Instructions for use
Pellet burner Janfire NH with External screw

This instruction refers to*Janfire NO H*and *NH MODY*

12399002 R8 SV

The content of this publication can be changed at any time without prior notice as a result of ongoing developments in methodology, construction and manufacturing.

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1 Safety regulations

1.1 General

The safety regulations are based on a risk analysis that has been carried out according to the provisions of the relevant EU directives in order to meet the European standards for CE marking.

In practice, the pellet burner does not pose any risks during operation.

Read the safety regulations before performing maintenance on the burner. Always follow the safety regulations when disassembling the unit for maintenance work. Follow the safety information on the warning signs!

Installation, service and other handling may only be carried out by trained and authorized personnel and in accordance with applicable standards.

ATTENTION!**When stopping the burner, always follow the instructions in section 4.10.**
Use the "ON/OFF" button to stop only in an emergency,and let the burner remain in the pan until the burner cup has cooled. This is to avoid personal injury and overheating of the burner

ATTENTION!**Always follow this instruction when maintaining the burner.**

ATTENTION!**For personal and functional safety reasons: Use only spare parts manufactured or approved by Janfire AB**

1.2 Conventions

This instruction uses the following conventions:

- DANGER!

The text DANGER! used when there is a risk of personal injury or death.

- WARNING!

The text WARNING! used when there is a risk of damage to the product, the equipment, the control panel, etc

- CAUTION!

The text CAUTION! used when there is a risk of system errors, service interruptions, disturbances, etc

The warning texts above are used in hierarchical order. The text DANGER! also includes the possibility that events denoted by WARNING! or CAUTION! occurs.

1.3 Safety regulations for Installation and Service

All electrical installation and service must be performed by qualified personnel and in accordance with applicable standards and regulations.

All plumbing installation and service must be performed by qualified personnel and in accordance with applicable standards and regulations.

All sweeping must be carried out by authorized personnel and in accordance with applicable standards and regulations.

1.4 Security system

The following safety systems are available for Janfire NH pellet burners:

- Fall chute
  The rear fire protection consists of a fall shaft.

- Temperature sensor in the drop shaft measures the temperature in the drop shaft and if it exceeds 70°, the power is reduced until the temperature drops below 70°C. The temperature sensor in the drop shaft stops the burner if the temperature, despite the reduction, reaches 100°C in the drop shaft.

- Feed hose in special plastic.
  The hose between the external screw and the burner is made of special plastic so that it will melt (not burn) at high ambient temperature and break the connection between the pellet filling and the burner.

- Thermal contact in the upper part of the drop shaft cuts power to the burner if the temperature there exceeds 70°C. Manual reset by cutting power to the burner, waiting for the burner to cool down and powering up the burner again.

- Safety switch
  The burner is equipped with a safety switch to prevent operation of the burner outside the boiler.

- Sensor on the combustion fan that stops the burner if the fan does not work.

ATTENTION!Janfire NH pellet burners must have free space in accordance with BBR-94 and local regulations (Building Board).

1.5 CE declaration

If the devices are used in combinations other than those for which they have been tested, Janfire AB cannot guarantee compliance with EU directives.

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3 Technical data

Janfire NH	
Operating power	From 3kW to a maximum of 23 kW
Emission class	4
Maintenance effect	600W
Burner	80 W, 230 V AC, 50 Hz
Standby consumption	5W
Electric coil	1100W
Container volume	Internal storage approx. 3 liters = 1.8 kg
Internal dosing motor	
Combustion fan	Tacho-controlled rev monitoring
Self-cleaning combustion part	Patented movable bottom in the burner
Control panel	With touch buttons and illuminated display
Fuses	6A automatic fuse 6A super fast fuse for electric coil
External screw	Single phase 230 V AC, 50 Hz, 250 W, 2.4 A, Capacitor 14 µF For screw lengths longer than 4.30 m, a 3-phase motor should be used.
Weight	25 kg

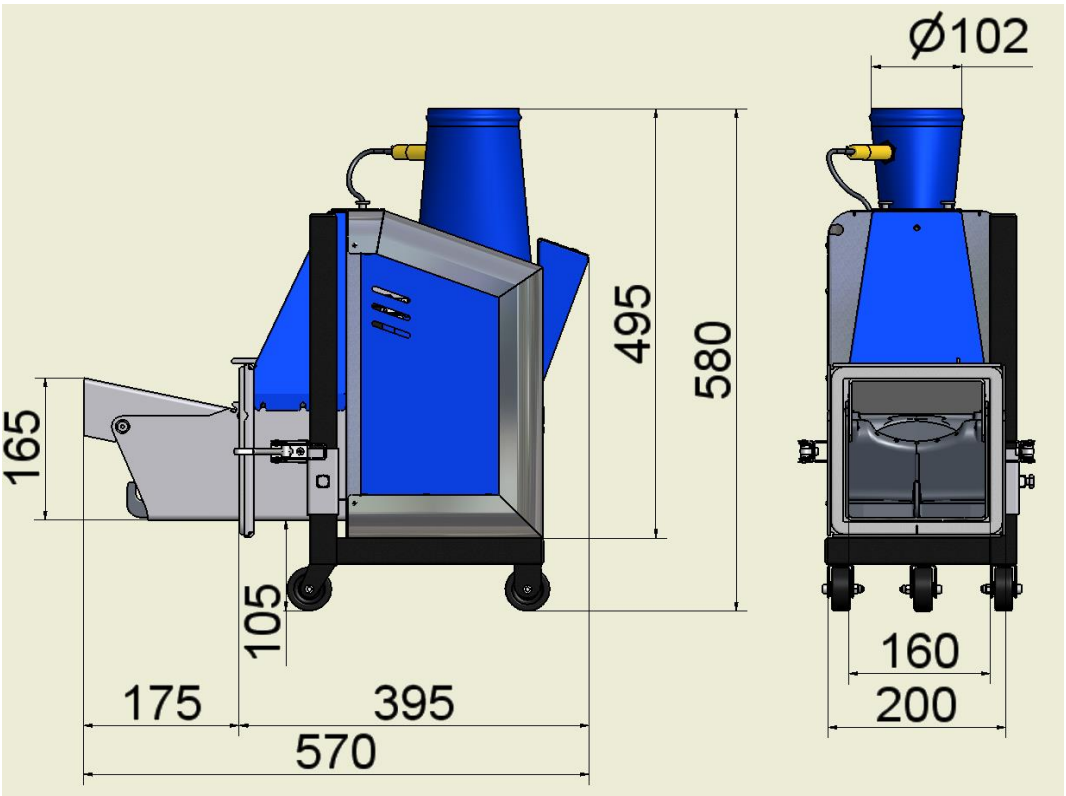


Figure 1 Dimensional sketch Pellet burner Janfire NH

4 Functional description

4.1 General functional description

Pellets are fed with an external screw from an external store to a receiving part in the burner. Pellets are then fed with a dosing screw to a downpipe where it falls freely into the combustion part, this to eliminate the risk of backfire.

A fan supplies the burner with primary and secondary air. On its way to the burner cup, the air cools heat-exposed parts of the burner. The air is then distributed in the burner cup so that the right amount goes to primary and secondary combustion. Ignition takes place automatically with air that is preheated by an electric coil. The built-in temperature sensor (flame monitor) detects when the ignition has taken place. Should the ignition fail, the burner cup is automatically cleaned and the burner makes a new start attempt. If ignition does not occur, the burner is stopped.
Should the draft in the boiler become too small so that hot gases are pushed up into the downpipe, the temperature there will rise. This is registered using a temperature sensor and the burner tries to compensate for this by reducing (lowering) the power to a lower level where the draft is again sufficient and the risk of backfire is eliminated. When this occurs, the color of the control lamp changes to yellow to indicate that the burner has been put into emergency mode and the display shows "bad draft".
If the temperature drops to normal levels, the burner will return to normal operation but the pilot light will remain amber to indicate that a draft problem has occurred.

If, despite everything, the temperature rises to the maximum permitted level, the burner is switched off, the control lamp changes color to red and the display shows an error indication: "overheated".

Thermal contact in the upper part of the drop shaft cuts power to the burner if the temperature there exceeds 70°C. Manual reset by cutting power to the burner, waiting for the burner to cool down and powering up the burner again.
The output is determined by the selected output level between 6 and 15 kW (factory settings - min and max level can be changed by the installer) with 1 kW steps and is regulated using the boiler's operating thermostat. In addition to that, there is maintenance power of approx. 600 W, which is automatically activated depending on the thermostat's switch-off time. These power values apply to a pellet weight of 675 g/liter and an energy content of 4.8 kWh/kg.

To compensate for deviations in power and combustion values when using pellets with a different volumetric weight or energy content, the value is changed to the volumetric weight and energy content of the respective pellets.
Fine tuning for best combustion can be done by the installer.

With the help of a separate water temperature sensor (Pt100 accessory), the output can be regulated automatically (modulating) between predetermined levels for "lowest" and "highest" output (normally 6-15 kW) to maintain a determined boiler temperature. Connection for this transmitter is only available at Moody. If you opt out of this function or if no temperature sensor is connected, then a selectable fixed power level is used which is regulated by the boiler thermostat.

Good pellet quality provides high reliability and efficiency. Good pellet quality means solid wood pellets 6–10 mm with little shavings and dust. The moisture content must be no more than 12 percent, the ash content no more than 1 percent by weight and the energy content must be between 4.7 and 5.0 kWh/kg. Make sure that the supplier declares the contents of the pellets delivered.

A patented moving bottom in the burner scrapes off and feeds slag and impurities into the boiler. The burner is automatically cleaned when the boiler thermostat switches on or after a predetermined pellet consumption (18 kg).

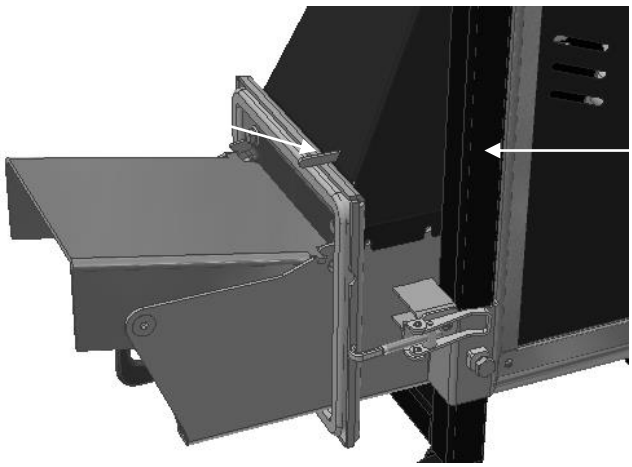


Figure 2 Safety switch

The movable grate is pulled in and out. In this way, the burner cup is cleaned (scraped clean) before each new start or after a predetermined number of doses.

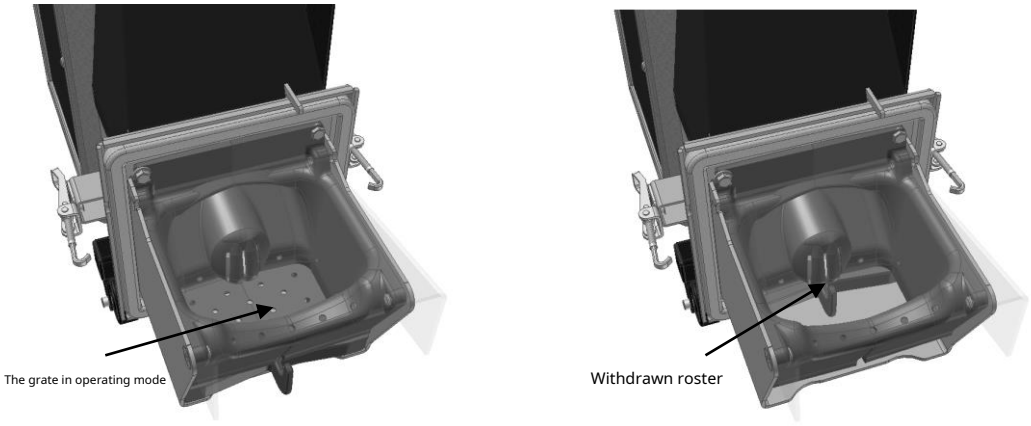


Figure 3 Movable Roster

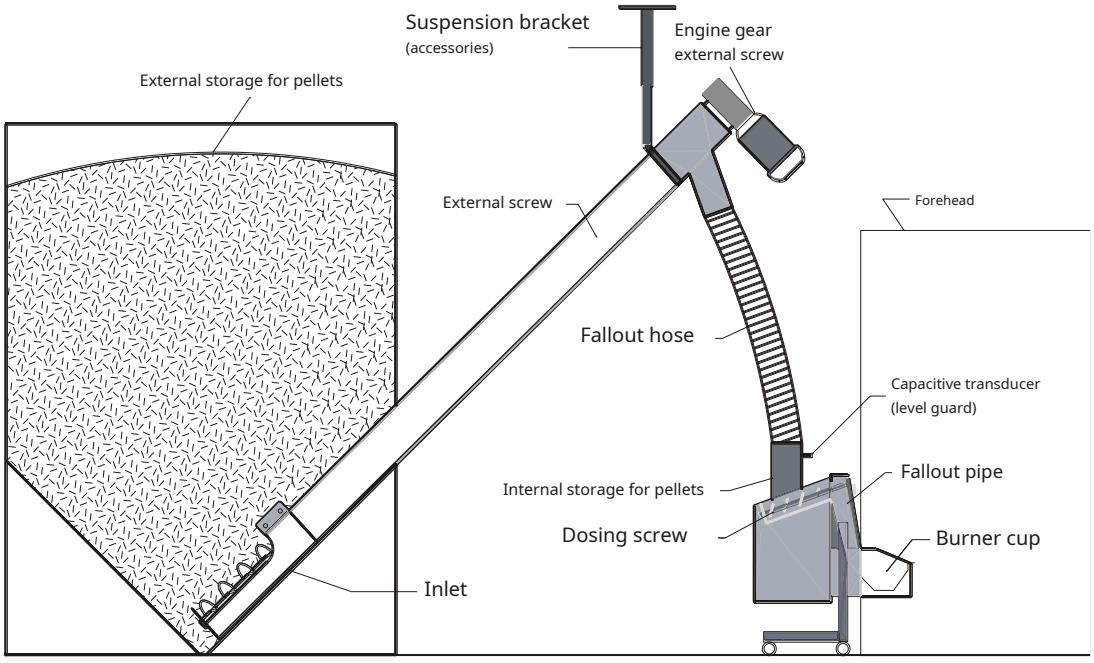
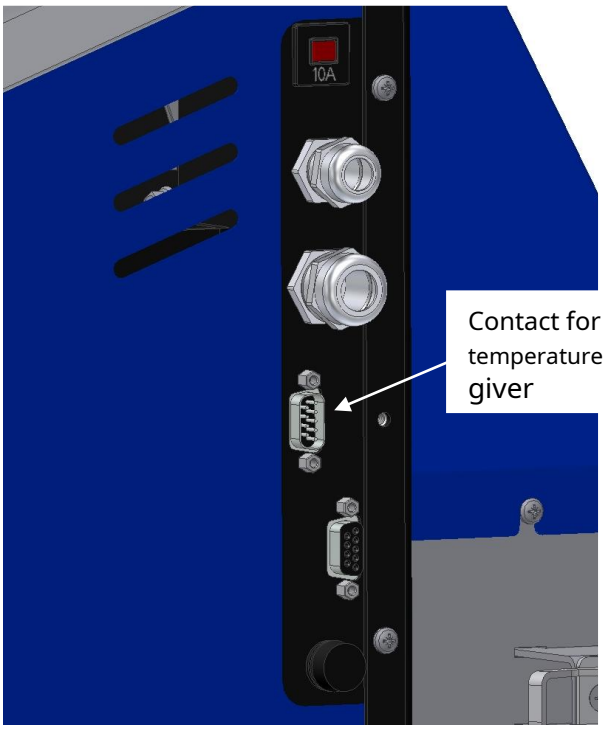


Figure 4 Functional description

4.2 Modulating power regulation, Moody only



In order to use this function, a Pt 100 temperature sensor that measures boiler temperature must be connected to the burner's control.

The goal with that function is to get as long running times as possible with as few starts and stops as possible.
Settings are such that the burner should be able to reach the target temperature as quickly as possible and be able to respond quickly to sudden and severe temperature drops in the boiler.
It quickly regulates the output when the target temperature is reached and then tries to find the right output level to keep the balance with the heat consumption.
The difference above the target temperature is set to +7°C so that the regulation has a slightly larger range to work in. It is in this temperature range that the burner should work the most. If or when the temperature reaches the higher limit (when the heat consumption is lower than the burner's lowest power) operation is interrupted and the burner is put into standby or maintenance mode.
When the temperature has dropped to the lower limit (-3 °C below the target temperature), operation is started again.
Temperature differences (thermostat hysteresis) are thus set to 10 °C (-3°C to +7°C from the target temperature).

This means that the boiler's regular operating thermostat must be set higher than the target temperature +7°C on the internal thermostat in order not to interfere with modulating operation.

If the temperature sensor is not connected to the burner's control or if the sensor's cable is interrupted, all temperature displays in the menu disappear and the burner is controlled via the boiler's thermostat, if one exists, and runs with the fixed power.

If there is no boiler thermostat then the operation is stopped and the alarm "FEL Boiler thermostat" is received.

4.3 Boiler temperature regulation in function of outside temperature, Moody

(Standard for USA market or extra accessories)

This function regulates the temperature in the boiler depending on the outside temperature as follows: The warmer outside, the lower the boiler temperature and vice versa, the colder outside, the higher the boiler temperature. In this way, boiler temperature is adapted to temperature fluctuations during daily and seasonal cycles. With an outside temperature sensor of type Pt 100 connected to the burner, the temperature in the boiler is regulated as follows:

+ 20°C or higher outside ---- 60°C boiler temperature
- 20°C or lower outside ---- 90°C boiler temperature

(These are default settings - changes can be made by a Janfire dealer/service technician) For outside temperatures between specified limits, a sliding boiler temperature setpoint is obtained so for example at 0°C the setpoint is 75°C.

73°C -72→75←82-

In the above example:

73 - current boiler temperature

75-calculated target temperature (sliding setpoint)

72 – temperature for the thermostat to switch on at the current target temperature (here it is 3°C below the setpoint)

82 temperature for the thermostat switch-off at the current target temperature (here it is 7°C above setpoint)

Outside temperature is measured in 5-minute intervals and the average value is calculated. It is compared with the previous value and, in case of deviation, the boiler temperature is adjusted. It is permitted to change (adjust) the setpoint only by 1°C per interval, regardless of whether a greater deviation than 1°C is measured.

When the calculated target temperature approaches 90°C, the thermostat's switch-off temperature is limited to a maximum of 92°C. It will only be +2°C over at 90°C even though it is set to +7°C over target temperature.

Similar limitations exist for the lower limit of the thermostat's cut-in, which is set to 55°C.

5 Maintenance

Janfire NH Pellet burners, thanks to a completely new patented technology, require the least service of all pellet burners on the market. The burner can be operated for six months at a time without service and supervision (applies together with Janfire pellet boiler). When installing on an existing boiler, the ash removal intervals depend on the boiler's ash space.

For good and safe operation, it is important that all settings of the burner's operating values are correct. We therefore recommend that you sign a service agreement with your dealer.

ATTENTION!Regularly check that the gasket around the burner is intact.

4.1 Control panel

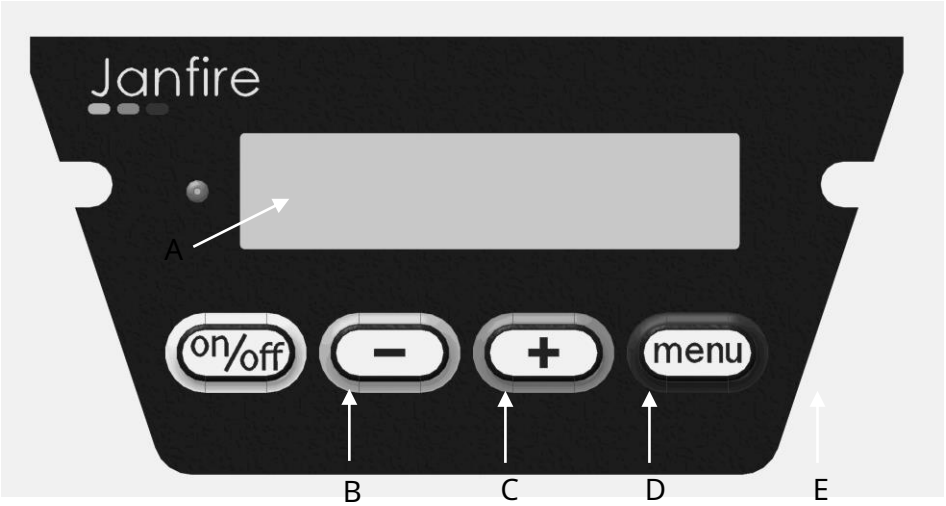


Figure 5 Control panel

Janfire NH Control panel	
A	Indicator light: Green = Normal, Yellow = Warning, Red = Fault indication
B	Start/Stop; One press stops all activities in the burner (total stop), another press and the burner continues where it was stopped.
C	Decrease value
D	Increase value
E	Browse menu (short press). Save/confirm value (press three seconds)

At the start, status information is displayed.

Adjustment of contrast in the displaydone with "+" and "-" buttons. The change can be made only when the display shows status or operating information. By pressing and holding the "+" button the contrast is increased and with "-" the contrast is decreased. To save the new setting, press and hold the "menu" button for a few seconds until you see confirmation: "saving in memory".

ATTENTION!The status is automatically reset after five minutes without pressing any buttons

ATTENTION!**1 minute after the last button press, the background lighting is dimmed and switched on again by pressing one of the buttons.**

4.2 Menu system on "Janfire NH"

Pressing the "on/off" button stops all activities in the burner (total stop), press again and the burner continues where it was stopped.

At startup, the status is shown as below. The status is automatically reset after five minutes without pressing any buttons.

For each press of the menu button, you scroll through the menu lines below.

Changes are made with the "-" and "+" buttons and must be saved by pressing the "menu" button for three seconds ("saves in memory" then appears in the display)

Status:current status information is displayed here, it can consist of information about errors, operating mode, etc.

Boiler temperature73°C <72→75←82> Appears only if modulating control is selected.
In the example: 73 - current temp; 75 - setpoint; 72 - thermostat on; 82 thermostat off. Börverde is changed with +/- and saved.

Pellet consumption The pellet consumption is shown here: total and resettable. Reset by pressing and holding the "menu" button until the value is reset.

Select power mode: Here you can choose which power the burner should start with (normally 9 kW). Any change must be saved. In case of failure of the Pt 100 temperature sensor or if modulating control is not selected, this power is used as a fixed power.

Ash scraper each18 kg (x,xxxkg). Here it is determined how much pellets may be consumed before the automatic burn cup cleaning is carried out. In parentheses, the current pellet consumption after the last ash scraping is shown. In practice, the ash scraping often occurs without the maximum consumption being reached because before each new start an ash scraping is performed.

Volume weight setting: The correct value can be obtained from the pellet supplier or by weighing.

Energy value: The correct value is obtained from the pellet supplier.

Autostart on startup: Determines whether the burner should start automatically when the power is turned on. This function should normally**always**be**"yes"**so that the burner can start after a power failure.

Terminate operation: Used when you want to remove ashes from the pan. Terminates ongoing sequences, starts cooling, cleans the burner cup and then stops the burner. The function is activated by holding down the "Menu" button for three seconds.

ATTENTION!**This item is only displayed if the burner is in operation.**

Manual feeding: Press the "+" button and hold it down and the dosing screw will run until you release the button.

ATTENTION!**This item is only displayed if the burner is stopped.**

Manual external screw: Press the "+" button and hold it down and the external screw will run until you release the button or until the level sensor in the filling tube is affected.

ATTENTION!**This item is only displayed if the burner is stopped.**

4.3 Target temperature, Moody only

Boiler temperature is only displayed if modulating regulation is activated and a Pt 100 sensor is connected.

73°C <72→75←82>

In the above example:

73 - current boiler temperature

75 – target temperature (desired boiler temperature - set point)

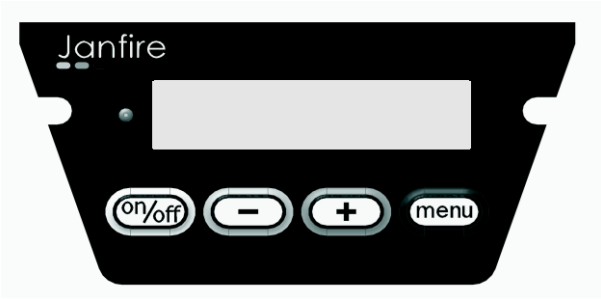
72 – temperature for the thermostat to switch on (here it is 3°C below the setpoint)

82 temperature for the thermostat cut-off (here it is 7°C above set point)

To change the target temperature(setpoint): Scroll through the menu until you get to "boiler temperature" and change with "-" and "+" and save by pressing "menu" for three seconds.

Please note that when changing the desired boiler temperature (target value/setpoint), limits for the thermostat's on and off (so-called hysteresis - in the example +7°C /-3°C) are included.

Other hysteresis limits can be set by the installer.



5.4 Pellet consumption

The pellet consumption in kg is shown here: total and resettable. Reset by pressing and holding the "menu" button until the value is reset.

5.5 Volume weight setting

In order for the burner to have a good combustion with low emissions, it is necessary that the value for the volume weight of the pellets is correct. The correct value can be obtained from the pellet supplier or by weighing.

To change: Scroll through the menu until you get to "volume weight xxx g/l" and change with "-" and "+" and save by pressing "menu" for three seconds.

675 g/l is the default setting which corresponds to an average weight in grams per liter of pellets.

Weighing: Take a one liter container and fill it with pellets and weigh this on a scale. Calculate the weight of the vessel.

5.6 Energy value

In order for the burner to have a good combustion with low emissions, it is necessary that the energy value for pellets is correct. You get the correct value from your pellet supplier.

To change:scroll through the menu until you get to "energy value xxxx kWh/kg" and change with "-" and "+" and save by pressing "menu" for three seconds.

4.80 kWh/kg is a standard setting that corresponds to an average energy content per kilogram of pellets.

5.7 Selection of Effect Mode

Here you can choose which power the burner should start with (normally 9 kW) during active modulation.

If modulating regulation is not activated and in the event of a fault on the Pt 100 temperature sensor, this power is used as a fixed power.

Repeatedly press the "menu" button until you get to "select power mode xx kW"

By pressing the "+" and "-" buttons you can increase or decrease the effect and then save by pressing "menu" for three seconds.

The output can be selected between 6 and 15 kW. This is the default setting.

Limits for min and max power levels can be changed between 3 and 23 kW and are determined at installation. This is carried out by the Janfire installer in consultation with the customer based on: assessed heat demand, type of boiler, size of the chimney, etc.

5.8 Starting the Burner

1. Roll the burner towards the boiler and fasten the burner on both sides with the locks.

ATTENTION!The burner must close completely against the pan so that sparks and smoke do not leak out. Leaky connection can also cause impaired combustion and function.

2. Check that there are enough pellets in the external storage. The level must not be below the inlet of the external screw.

3. Check that the electrical cables between the burner and the boiler, respectively the boiler and the external screw, are connected and that the downpipe between the external motor and the burner is secure.

4. Turn on the main power switch.

ATTENTION!The main switch is normally located on the wall next to the boiler or at the entrance to the boiler the boiler room.

5. Turn on the power to the burner (the switch is usually on the boiler) and the burner starts automatically in the 9 kW power level. (default setting - *"autostart on startup").*

6. To change the power level to the desired one: Press the "menu" button repeatedly until you get to "select power xx kW". Change with the "+" and "-" buttons until you reach the desired value and press "menu" and hold the button down until it says "saved in memory" in the display.

ATTENTION!The next time the burner is started, it will have the last saved power level.

7. In order for the burner to have a good combustion with low emissions, it is required that the values for the volume weight and energy content of the pellets are correct. The correct value can be obtained from the pellet supplier or by weighing. To change: browse the menu, change with "-" and "+" and save by pressing "menu" for three seconds.

If the boiler thermostat is switched on, the internal storage is first filled with pellets (about two minutes waiting time), provided that the pellet level is below the level sensor. A cleaning is then carried out by the burner cup. Then the boot sequence begins. Pellets are fed in, the electric coil heats up and the fan starts blowing. The entire start-up is preset to get a quick ignition and as low emissions as possible. The start-up lasts for about ten minutes before switching to the selected power level.

5.9 First Start of the Burner after Installation

ATTENTION!**It is important that the dosing screw and internal storage are filled with pellets at the first start.**

1. Turn on the power to the burner. After a waiting time of two minutes, the external screw starts to run. If it is not filled within two minutes, the feeding is stopped. Then press the "ON/OFF" button again and the screw will have two more minutes to fill the internal storage up to the level sensor. Repeat this several times if necessary. When the internal storage is filled, the level sensor is activated, which stops the external screw.
   The external auger can also be operated manually: Press the "menu" button repeatedly until you get to "manual external auger" and press the "+" button and hold it down to start the motor and let it run until the filling tube in the burner is filled up to the level sensor. The motor is stopped when you release the button or if the level sensor is affected. Press the "on/off" button to stop the burner because the automation is normally set to "autostart at startup" and wants to continue. "Stopped manually" it says in the display. Manual feeding of pellets is only possible in stopped mode

2. Once the internal storage has been filled, the dosing auger must be filled with pellets by running it manually. Repeatedly press the "menu" button until you get to "manual feed" and press the "+" button and hold it down to start the motor and let it run until the pellets start to fall into the burn cup. Then release the button.

3. Press the "on/off" button to start the burner.

If the combustion is maintained, it is automatically selected if the thermostat is switched off for less than 1 hour (standard setting). In the maintenance mode, burners operate at a greatly reduced power (0.6 kW) which keeps the combustion going and enables a rapid increase in power after the thermostat switches on.

The first time the thermostat is switched off after start-up, maintenance is not used. The time of shutdown (longer or shorter than 1 hour) determines whether maintenance should be used at the next shutdown or not.

5.10 Shutdown of Burner

The burner can be stopped as follows:

Press the "ON/Off" button

All burner functions are stopped.**"Press menu to cool down"**it appears in the display for a few seconds. By pressing the "menu" button, operation can be terminated. The fan blows until the burn cup cools down enough for the scraping to be done. It can take up to ten minutes depending on the mode the program is in. "Operation completed" is written in the display below, it is ready. The function is used when the burner must be removed from the boiler in order to clean the boiler.

If this function is not activated after a few seconds, it is displayed**: "Stopped manually".**It is standby mode. By pressing the "on/off" button once more, the burner continues where it has been stopped.

If you want the burner to remain off, turn off the power with the main switch.

ATTENTION!**Use the "ON/OFF" button to stop only in an emergency,**and let the burner remain in the pan until the burner cup has cooled. This is to avoid personal injury and overheating of the burner

- If you want the burner to remain off for a longer period, turn off the power with the main switch.

ATTENTION!Do not disconnect the power before "Stopped manually" appears in the display and the control lamp lights up red.

ATTENTION!Always switch off the power with the main switch for extended shutdown periods or for servicing on the burner. The main switch is normally located on the wall next to the boiler or at the entrance to the boiler room.

5.11 Pellet refill

In order for the external auger to be able to feed pellets to the burner, the level in the external storage must be above the inlet of the external auger.

ATTENTION!Fill the external storage with pellets if necessary.

ATTENTION!Do not touch the dosing screw or the external screw inlet and outlet when the external motor is on connected.

5.12 Manual Ignition of Burners

ATTENTION!!!

Applies to program version Janfire 4.0

ATTENTION!Only intended when the burner does not light normally (e.g. broken coil) until the ignition is on restored.

1. Turn on the power to the burner and press "on/off" and then select cool down to end operation because the automatic is normally set to "autostart at start-up". "Operation completed" is shown in the display. Manual feeding of pellets is only possible in stopped mode

Press the "menu" button repeatedly until you get to "manual feed" and press "+" button and hold it down to run the motor and let it run for 35-40 seconds. Release the button to stop the engine.

Disconnect the burner and pull it out of the pan. Take lighter fluid and spray it fed the pellets and lit with a match or fire lighter.

Put the burner back in the pan and lock it. The burner then alarms because the burner was outside the pan.

Press the "menu" button repeatedly until you get to "manual start" and activate by holding the "menu" button until it starts to show "start delay".

The burner starts with a delay of three minutes and eventually starts up.

ATTENTION!The effect is the selected (fixed or modulating) with maintenance beacon without time limitations and must not be changed during operation when the ignition is out of order.

5.13 Cleaning

Terminate operation as described in 4.10

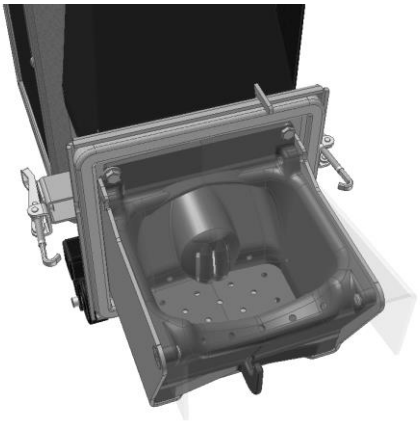
1. Stop of Burner.

2. Wait about 30 minutes until all the glowing pellets have gone out.

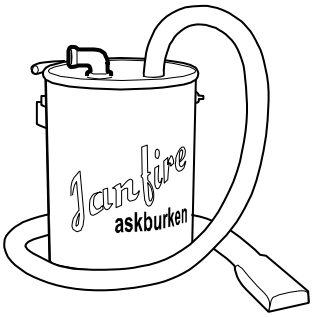
3. Loosen the burner locks and roll it out of the pan.

ATTENTION!The burner cup and burner may still be hot.

4. Lift off the rectifier with insulated pliers or use protective gloves.



5. Clean the grate and burner cup thoroughly. Use a vacuum cleaner together with the "Janfire ashtray" (available as an accessory). Check for any clogged holes, clean if necessary with a screwdriver.



6. Pour approx. 0.5 dl of water on the scraper and the burn cup. Water dissolves hard deposits on the scraper. Leave it on for a few minutes and then dry with a cloth.

7. Put the low rectifier back.

ATTENTION!The installation surface of the rectifier must rest on the surface of the burner cup. No dirt must be in between the surfaces.

8. Clean the entire pan from ash. Open all available hatches to access all of the boiler's convection parts and flue gas ducts. The "Janfire ashtray" makes the work easier.

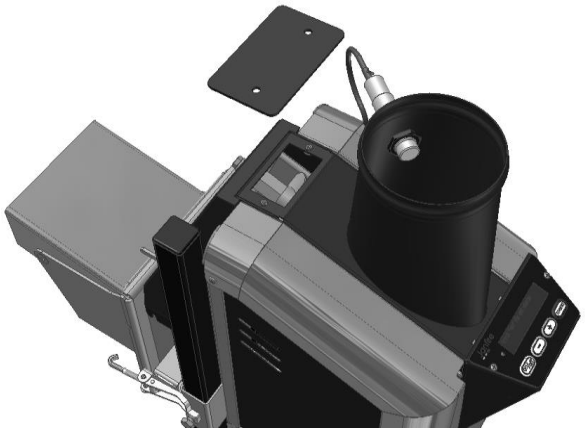
ATTENTION!Don't forget to clean the smoke pipe from the boiler so that no ash prevents the smoke from going out the chimney.

5.14 Cleaning of Dosing screw

1. Turn off the power with the main switch.

ATTENTION!The main switch is normally located on the wall next to the boiler or at the entrance to the boiler the boiler room.

2. Loosen the cover of the downpipe and clean with a screwdriver. Use a hammer if the pellets have been compacted tightly.



ATTENTION!Do not touch the dosing screw or the external screw inlet and outlet when the external motor is on connected.

3. Turn on the power with the main power switch.

4. Press the "on/off" button to stop the burner

5. Feed away chips and compressed pellets by repeatedly pressing the "menu" button until you get to "manual feed" and press the "+" button to start the motor and run it until fine pellets come out.

6 Troubleshooting

5.1 Displays and error messages

STATUS AND OPERATION DISPLAYS	
Display text	**Explanation**
Janfire AB Version 4.0	Start text at power on. Shows current program version.
Startup in progress. Try 1 3 min	Shows which start-up attempts are in progress and the current time from the start is counted.
Operation 12.00kW	Operating information
Waiting...	In sleep mode and waiting for the thermostat to turn on
Maintain min	The time elapsed in maintenance mode
Saves in memory!	Confirmation that the change has been saved
Start delay mm: ss	Countdown from 3 minutes with manual ignition
Heating Step 1 mm: ss	Transition phase from maintenance, power failure or after operation was stopped manually to operation.
Stopped manually Waiting.	When activities in the recorder are stopped by pressing the "OFF" button
End of operation activated...	When quenching with subsequent scraping in the burner is activated
Operation completed! Waiting...	When operation is finished after activation of: "end operation"
Wait! Cools down the burner.	Waiting for the temperature in the burner cup to drop to the "cooling limit" level for the scraping to start
Blower 32	The delay of the fan after the thermostat switches off with a countdown of the time
Ash scraping ongoing.	Ash scraping underway
Ash scraping waiting etc.: ss	Countdown (10 min) after failed scratch attempt until the next attempt
Waiting for pellets!	Waits until the internal storage in the burner fills up.
Definition Operation 12.00kW	When the power is reduced due to poor draft (the temperature in the downpipe exceeds the permissible level)

DISPLAY HAS TURNED OFF COMPLETELY OR REPEATEDLY TURNED ON AND OFF No activity in the recorder.
The overheating safety thermal contact has tripped.
Cut off power to burner. If the burner is still hot, let it cool down first and then turn on the power. The thermal contact has a built-in heating circuit that keeps it warm and triggered as long as the power is on. So the burner must be without power for 10–15 min in order for the thermal contact to cool down and reconnect.
If the burner is already cold, wait for approx. 10–15 min and switch on the power.
If the burner does not start, turn off the power again and wait a few more minutes and try again.

PROBLEM-is a warning. Appears when something is not working correctly while the recorder is trying to fix it itself. Alternates with status display while trying to fix the problem.

ERROR –is an alarm message. Operation has stopped due to a serious error that the burner could not fix itself. Operation can only continue with a manual restart with the ON/OFF button after the cause of the error has been rectified.

ERROR MESSAGE	
Display text	**Explanation**
!!! Problem !!! Ash scrapers	If the scraper does not have time to perform a scraping within the intended time. It then tries in a number of attempts and if it succeeds, the warning disappears, otherwise it becomes an alarm.
!!! WRONG!!! Ash scrapers	Alarm after ash scraping failed despite repeated attempts
!!! Problem !!! Starter sequence	The flame guard was not activated during start-up. The fan had problems during startup. A new attempt is made afterwards. After successful startup, the warning disappears.
!!! WRONG!!! Starter sequence	The flame guard did not activate after 3 repeated starting attempts.
!!! Problem !!! Fan not running	The fan speed guard does not register that the fan is running and attempts to restart the fan are in progress. All activities are stopped during the time when the fan is out of order. The fan starts again - the warning disappears.
!!! WRONG!!! Fan not running	After many repeated attempts, the fan fails to start.
!!! Problem !!! Flame alarm tripped	The flame guard has tripped during operation (temperature in the burner cup too low – burner has probably gone out). A new start attempt is made.
"Limited Operation" XX kW	Hot in the downpipe. Temperature exceeds permissible level (menu line 49) and burner power is reduced to minimize problems.
!!! Problem !!! Bad move	When temperature drops to normal level after "Limited operation", burner returns to normal operation but the warning remains. Acknowledged manually (ON/OFF twice).
!!! Problem !!! Service needed!	The burner has consumed 6 tons of pellets - time for service. Acknowledged by service technician after service performed by increasing the value for a few tons.
!!! WRONG!!! Not refrigerated	The fan has failed to bring down temperature for scraping within 20 minutes.
!!! WRONG!!! External screw	External screw has not filled up the internal storage within the intended time.
!!! WRONG!!! Overheated	Too hot in the downpipe. Temperature exceeds max. permitted level.
!!! WRONG!!! Electronics fault	Fault Indicated in the event of a fault on the electrical outputs in the electronics to: external motor, electric coil or dosing motor
!! WRONG!! temp. sensor	Faults are indicated by unreasonable values on the burner's temperature sensors.

5.2 Red warning LED lights up - The burner has stopped

Event	Probable cause	Measure
The green light on the control panel has gone out and the burner has no voltage.	The fuse has tripped.	Reset the fuse (see chapter 5.5). The burner starts automatically. If the fuse blows again, contact your Janfire dealer or service technician.
	The maximum thermostat (safety thermostat) on the boiler has tripped.	Reset the maximum thermostat (see the boiler's operating instructions)
Control light lights up red "!!! WRONG!!! overheated"	Too little negative pressure causes overheating in the burner	Check the move. Turn off the main power switch. Clean the boiler and flue gas paths as described. Check and clean the chimney.
The feeding of the external screw has stopped. The control lamp lights up red. "!!! WRONG!!! external screw"	The external storage for pellets is empty.	Fill the external storage with pellets.
	The fallout hose is full of pellets. The setting of the level sensor has been changed.	Adjust the level sensor.
	The downspout between the outlet of the external screw and the inlet of the burner have come loose	Refit the downpipe and start the burner as described.
	Foreign object in the screw (stone, cloth or similar) which causes the screw to stick.	Try to tap the screw with a rubber/plastic mallet and at the same time run the motor manually until it loosens and the screw starts to rotate freely. In the worst case, the screw must be taken apart. Contact the Janfire dealer.
	Hollowing or cratering in the external storage.	Open the contents of the external repository.
	The pellet hangs (sticks) in the hose without reaching the burner The hose between the external screw and the burner is too slack or the slope is too bad.	Stretch the hose, increase the slope of the hose. Check if the pellet has accumulated in the outlet of the external auger and clear it if necessary.
The control light lights up red "!!! WRONG!!! burner out"	Burner outside the boiler	Place the burner in the pan. Press "ON/OFF" to start
	Incorrectly adjusted or broken microswitch	Adjust or replace it. Contact your Janfire dealer for assistance.
The ash scraper is stuck "!!! WRONG!!! ash scraper"	ATTENTION! Do not strike the scraper to loosen it with a hammer or similar. In this way, the motor gear that drives the scraper is damaged.	
	The ash sinters in the burn cup into a hard cake. Pellets of poor quality.	Remove the slag from the burn cup. Lower the number of kg for ash scraping. Press "on/off" to start

Event	Probable cause	Measure
	Black deposits of tar or coke on the scraper that are difficult to scrape clean. Caused by incorrectly set pellet volume weight with poor combustion as a result.	Scrape clean the scraper manually with a knife, chisel or similar. Weigh the pellets and set the correct value for volume weight. If the error recurs, contact the Janfire dealer for a tune-up.
	Dark gray sinter coatings on the scraper caused by high temperatures in the combustion cup.	Pour approx. 0.5 dl of water on the scraper and the burn cup. Water dissolves hard deposits on the scraper. Leave it on for a few minutes and then dry with a cloth. Start the burner.
	The ignition does not work. Unburnt pellets have wedged themselves between the scraper and the burn cup	Remove stuck pellet pieces from the burner cup. Press "ON/OFF" to start If the error repeats, contact the Janfire dealer
	Ash scraper limit switch misadjusted or broken. The scraper runs back and forth without activating the limit switch.	Call your Janfire dealer or service technician to correct the error.
Flame guard has tripped. Indication: the control lamp lights up red "!!! WRONG!!! boot sequence"	Ignition has not occurred despite repeated attempts. The ignition coil or the electric fuse for the ignition coil is broken.	The pellet level in the burner cup is too low. Check that pellets are advanced in the dosing screw before starting. Call your Janfire dealer or service technician to replace the ignition coil or fuse.
	No pellets in the internal screw due to misadjusted level sensor (the diode on the sensor lights up without pellets).	Adjust the sensor, see 5.7 Level sensor adjustment
	Pellets with too much shavings are used.	Switch to better pellet quality.
	Too low negative pressure in the boiler can cause the pipe to stick again with tar, resulting in blockage of the dosing screw.	Check boiler vacuum setting (performed by Janfire dealer or service technician).
	Foreign object in the pellet or moisture-damaged pellet causing the dosing screw to clog.	Remove the moisture-damaged pellet or foreign object.
	Broken temperature sensor (flame guard).	Call your Janfire dealer or service technician.
indicator light lights up red "!!! WRONG!!! fan not running"	The fan is having trouble starting but is trying to restart	When the fan has started, the error indication disappears and the burner continues to operate. Call your Janfire dealer or service technician if the error persists
	The fan has broken Mechanical obstruction that prevents the fan from spinning	Call your Janfire dealer or service technician.
indicator light lights up red "!!! WRONG!!! electronics error"	1. The cord to ext. motor disconnected or has poor contact 2. The fuse for the coil is broken 3. Broken electronics box	1. Check the motor connection to the external motor 2. Check the fuse for the electric coil 3. If the error persists, contact service/support

Event	Probable cause	Measure
indicator light lights up red "!!! WRONG!!! temp. sensor"	1. Temp sensor damaged or loose	Restart burner by cutting power. If the error persists, contact a service technician.

5.3 Yellow Warning Light Illuminates - Burner in Operation

Event	Probable cause	Measure
Indicator light lights up yellow Burner still in operation. The display shows: "limited operation xx kW"	The flue gases are pushed into the burner, which becomes hot. The lamp indicates that the burner is trying to compensate for increased temperature in the downcomer caused by poor negative pressure by reducing the effect Poor draft or ash and soot at the transition between the boiler and the flue or a "crow's nest" in the chimney that prevents the flue gases from escaping.. A lot of shavings in the pellets.	Turn off the main power switch. Clean the pan and the flue gas paths as described. Check and clean the chimney. If necessary Check the draft. Call your Janfire dealer or service technician about the error will return. Ask them to measure, adjust the stroke and possibly change temperature limit for the burner alarm.
Indicator light lights up yellow Burner still in operation. The display shows: "bad move"	The warning after the burner has previously gone into "restricted operation" to indicate that there was a problem with the back heating in the burner.	See previous. Message is removed by the burner restarted.

5.4 The burner produces too little power

Event	Probable cause	Measure
The burner produces too little power.	Selected power level too low.	Increase the power level (see Power Mode Selection)
	Poor pellet quality.	Talk to your pellet supplier and ask for one).
	Too high or too low negative pressure in the boiler.	Check with a match by holding it in front of a small opening to the boiler (e.g. open a door a little). The flame should bend into the pan but not go out. Please Janfire dealer or service technician to check if you are unsure.
	The settings on the boiler or burner are not correct.	Check the log from the installation and contact your Janfire dealer or service technician.

5.5 Display has turned off completely or repeatedly turns on and off

Event	**Probable cause**	**Measure**
The display and indication diodes have gone out completely. No activity in the recorder.	The overheating safety thermal contact has tripped. The burner overheated.	Cut off power to burner. If the burner is still hot, let it cool down first and turn the power back on. If the burner is already cold, wait for approx. 10–15 min and switch on the power. If the display does not light up, turn off the power again and wait a few more minutes and try again.
Display repeatedly lights up and is extinguished. No activity in the recorder.	The overheating safety thermal contact has tripped. The burner overheated.	Same as above.
The display and indication diodes have gone out completely. No activity in the recorder.	If actions from the line above do not produce results - Broken electronics	Contact your Janfire dealer or service technician.

5.6 Electrical fuses

If the automatic fuse has tripped, the red button sticks out. The fuse is reset by pressing the red button.

Pull out the coil fuse from the holder and check it with a multimeter. Replace the fuse if it is broken.

NOTE" Only 6.3 AF (fast) 250 V fuse in dimension 5x20mm to be used.

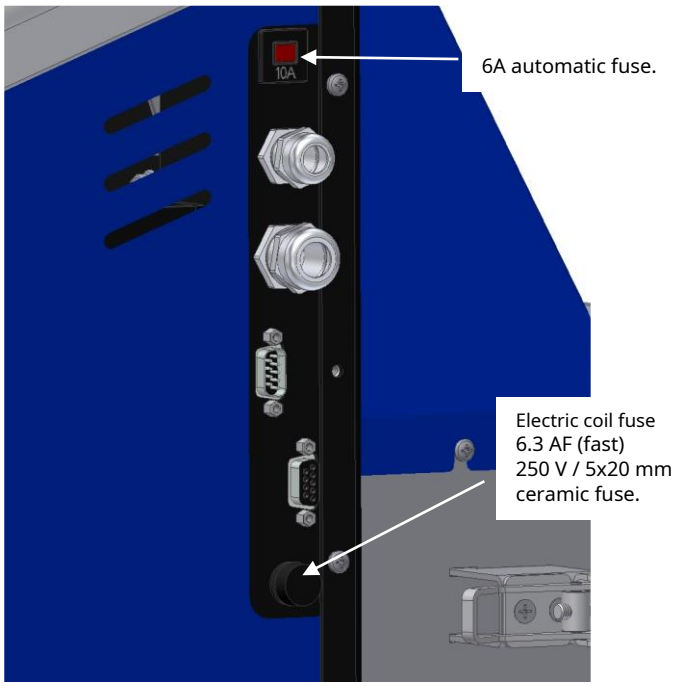


Figure 6 fuses

5.7 Adjusting the Level Sensor

The level sensor on the burner is preset. However, its sensitivity can change during shipping or after a period of time in operation (about two weeks) and must then be adjusted.

1. Loosen and remove the downspout hose from the burner inlet.

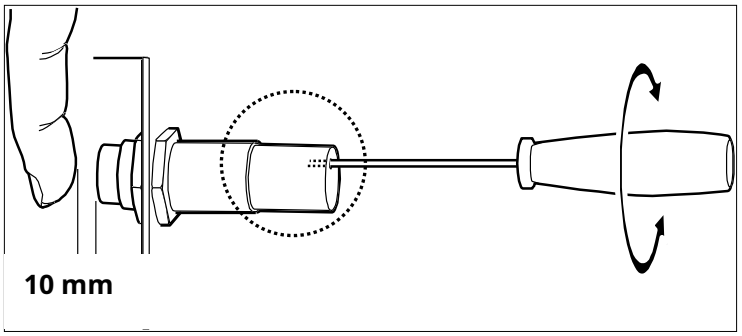
2. Remove the pellets so that there are no pellets in front of the sensor. Clean the level sensor from dust and pellet residues if necessary with a dry cloth.

3. Check with your finger if both LEDs on the sensor light up at a distance of 10 mm as shown in the figure below.

   If the LEDs do not light up, turn the potentiometer clockwise until both the yellow and the green LEDs light up constantly.

   If diodes light up at a distance of more than 10 mm, turn the potentiometer counter-clockwise until both diodes go out when the finger is at a distance of 10 mm.

4. The sensor is now set



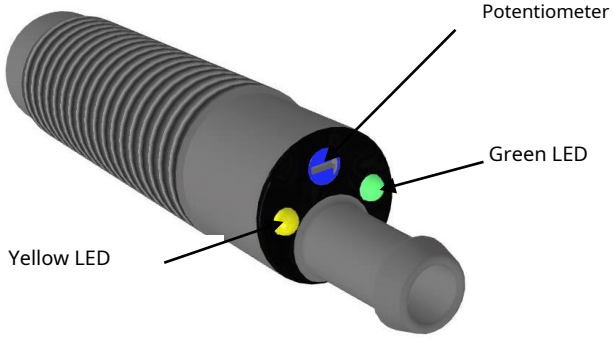


Figure 7 Level sensor

ATTENTION!**The adjusting screw is sensitive, only a few degrees are required. Do not screw too tightly against the limit stop.**

5. Refit the downspout hose and screw it in place.

5.8 Electrical diagram

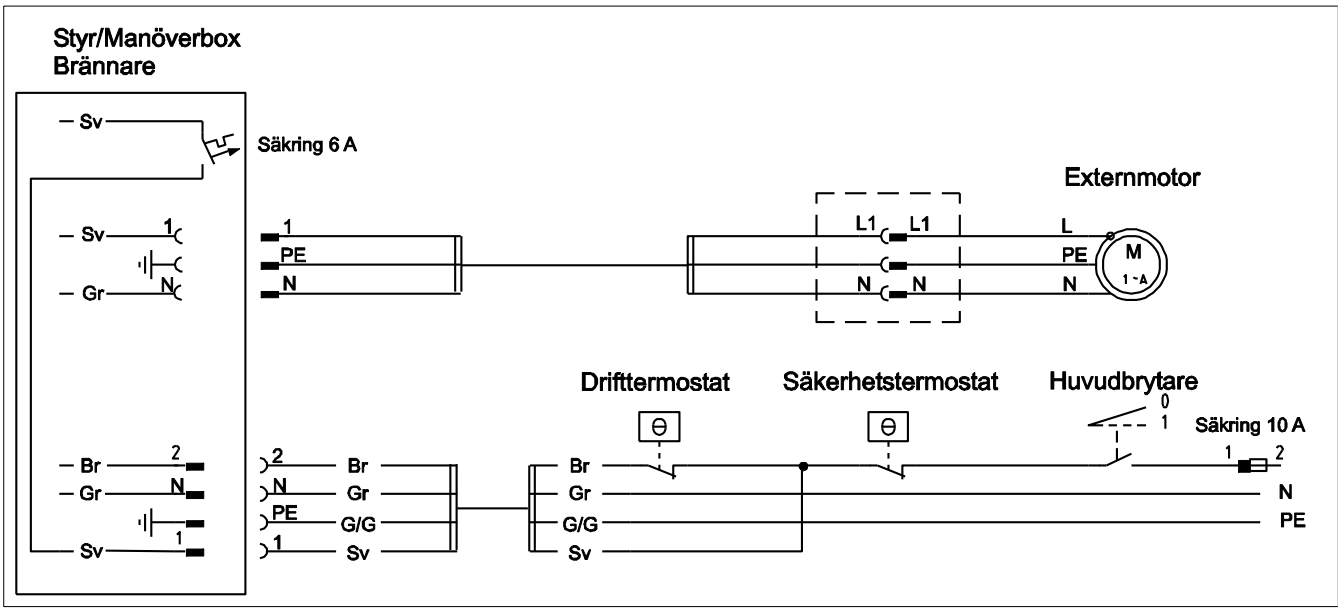


Figure 8 Electrical diagram