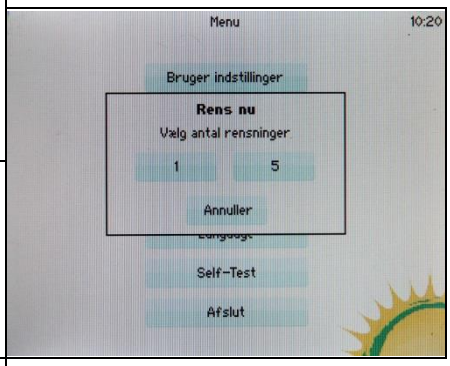
Menu / Fitter settings/

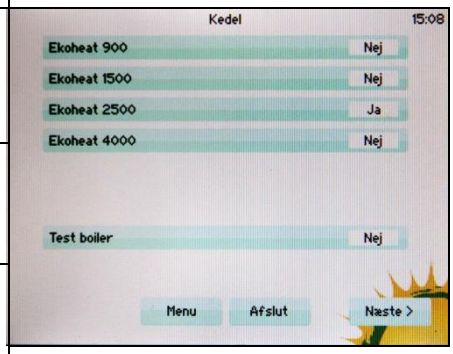


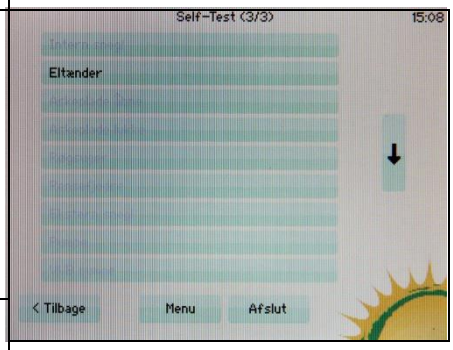
Designation	Area	Standard	Description
Ignition fuel	0 – 200g.	150 – 200g.	How many grams are taken in before starting up. This depends on the type of boiler. If the boiler uses more than 3 – 4 minutes on starting up, the amount can be reduced/increased by 10 gram per time, until the ideal time of ignition has been reached.
Travel of the bottom plate 	0 – 100 sek.	40	This is how many seconds the ash plate moves each way to push out the ash. If it has not activated the micro switch within a preset number of seconds, the boiler goes in alert.
			Do never activate the micro switch manually as this will destroy the thread for the spindle.
Efficiency for flue suction 	0 – 100 %	100 %	Here you can adjust how much air need to be added in proportion to efficiency in percent. You can adjust per 10 %. These numbers have been preset and it is recommended ***not*** to adjust these. We recommend to use the section ”General” to increase / reduce the amount of air. If you reduce the amount to 95 %, then all groups are reduced by 5 % and if you write 105 %, the amount of air is increased by 5 % in general. Notice that changes under general, cannot be seen on the front page of the display.
			Percentage must always be rising.
Optional equipment 			Optional equipment is activated here, e.g. flue gas temperature sensor or the VVB priority sensor. This is done by pressing ”No”, so it changes to ”Yes”. Please note that there are 2 pages with optional equipment and to go to page 2, press ”Next”.

<table>
<tr><td colspan="4">Menu / Fitters settings/Next/On-Off Operation</td></tr>
<tr><td colspan="3">This setting is meant for operation in periods with fluctuating heat consumption or a very low heat consumption and where the hot water tank must be kept warm. This is an alternative to summer operation, where the boiler runs on the time control. By on/off operation the boiler runs on the temperature. If the boiler runs on/off operation it cannot also run summer operation.</td><td> 
</td></tr>
<tr><td>Designation</td><td>Area</td><td>Standard</td><td>Description</td></tr>
<tr><td>On/Off Operation</td><td>Yes-No</td><td>No</td><td>If on/off operation is connected, it is shown on the screen in the start picture.</td></tr>
<tr><td>Set point</td><td>60-80</td><td>70</td><td>How many degrees the boiler temperature rises before the boiler stops and waits for a temperature drop.
The boiler starts again when the boiler temperature is below 45 degrees.</td></tr>
<tr><td>Max efficiency</td><td>20-100</td><td>60</td><td>The boiler can be set down in efficiency here. Then it will run longer before it stops.</td></tr>
<tr><td colspan="4">Menu / Fitters settings/Next</td></tr>
<tr><td>Restore</td><td colspan="3">The boiler will go back to factory settings. This is used to go back to the ordinary settings if you have tried some alternative settings.
<u>Remember that the boiler must be set on the right type and the calibration must be typed in.</u></td></tr>
<tr><td>New software/loading</td><td colspan="3">You need to connect a USB flash drive with the new software for the controller before you press download.
You will get a warning which asks you if you are sure you want to download the software, then press download.
Guidance to downloading of software on page 15</td></tr>
</table>

Menu /	
Designation	**Description**
Correct content of hopper	You can change the number, when you have been adding pellets. The number will get smaller as the pellets are being used. It is a theoretical calculated number which only tells how many kilos there are in the hopper. The boiler is not controlled by this number.
Clean now	Here you can make a manual movement of the ash plate, which means that you push the ash out in the ashpan. You can choose if it supposed to do so 1 or 5 times.
Language	Here you will see different flags as a symbol of which language you want on the boiler.
Menu / Self-Testing	Here you can choose which type of boiler you have. 900-1500- 2500-4000 Test boiler is only for Ekopower authorised technician.
Menu / Self-Testing/ next	On this page you can see if the different sensors are working.
Menu / Self-Testing/ next / next	On this page you can see if the different sensors are working.
Menu / Self-Testing/ next / next / next	On this page you can start the different components manually to see if their function is correct. You start them by pressing on the arrow in the right side and the line which is underlined, will start the component. You stop again by pressing finish.
Menu / Finish	Go back to the first screen picture.

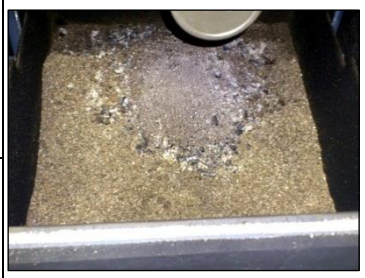


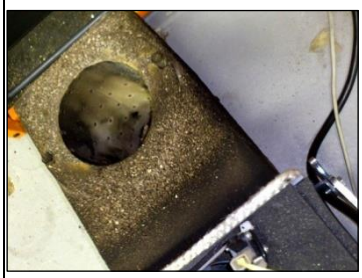




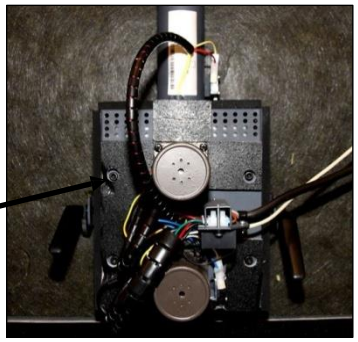
Maintenance and cleaning

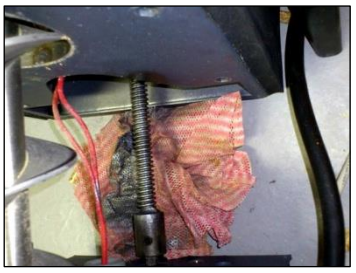
Type	Description
Before cleaning	Turn off the burner on the control (stop) Wait for 15 min. so the burner gets cold before anything is demounted. Take care that wires are not broken or pulled during cleaning.
The hopper	Refill the hopper before it is totally empty. If the auger is not covered with pellets irregularities will occur in the operation, as the burner do not get the right amount of pellets. Wood pellets contain sawdust, and it might pile up by the auger depending on how much dust there is in the pellets. (quality of the pellets). Because of this it is recommended to empty the hopper from time to time. By much dust there is a risk that the amount the auger feeds will change and this might cause operation stop.
Ashpan	The ashpan must be emptied before it is totally full, before the burner cannot get rid of the ash. This can vary from boiler type to boiler type and type of wood pellets. The ash can be used in the garden as compost.
The burner	**According to need** take out the burner by loosening the two handles on each side of the burner. The air vents which are placed in the herd are checked. They must not be blocked. Especially the vents under the inlet of the auger are important, as this is where the hot air comes in from the igniter and ignites the pellets. If they are blocked, you will get a slow or no ignition. The oblong holes on the left side are just as important, as this is where the photo sensor sees if there is fire in the burner tube. If they are blocked the boiler will turn off. You take a steel brush and clean inside the burner tube, until the air vents are clean. If necessary they can easily be cleaned with a Ø 4-5 mm screw or drill. If slag has occured in the burner tube due to impurities in the pellets, it might be necessary to take the burner out to clean it. This is done by demounting of the front plate of the burner and the three bolts on the burner tube, and then it can easily be lifted up. All holes in the burner must be clean to give full passage of air.

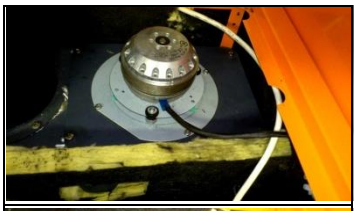




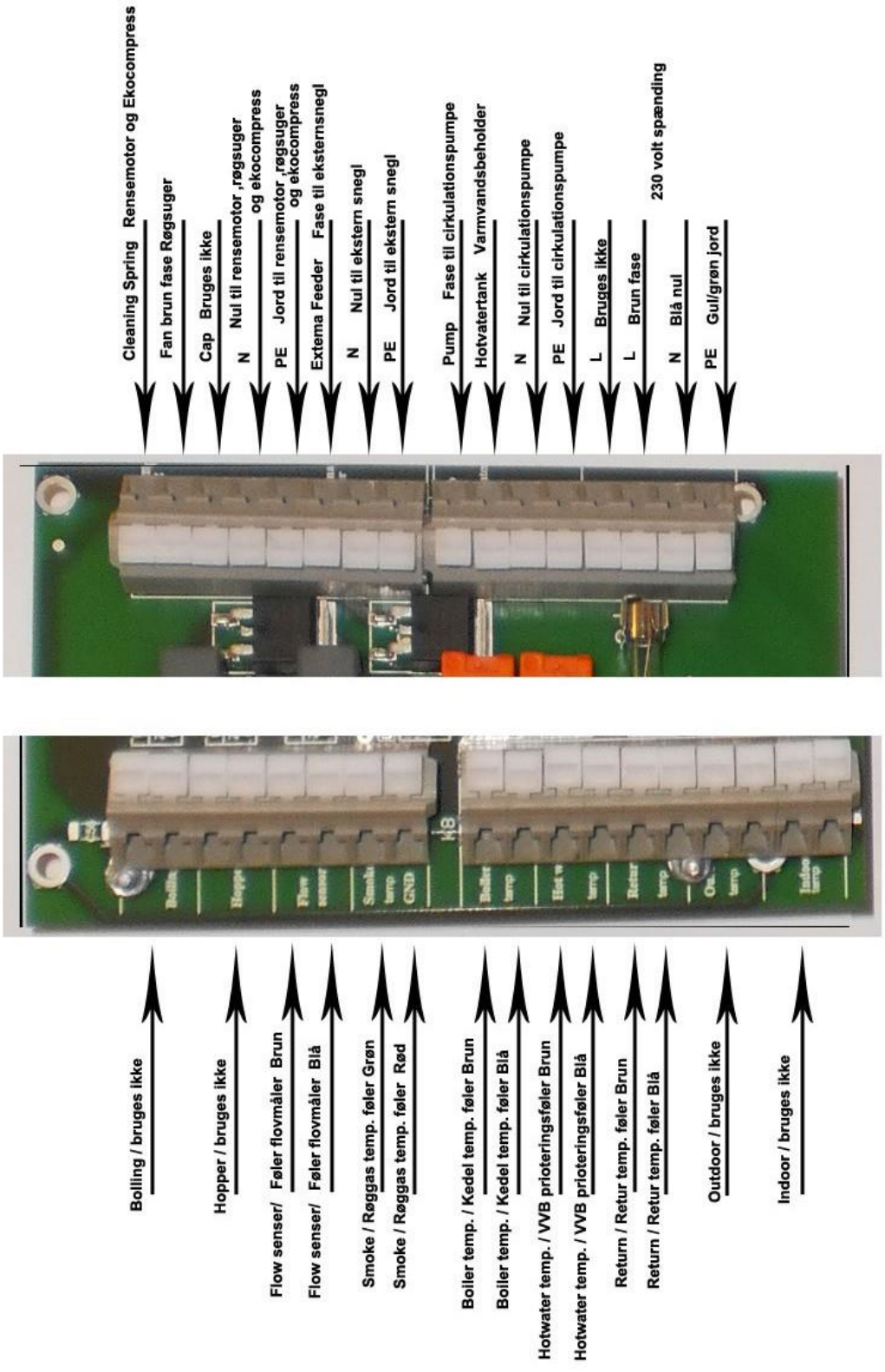
Type	Description
The ash plate	**Once a month** or on demand the spindle for the ash plate must be lubricated with KEMA RG 1100 aluminium paste. Stop the boiler and press menu/clean now/5 then the ash plate will run 5 times and the burner pipe is cleaned for ash. Now unscrew the 4 Allen screws, which are placed opposite the engines in both sides. Now pull the engines 10 centimeters backwards. The spindle which is placed on the lower engine can be lubricated now. When you push back the engines take care that the electrical igniter, which is placed between the auger topmost and the spindle lowest, is placed correctly in the tube. Slag can occur on the ash plate if there are lots of impurities in the pellets. If this is the case demount the yellow and the red wire on the micro switch and the thermic sensor, and the ash plate can be taken out and the slag can be removed.
Photo sensor	**Once a month** check the photo sensor for dirt on the eye. Pull it carefully out of its holder and clean the glass part with a cloth with some cleaning material. The pipe which holds it must be blown clean with a bike pump or very softly with a compressor. Put gently back in place until you hear a small click. If it does not give a click turn the head of the photo sensor so the small projection is turned against the middle of the burner.
Flue box	**Each half year**, check the flue box and the flue ducts. If necessary clean the flue ducts with a cleaning brush and empty the flue box with an ash vacuum cleaner. Turn off the boiler and unplug it, wait until the boiler cools down. Demount the top plate of the boiler. At the back of the boiler the flue sucker is placed with 4 butterfly nuts which are demounted. The flue sucker is demounted and beneath this a loose cover plate is placed which you remove. Now you can do the cleaning.







Electrical chart of the control



Optional equipment

	Type	Description
	Flue temperature sensor	Read the flue temperature in the display. The sensor in placed in the flue box, where there is a hole covered with a Allen bolt. The sensor is mounted in the control with the green wire under Flue temp. and red wire under GND.
	VVB Priority	You must make sure your hot water tank has been ranked before heat is let out in the system. The sensor is mounted in the control under Hotwater and temp. Voltage wire under (Phase) Hot water tank (Null) N
	Return sensor	Measures the temperature of the return water. Sensor is mounted in the control under Return and temp. Put the sensor in a submersive pipe pocket on the return water.
	Draught stabilizer	To be used by too much draught or by fluctuating draught to give a more even draught in the chimney.
	Connection kit	A connection kit is used between the boiler and flow and return flow on the system. It contains Compression overflow tank – safety fittings - Pump A -Class – Connector kit- Shunt valve – Filler neck- Submersive pipe pocket for return sensor and various fittings.
	Flue intermediate	Flue intermediate from boiler pipe to 130 or 150 mm chimney pipe.
	Ekocompress	Minimize the maintenance. This system compresses the ash in a closed ash box after it automatically has been removed from the pellet burner in the boiler.
	Ekosupply	The Ekosupply system can convey the pellets over a distance of up to 25 meters from the small hopper, depending on the slope of the pipes. See more on www.ekopower.eu

Fault finding

Type of Alert	Possible cause	Possible solution
Hot shaft /burner disconnected	The contact on the side of the burner pipe does not connect because the burner is not mounted correctly.	To activate the contact take out the burner and put it straight in.
	Slag in the burner head.	Clean the burner.
	Failing draught in the chimney.	Elevate the chimney. Insert casing in the chimney so the internal diameter is 130 - 150 mm Insulate the flue pipe. Increase the flue gas temperature by removing retards in the flue gas ducts.
	Wire wrongly mounted on micro switch.	There are three pins on the micro switch. The first one pointing towards yourself must be mounted with the red wire. The one in the middle is for the yellow wire. The last one against the boiler is not being used.
	Bad connections.	Check all wires are mounted in terminal blocks.
	Thermal fuse defect.	Change thermal fuse.
	Micro switch defect.	Change micro switch.
Ignition error	The amount of pellets for ignition is too small or too big.	The calibration might be incorrect. The boiler must be calibrated. If this does not help, adjust the amount of pellets for ignition by 10 gram per time either up or down.
	Electrical igniter defect.	Change electrical igniter.
	No air flow from the electrical igniter to the burner pipe.	Clean holes in the herd. If you look down into the pipe where the igniter is placed, there must be 3 holes open for air flow.
Earth leakage circuit breaker cuts off when the boiler is started.	The electrical igniter might be defect and short-circuits occurs.	Change the electrical igniter.
	Leakage in a component.	Notice when the earth leakage circuit breaker turns off, change the component.
	Wire exposed.	Check the wires. Insulate them if possible or change them.
No power for the controller.	Fuse in the controller defect due to overvoltage by lightning stroke etc.	Change the fuse.
	The primer fuse is disconnected.	Activate the red button placed at the lower edge of the control below the black cover. Notice that the boiler temperature must be below 56° before this can be activated.

Trouble shooting

Type of alert	Possible cause	Possible solution
Alert burnt out	Pellet supply not adjusted.	Weigh the pellets. See page 3.
	The photo sensor is sooty/ dirty.	Clean the photo sensor. If necessary change it. Min. 100 lux is necessary on the display when the boiler is in full operation.
	Minimum is set too low.	Increase it to 25-30.
	The software version is old.	Change to the newest software. See page 15. Download on www.ekopower.eu
Alert ash plate	Micro switch dirty or defect.	Check the micro switch manually to check if it clicks. Blow it clean or change to a new one if necessary.
	Big accumulation of slag on the ash plate.	Clean the ash plate for slag.
	The screw stick is not greased with aluminium paste or the screw block is worn out.	Grease the screw stick with aluminium paste. Change the screw block.
Red alert is flashing	A sensor is connected to the controller, but not physically.	In the menu/fitters settings/optional equipment you will find the sensor which is connected with Yes. Press it and it will say No. If necessary unplug the power by the socket and turn it on.
The boiler fumes	Too many pellets or too little air.	Adjust the amount of pellets and air.
	The draught in the chimney is too small.	Check if flue gas ducts are clean or the chimney gets false air by leaks. Insulate the flue pipe to increase the flue gas temperature. Evt. elevate the chimney or decrease the internal diameter.

Software update

USB Flash drive

1. Buy a new USB flash drive. (Alternatively a used one can be used as long all data are deleted before use).
2. Open the enclosed ZIP file. (Do NOT COPY the ZIP file).
3. First copy the file ”DTX9003.uc3 ”to the USB flash drive and then copy the file ”license.key”.

Installation

1. Demount the controller by unscrewing 6 screws. 2 pcs. vertical upwards, 2. pcs. vertical downwards and the last 2 pcs. under the control panel in each side. (On newer boilers the rubber plug on the back side of the controller box is demounted and the USB flash drive can be inserted in the USB port.)
2. Then carefully lift out the controller.
3. The USB flash drive is inserted in the USB port app. on the middle of the printed circuit board.
4. Now press ”MENU” in the display.
5. Then press ”FITTERS SETTINGS” and next.
6. Then press ”DOWNLOAD” by ”NEW SOFTWARE”
7. The screen will now turn black for 15 – 20 seconds.
8. Then the EKOPOWER logo will turn up and it will count down from 5.
9. Demount the USB flash drive.
10. Mount the controller again.

NOTICE: The controller might have restored ALL settings and ALL settings might be set for EKOHEAT 900. (Remember to insert the right amount of pellets in ”CALIBRATION”)

If you have another size of boiler, then change it the following way:

1. Press ”MENU” on the display.
2. Press ”SELF TEST”.
3. Press ”NO” at the right size of boiler. This will then change to ”YES”

Now press ”START” in the display.

Technical specifications etc.

Producer: Ekopower ApS, Rømøvænget 163 , DK-5500 Middelfart, DK

Model	**Ekoheat 900**	**Ekoheat 1500**	**Ekoheat 2500**	**Ekoheat 4000**
Efficiency nominal output	92,4 %	95,5%	93,1%	93,1%
Efficiency lowest output	88,3%	91,5%	91,2%	91,2%
Nominal output	9,4 kW	15,0 kW	24,9 kW	42,7 kW
Output area	2,5 - 9,4 kW	3,9 - 15,0 kW	6,1 - 24,9 kW	10,8-42,7 kW
Classification	EN 303-5 Class 3	EN 303-5 Class 3	EN 303-5 Class 3	EN 303-5 Class 5
Max. operation pressure	3 bar	3 bar	3 bar	3 bar
Max. operation temperature	90 °C	90 °C	90 °C	90 °C
Water content	46 liters	55 liters	74 liters	104 liters
Min. chimney draught	0,1 mBar	0,1 mBar	0,1 mBar	0,1 mBar
Electrical connection	230V, 60Hz, 1,5A 340 Watt	230V, 60Hz, 1,5A 340 Watt	230V, 60Hz, 1,5A 340 Watt	230V, 60Hz, 1,5A 340 Watt
Fuel	Wood pellets Ø 6-8 mm (Max. lenght 35	Wood pellets Ø 6-8 mm (Max. lenght 35 mm)	Wood pellets Ø 6-8 mm (Max. lenght 35 mm)	Wood pellets Ø 6-8 mm (Max. lenght 35 mm)
Fuel water content	Max 7%	Max 7%	Max 7%	Max 7%
Min. Return temperature	Outlet -15 °C	Outlet-15 °C	Outlet -15 °C	Outlet -15 °C
Operation thermostate area	40-80 °C	40-80 °C	40-80 °C	40-80 °C
Pressure loss	5 mBar	7 mBar	11 mBar	33 mBar
Flue pipe dimension	Ø 133 mm	Ø 133 mm	Ø 155 mm	Ø 155 mm
Height	1115 mm	1115 mm	1240 mm	1270 mm
Width	485 mm	540 mm	640 mm	640 mm
Depth	560 mm	560 mm	620 mm	800 mm
Pipe connection	3/4”	3/4”	1 1/4”	1 1/4”

Warranty Ekopower ApS.

Ekopower ApS provides warranty on all products according to the Sale of Goods Act.

Ekopower ApS provides **3 years of warranty** on all products under the following assumptions and exceptions.

1. Complaints

A. The warranty given by Ekopower ApS, does not deprive the consumer access to do any liability, after the law, applicable to the dealer, who has supplied the product to the consumer.

B. To uptain the extendend warranty given by Ekopower, the consumer must always contact Ekopower directly on phone: +45 63407050 or at post@ekopower.dk. Outside the normal opening hours of Ekopower, this is done by sending an e-mail to service@ekopower.dk

2. What is covered under the warranty?

A. The warranty is only valid for the products delivered by Ekopower.

B. **The warranty covers the following from the date of installation:**
   I. Costs for changing and repair the first 12 months.
   II. Spare parts for 3 years. Except from this are the electrical igniter, photo sensor and the burner pipe.
   III. Warranty of corrosion for 5 years, if correct shunt valve is mounted.

C. Only service staff from Ekopower can decide if it is a matter of complaint under the warranty.

D. Ekopower reserve the right to send an external service company. This can only be done by Ekopower. The installer / dealer, who have no written agreement from Ekopower, will not get any work of warranty covered on products from Ekopower.

E. Costs for demounting/mounting of household goods or similar will be invoiced directly to the customer, if this is necessary for repairing the complaint on the product from Ekopower.

3. Warranty conditions

A. It is a condition for the warranty that the warranty certificate is filled in and registered at Ekopower no later than 14 days after the installation.

B. The consumer must check the product immediately upon receipt. Ekopower must be notified on any damages or defects as soon as possible, and within 8 days.

X. The product must be properly installed, that means according to current standards at the time of installation and the included user manual.

4. Where is the warranty valid?

A. The warranty is only valid in Denmark, except from the Faroe Islands & Greenland.

5. Damages caused by the product

A. Ekopower ApS is responsible for damages caused by the product according to the Product Liability.

B. Damages due to leaking water is not covered.

Best regards

Dan Elkjær

Director

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EK OHEAT 900
EK OHEAT 1500
EK OHEAT 2500
EK OHEAT 4000

is in accordance with the next European Directives and Standards:

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Pressure Devices: Directive 97/23/CEE

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Aprobado por:	Aprobado por:
Aitor Zumeta Project Manager	Mikel Argoitia R&D Manager
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ekopower.eu

ilac-MRA DANAK
TEST Reg.nr. 300

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Teknologiparken
Kongsvang Allé 29

TEST Reg.nr. 300

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PRØVNINGSATTEST

Uddrag af rapport nr. 300-ELAB-1516

Emne: Centralvarmekedel

Fabrikat: Ekopower ApS

Model: EkoHeat 1500

Rekvirent: Ekopower ApS, Rømervænget 163, DK-5500 Middelfart

Procedure:

X	Prøvning efter EN 303-5 med krav i henhold til klasse 3

PRØVNINGSRESULTATER

Fyringsprincip: Automatisk **Brændsel:** Biomasse

Prøvning er foretaget med træpiller, og følgende resultater blev opnået:

Nominel ydelse:	15,0	kW			
CO ved 10% O2:	79	mg/m_n^3	(maks.	3000	mg/m_n^3)
OGC ved 10% O2:	<6	mg/m_n^3	(maks.	150	mg/m_n^3)
Støv ved 10% O2:	17	mg/m_n^3	(maks.	150	mg/m_n^3)
Virkningsgrad:	95,5	%	(min.	74	% iht. BR)
Laveste ydelse:	3,9	kW			
CO ved 10% O2:	145	mg/m_n^3	(maks.	3000	mg/m_n^3)
OGC ved 10% O2:	<6	mg/m_n^3	(maks.	150	mg/m_n^3)
Virkningsgrad:	91,5	%			

Bemærk venligst, at de oplyste værdier er et uddrag af prøvningsrapporten. For yderligere oplysninger henvises til prøvningsrapporten, se nummer ovenfor.

Århus, den 31. maj 2011 Anette S. Brønnum Civilingeniør	Skorstensfejerpåtegning

På baggrund af ovennævnte partikelemission attesteres det hermed, at fyringsanlægget opfylder emissionskravene i bilag 1 til Bekendtgørelse nr. 1432 af 11/12/2007 vedr. regulering af luftforurening fra brændeovne og brændekedler samt visse andre faste anlæg til energiproduktion.

TEST Reg.nr. 300

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Info@teknologisk.dk

PRØVNINGSATTEST

Uddrag af rapport nr. 300-ELAB-1560

Emne: Centralvarmekedel

Fabrikat: Ekopower ApS

Model: EkoHeat 2500

Rekvirent: Ekopower ApS, Rømervænget 163, DK-5500 Middelfart

Procedure:

X	Prøvning efter EN 303-5 med krav i henhold til klasse 3

PRØVNINGSRESULTATER

Fyringsprincip: Automatisk **Brændsel:** Biomasse

Prøvning er foretaget med træpiller, og følgende resultater blev opnået:

Nominel ydelse:	24,9	kW			
CO ved 10% O2:	140	mg/m_n^3	(maks.	3000	mg/m_n^3)
OGC ved 10% O2:	6	mg/m_n^3	(maks.	150	mg/m_n^3)
Støv ved 10% O2:	18	mg/m_n^3	(maks.	150	mg/m_n^3)
Virkningsgrad:	93,1	%	(min.	74	% iht. BR)
Laveste ydelse:	6,1	kW			
CO ved 10% O2:	83	mg/m_n^3	(maks.	3000	mg/m_n^3)
OGC ved 10% O2:	6	mg/m_n^3	(maks.	150	mg/m_n^3)
Virkningsgrad:	91,2	%			

Bemærk venligst, at de oplyste værdier er et uddrag af prøvningsrapporten. For yderligere oplysninger henvises til prøvningsrapporten, se nummer ovenfor.

Århus, den 30. september 2011 Anette S. Brønnum Civilingeniør	Skorstensfejerpåtegning

På baggrund af ovennævnte partikelemission attesteres det hermed, at fyringsanlægget opfylder emissionskravene i bilag 1 til Bekendtgørelse nr. 1432 af 11/12/2007 vedr. regulering af luftforurening fra brændeovne og brændekedler samt visse andre faste anlæg til energiproduktion.

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TEST CERTIFICATE

Extract of report no. 300-ELAB-1673

Product: Central heating boiler

Manufacturer: Ekopower ApS

Model: EkoHeat 4000 / BioClass 42

Requested by: Ekopower ApS, Rømervænget 163, DK-5500 Middelfart

Procedure:

X	Test according to EN 303-5:2012 with requirements according to class 5

TEST RESULTS

Combustion principle: Automatic **Fuel:** Biomass

Testing is carried out with C1 wood pellets, and the following results were achieved:

Nominal output:	42.7	kW			
CO at 10% O2:	309	mg/m_n^3	(max.	3000	mg/m_n^3)
OGC at 10% O2:	6	mg/m_n^3	(max.	150	mg/m_n^3)
Dust at 10% O2:	40	mg/m_n^3	(max.	150	mg/m_n^3)
Efficiency:	93.1	%			
Lowest output:	11.8	kW			
CO at 10% O2:	149	mg/m_n^3	(max.	3000	mg/m_n^3)
OGC at 10% O2:	<6	mg/m_n^3	(max.	150	mg/m_n^3)
Efficiency:	91.3	%			

Please note that the stated values constitute an extract of the test report. For further information, please refer to the test report, see number above.

Aarhus, 21 June 2013 Anette S. Brønnum M.Sc.	Chimney sweeper's signature

On the basis of the above-mentioned particle emissions it is hereby certified that the heating boiler unit complies with the emission requirements of appendix 1 for Declaration No. 1432 of 11 December 2007 regarding regulation of air contamination from stoves and boilers and some other fixed installations for energy production purposes.

We do hope that you have got a good profit from this manual. Should you have further questions please do not hesitate to contact us at post@ekopower.dk