



# LOGWIN PREMIUM TOUCH





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### 1. Important information for system operators

Dear Heating System Owner,

We would like to congratulate you on your new environmentally friendly boiler system. With the purchase of this high-quality product by Windhager, you have selected a system that provides more comfort and optimised fuel consumption while utilising an environmentally friendly means of saving resources. Your boiler was manufactured under strict ISO 9001-certified standards, was subjected to extensive tests and all its components are recyclable.

On the following pages we have provided specific information and important tips regarding system **operation, unit functions and cleaning**.

#### Note!

**Operation** of the boiler together with the **InfoWIN Touch** display and operating unit **is described in a separate operating manual**. Please also pay close attention to these instructions. Familiarity with the material in this document will allow you to enjoy long-term operation of the unit. We wish you all the best with your Windhager boiler!

### 1.1 General information

### 1.1.1 Manufacturer's obligations

Our products are manufactured in accordance with the essential requirements of the various applicable guidelines. They therefore carry the **C c** label and are supplied with all the required documentation.

Technical details subject to change.

We as the manufacturer cannot be held liable in the following cases:

- Incorrect use of the unit.
- Failure to perform proper maintenance on the unit.
- Incorrect installation of the unit.

### 1.1.2 Installer's obligations

The installer is the person responsible for installing the unit. The installer must comply with the following instructions:

- Read and follow all instructions supplied with the unit.
- Carry out installation in accordance with the applicable standards and specifications.
- Explain to the operator how the system works.
- Make the operator aware of his obligation to inspect and maintain the unit.
- Hand over all operating manuals to the operator.

### 1.1.3 Operator's obligations

To ensure that the unit gives optimum service, the operator must follow these instructions:

- Read and follow the instructions in the operating manual.
- Installation and start-up must be performed by appropriately qualified technicians.
- Make sure the installer explains how the system works.
- Perform all the necessary checks and maintenance.
- Keep the instructions in good condition and store them near the unit.

This unit is not intended for use by persons (including children) who have physical or mental disabilities or sensory impairment or who have no experience or knowledge of the correct use of the unit, unless supervised or trained by a person responsible for their safety. Children should be supervised to ensure they do not play with the unit.

#### 1.1.4 Spare parts

For spare parts, please contact the Customer Service partner or send an email to ersatzteil@at.windhager.com or phone on +43 (0) 6212/2341-268.

### 1.1.5 Software

The software for the firing automates uses FreeRTOS. You can find the FreeRTOS source code as well as its licensing terms on the website www.FreeRTOS.org.

### 1.2 Safety precautions

The boiler together with its accessories complies with the latest state of the art as well as the relevant safety regulations, and is operated with electric current (230 V AC). Improper installation or repair can pose the danger of life-threatening electric shock. Installation may be performed only by appropriately qualified technicians.

### 1.2.1 Caution symbols

Please take note of the following safety information levels in this manual.



### 1.2.2 General safety information

DANGER

#### When performing cleaning or repair work, disconnect the power plug!



### 1.3 Sources of danger

### 1.3.1 Power failure (or if the blower is not running)



There is an increased risk of deflagration when opening the filling door if the blower is not running. A self-test is performed following a power failure and then operation is continued automatically.

### 1.3.2 Combustion air

Never seal openings that have been provided for letting air in and out!

### 1.4 Fuel

The boiler is designed to burn unprocessed firewood. The water content of the fuel must be between 15 and 25 %. Guideline: wood that has been stored properly for around 2 years. The effects of any deviations from this guideline should be taken into account.

- 1/2 m split logs: **50–53 cm long, edge length of approx. 8 to max. 15 cm**; if lengths deviate a lot, e.g. 1/3 m, change filling to suit wood; **always split round logs** with a **diameter of more than 8 cm**.
- Wood briquettes: Burning of wood briquettes according to ÖNORM M7135.
- Residual wood: Burning of residual wood such as timber, boards, posts, etc., as long as the wood has not been treated with wood preservers or other chemicals containing halogenated organic compounds or heavy metals (among such excepted residual materials are, in particular, construction and demolition waste). Fuel wood must be added as appropriate to the material!

#### Unsuitable fuels:

- Solid fossil fuels: black coal, brown coal, coke, peat, etc.
- Wood chips, wood shavings, pellets, straw, grain, wood from short-rotation forestry, etc.
- Do not heat with plastics, PVC panels, sawdust or impregnated, glued wood residue or similar these cause boiler corrosion and are prohibited by the Federal Air Purity Act.



### 1.5 Start-up and maintenance

Have Windhager Customer Service or one of our customer service partners put your new boiler into service. In this way, all functions of the new unit will be thoroughly checked; you will also benefit from the detailed information provided by the system installer. Installation by a qualified technician as well as the maintenance required by the warranty conditions and undertaken by Windhager Customer Service or a customer service partner will guarantee the optimal use and service life of your boiler system. This is the only way to assure the benefits of this technologically advanced boiler and guarantee safe, environmentally friendly and energy-saving system operation.

#### The following preconditions must be met before you order the initial start-up:

- 1.) Boiler installed correctly.
- 2.) System fully wired up electrically.
- 3.) System rinsed, filled and vented heat consumption must be possible.
- 4.) Hot water tank connected to domestic water and filled.
- 5.) Sufficient quantity of fuel available (pellets, split logs, oil or gas).

6.) The customer must be present during start-up.

The initial start-up cannot be carried out if any of these points are neglected. The customer will be charged for any unnecessary costs arising as a result.

## Start-up and maintenance by Windhager Customer Service or a customer service partner are part of the guarantee requirements of the enclosed "Warranty conditions".

#### Note!

When the boiler is started for the first time, bad smells may result from gas emissions from insulation or paint residue being burnt off. Ensure that the boiler room/installation room is therefore well vented. Condensation may also form near the coasting surfaces and the combustion chamber temperature may only increase after a delay.

### 1.6 Functional test

EN 12828 and ÖNORM B8131 require that the function of the system and related safety equipment be checked and certified yearly by a qualified technician (installer, heating system contractor).

At two-year intervals, in accordance with ÖNORM H 5195 (2010 edition), the heating water condition must be checked by a heating expert (installer) (see installation instructions – Heating water) to prevent corrosion and sediment accumulation in the heating system and boiler.

In the event of repair work requiring a change of water in the heating system, the heating water is to be checked within 4 to 6 weeks after such work.

Corrosion and sediment resulting from improper heating water are not covered by the warranty.

### 1.7 Combination with automatic boiler (e.g. pellet or oilfired boiler)

If the LogWIN and an automatic boiler (e.g. pellet or oil-fired boiler) are connected to one flue, the cladding, filling, lighting and ash doors and all cleaning openings of the LogWIN must be closed when the automatic boiler is operating in order for the cladding door switch to be released and the automatic boiler to operate correctly (inleaked air).

## 2. Operation

### 2.1 Functional elements and operating controls



#### Supplied as standard:

- Instruction booklets
- Ash pan
- Hanger (for installation on the wall)
- Scraper
- Spatula
- Cleaning brush
- Poker

#### Optional accessories:

- Flue gas adapter
- Flue gas sensor
- Automatic ignition

1..... Cladding door

- 2..... LED stripe (Accumulator charge status)
- 3..... InfoWIN Touch
- 5..... Lever for cleaning heating surfaces

Fig. 2 LogWIN Premium Touch



6 ...... Cladding door switch 7...... Filling door hook catch 8 ...... Filling door 9 ...... Lighting door 10 ...... Ash door

Fig. 3 LogWIN Premium Touch

#### 2.1.1 Control panel

#### InfoWIN Touch

See operating manual InfoWN Touch.

#### LED stripe

The LED stripe shows the charge status of the accumulator from blue (cold) to hot (red).



### 2.2 Check before first heating

- a) **System pressure (heating water pressure):** The system must be filled and vented. With the system cold, pressure should be at least 1.0 bar (maximum 1.8 bar). If you have any questions, your installer will gladly answer them.
- b) **Ventilation:** Please make sure the boiler room/installation room is well ventilated. The air supply must be as free of dust as possible.
- c) Flue: Please have the chimney sweep check the flue regularly, and, if necessary, clean it.
- d) Barriers: Check that the barriers installed in the heating system are set correctly.
- e) **Buffer tank:** If the charge status (see InfoWIN Touch operating manual) is already 70 %, do not start or replenish the fuel.
- f) Thermal discharge safeguard: Check discharge funnel. Outflow must not drip.

# 2.3 Heating mode – preparing, starting or replenishing fuel

If the outside temperature is high of the flue is in direct sunlight, flue gas may discharge into the boiler room/installation room in the start phase due to a lack of flue draught.



#### The flue gas may cause serious intoxication or deflagration.

**Tip:** Set the start times in the cooler morning or evening times and, together with your chimney sweep, ensure that the flue system is working correctly in line with the conditions listed above.

#### 2. Operation

#### Important note before starting or replenishing fuel:

Do not start or replenish fuel unless adequate heat consumption is assured, i.e.:

- Check the charge status of the buffer tank beforehand (see InfoWIN Touch operating manual).
- Do not heat up or replenish fuel if this is already showing 70 %.
- Open the manual mixing valve, do not turn off the radiators.
- Correct amount of fuel i.e. boiler only 1/4-1/2 full at the turn of the seasons.

**CAUTION** Having a correctly sized buffer tank is essential for correct operation.

### 2.3.1 Preparing heating mode

- 1.) Press the lever for cleaning heating surfaces around 5-10 times for each fill Fig. 5.
- 2.) Open the cladding door. Blower starts up. Open the filling door (top door) until it makes contact with the lock, lift the hook catch (Fig. 6), **filling door** fully **open**.



Fig. 5 Pressing lever for cleaning heating surfaces 5–10 times



Fig. 6 Opening the filling door lock

- 3.) Attach the ash pan at the height of lighting door (central door) and hook in the cladding Fig. 7.
- 4.) Open the lighting door and vertical grate and **evenly distribute** the **remaining ash** in the filling chamber (Fig. 7). Check to see whether the **holes** in the lateral hook-in plates and **burnthrough opening** (Fig. 8) are **clear**.

If they are not, use the installed scraper to **unblock them** and/or remove excess ash from the filling chamber, but not all of it as unburned wood charcoal can still be used.

Note!

Under no circumstances should you completely vacuum out the boiler before each start procedure!



Fig. 7 Attaching the ash pan, removing ash



Holes in the hook-in plates



Fig. 8 Filling chamber, holes in hook-in plate, burnthrough opening

#### 2. Operation

#### 2.3.2 Starting by hand (no automatic ignition)

- 1.) Put in a layer of dry kindling and on top of this screwed up paper/cardboard<sup>1</sup>.
  - The **burnthrough opening must** remain **clear**.
- 2.) First **add** smaller then larger **split logs** of increasing length and fill up filling chamber as required Fig. 9.



#### Note!

To ensure clean combustion and quick ignition, fill the filling chamber at least halfway. Always form the basic firebed with 1/2 m logs.

#### 3.) Close the filling door.

4.) Light the paper<sup>1</sup> with the lighting door and vertical grate open.

**Tip:** To simplify lighting, add a little more paper<sup>1</sup> at the front.

- 5.) Close the vertical grate.
- 6.) Press the  $\tilde{u}$  button on the InfoWIN Touch. Scroll to the combustion chamber temperature. Once the temperature in the combustion chamber **reaches 500 °C**, **close the lighting door and the cladding door**. This automatically starts the heating programme.



Fig. 9 Section through the filling chamber

**Tip:** If you cannot clearly hear a lighting noise, the burnthrough opening has probably been covered or the fuel has been placed so as to create excessively large cavities. To improve ignition, clear the burnthrough opening.

Note!

After starting, do not open the filling door except in order to replenish fuel. This ensures the fuel will burn evenly without disruptions, and extends the replenishment intervals.

<sup>&</sup>lt;sup>1</sup> For reasons of air hygiene (LRV), fire-lighters must be used in Switzerland instead of paper/cardboard.

### 2.3.3 Starting with automatic ignition<sup>1</sup>



Before filling, ensure that there are no embers in the filling chamber – uncontrolled spontaneous ignition possible!

#### 1.) Close the vertical grate.

2.) First **add** smaller then larger **split logs** of increasing length and fill up filling chamber as required – Fig. 10. Before closing the lighting door, check that there is wood just in front of the ignition opening – Fig. 11.



Note!

For reliable and efficient ignition, it is important that there is wood just in front of the ignition opening. Always form the basic firebed with 1/2 m logs.



Fig. 10 Section through the niting champer

#### 3.) Close lighting door, filling door and cladding door.

() is displayed on the InfoWIN Touch – Fig. 13.

4.) Press the **ignition** button (); "Ignite now", "With off period" and "Ignite automatically" are shown on the display – Fig. 13.

NOT in front of the ignition opening

5.) Select the required type of ignition - Fig. 14-Fig. 16.

"Ignite now":	The ignition phase begins immediately after selection.
"With off period":	Press $\bigwedge$ or $\checkmark$ to set the time and confirm with the <b>confirmation</b> button $\sqrt{-}$ Fig. 18. The ignition phase only starts once the set time has elapsed and a heating request has been generated by the control or an external ignition request.
"Ignite automatically":	The ignition phase begins when there is a heating request from the control or an external ignition request.

<sup>1</sup> Only for LogWIN with automatic ignition (accessories).



### 2.3.4 Replenishing fuel – continuing heating mode



- 1.) Press the lever for cleaning heating surfaces around 5-10 times for each fill.
- 2.) **Open the filling door as far as the stop against the catch, <u>wait at least 15 seconds</u> to allow low-temperature carburisation gases to be sucked away. Lift the hook catch, open the filling door all the way.**
- 3.) Checking the embers:

We recommend only replenishing fuel once the wood has burnt down.

- If there are still sufficient embers left, spread them evenly throughout the filling chamber and replenish the fuel as required. Place 1/3 m logs in the same direction as the 1/2 m logs. Place in each layer of logs, alternating between the front and the rear.
- If there are no embers or only a few, the system will need heating up again see Section 2.3.1.

4.) Close filling door and cladding door.

### 2.4 End of burning

At the end of combustion, the blower continues running until the combustion chamber has cooled down, in order to make best use of the remaining embers depending on the burnout mode selected. Then it turns off (stand-by operating phase).

## 3. Care, cleaning and maintenance

#### Cladding:

Clean the boiler cladding with a moist cloth as needed. In the event of heavy soiling, use soapy water or diluted suds (do not use caustic chemicals or sharp cleaning instruments).

#### **Coasting surfaces:**

Every millimetre of soot on the coasting surfaces means about 5 % more fuel consumption. A clean boiler saves fuel and protects the environment.

#### Save fuel - always clean the boiler in good time

The specified cleaning intervals are for guidance only! The cleaning intervals vary depending on the quality of the fuel, the nature of operation and the different operating phases (e.g. a lot of partial load, the blower spending a lot of time stationary during operations).

### 3.1 For each fill

### 3.1.1 Lever for cleaning heating surfaces

- Press lever for cleaning heating surfaces 5-10 times - Fig. 28.



Fig. 28 Pressing lever for cleaning heating surfaces 5–10 times

### 3.1.2 Ignition openings on lighting door<sup>1</sup> and vertical grate

Check ignition openings on lighting door and vertical grate, clear if necessary - Fig. 29.



<sup>1</sup> Only for LogWIN with automatic ignition (accessories).

### 3.2 Weekly

### 3.2.1 Removing the ash

Recommended cleaning implement: Scraper

- Attach ash pan at height of lighting door (central door) in the intended hook-in plate Fig. 30. Open lighting door and vertical grate and sweep most of the remaining ash from the filling chamber into the ash pan.
- Place ash pan under ash door (bottom door). Open ash door and carefully take all of the accumulated ash out of the combustion chamber and ash chamber Fig. 31.



Fig. 30 Attaching the ash pan, removing ash



and ash chamber



**CAUTION** The ash may be loaded with heavy metals. Heavy metals may affect soil fertility. Ash is not therefore suitable as a fertiliser and should be disposed of with residual waste.

### 3.3 Annually

### 3.3.1 Carburisation gas duct

Recommended cleaning implement: Cleaning brush and vacuum cleaner

- Clean duct for carburisation gas extraction - Fig. 32.



Fig. 32 Cleaning the carburisation gas extraction

### 3.3.2 Blower box, blower wheel



Before cleaning the blower box and blower wheel, de-energise the boiler! Disconnect the power plug at the rear – Fig. 33.

Recommended cleaning implement: Spatula, brush and vacuum cleaner

- Disconnect the blower plug Fig. 34.
- Remove the wing nuts from the blower unit Fig. 34.



Fig. 33 Disconnecting the power plug



Fig. 34 Disconnecting the blower plug and removing the wing nuts

- Remove the blower unit and clean the blower wheel Fig. 35.
- Clean the interior of the blower box thoroughly- Fig. 36.



Fig. 35 Cleaning the blower wheel

#### Assembly:

By working through these steps in reverse order.



Fig. 36 Cleaning the interior of the blower box

#### 3. Care, cleaning and maintenance

#### 3.3.3 Exhaust pipe

Recommended cleaning implement: Spatula, cleaning brush, soft cloth

- Clean the exhaust pipe leading to the flue through the cleaning opening provided in the exhaust pipe.
- Use soft cloth to clean flue gas sensor (accessories).

Watch out for the sensors in the flue outlet when cleaning the exhaust pipe. Do not bend or damage them. No warranty claims will be accepted for damage attributable to incorrect cleaning!

### 3.3.4 Upper coasting surfaces

CAUTION

Recommended cleaning implement: Spatula, brush and vacuum cleaner

- Remove the rear boiler cover Fig. 37.
- Remove the screw connections on the cleaning cover and remove the cover. Clean the upper parts of the coasting surface thoroughly – Fig. 38.



Fig. 37 Removing the rear boiler cover



Fig. 38 Cleaning the upper coasting surfaces

#### Assembly:

By working through these steps in reverse order.

#### 3. Care, cleaning and maintenance

### 3.3.5 Draught limiter (swinging draught flap)

Recommended cleaning implement: Spatula

If a draught limiter is fitted (by customer in flue or exhaust pipe), check this for ease of movement and if necessary clean or have adjusted by a specialist.

### 3.3.6 Filling, lighting and ash door

Recommended cleaning implement: Spatula

- Open the doors. Door seals must leave a clean imprint. Remove any crusting and deposits that could impair the door seals and ease of movement.

If the door seals do not leave a clean imprint or are not sealed, adjust the doors and/or replace the seals.

- If the doors do not move freely, lubricate the bearings of the door hinges with heat-resistant paste (e.g. graphite paste).

### 3.3.7 Thermocontrol sensor

Recommended cleaning implement: Brush, soft cloth

- Clean fly ash off the thermocontrol sensor with a brush or soft cloth - Fig. 39.



Fig. 39 Cleaning the thermocontrol sensor

### 3.3.8 Primary air and secondary air routes

These parts are also checked and cleaned during maintenance by Windhager Customer Service or the customer service partner.

Recommended cleaning implement: Spatula, vacuum cleaner

- Remove hook-in plates from both sides of filling chamber and check the primary air openings under them. Clear if necessary Fig. 40.
- Take out both burning plates, vacuum out the ash and check the secondary air openings under them. Clear if necessary Fig. 41.



g. 40 Removing hook-in plate; checking the primary air openings.



the secondary air openings.

Secondary air openings

#### Assembly:

By working through these steps in reverse order.

# r.

### 3.3.9 Lambda sensor

These parts are also checked and cleaned during maintenance by Windhager Customer Service or the customer service partner.

Recommended cleaning implement: Brush, soft cloth

- Remove the rear panel at the bottom Fig. 42.
- Disconnect the lambda sensor and unscrew it using an open-ended wrench (WAF 22) (Fig. 43). Carefully remove dirt with a brush or soft cloth.

<u>Fitting the lambda sensor</u>: Screw in sensor until hand-tight and use wrench to tighten around 1/4 of a turn. Connect the sensor. Screw rear panel back on.



Fig. 42 Unscrewing the rear panel at the bottom



Fig. 43 Disconnecting and unscrewing the lambda sensor

### 4. Emissions measurement

### 4.1 Preparation

- Complete boiler cleaning see Section 3.
- After the boiler cleaning process, let 4 or 5 burning cycles take place before measuring the exhaust gas.
- Prepare the fuel see Section 1.4
- Ensure there is sufficient heat consumption:
- The buffer tank must not be heated up.
- Mixer and radiator valves full opened.
- Set the controller to heating mode (sun).

### 4.2 Heating

- Start - see Section 2.3.

Tip!



Use pieces of softwood (max. 55 cm long) and place them with the split surface downwards – this will establish the necessary basic firebed sooner. Do not fill the filling chamber more than halfway – otherwise the burning time will be too long.

#### - Prepare the embers.

There must be sufficient embers to reach the top row of primary air openings in the hook-in plates. This requires heating for at least one hour after heating up.

Poke the embers through: make sure there are no cavities in the fire (push the embers and fuel wood compactly together through the lighting door/vertical grate).

### 4.3 Measurement

Start at least 5 minutes after placing the fuel on the firebed.

- The chimney sweeper function is started by pressing the chimney sweeper button (see InfoWIN Touch operating manual). At the start of the measurement, the boiler water temperature should be at least 60 °C and must not exceed 75 °C otherwise, check the heat consumption by opening the boiler and mixer valves, etc. The flue draught should be 0.10–0.20 mbar.
- Duration of measurement: 15 minutes

### 5. EC declaration of conformity

For the **LogWIN Premium** series of wood gasification boilers for solid fuels (Machinery Directive 2006/42/EC, Appendix II A)

Manufacturer: WINDHAGER ZENTRALHEIZUNG Technik GmbH Anton-Windhager-Strasse 20 A-5201 Seekirchen

Name and address of the person authorised to compile the technical documentation:

Dipl.-Ing. Richard Reiter Anton-Windhager-Strasse 20 A-5201 Seekirchen

Subject of the declaration: LogWIN Premium series of wood gasification boilers for solid fuels

The units conform to the relevant requirements of the Machinery Directive (2006/42/EC) and the EMC Directive (2004/108/EC).

In addition, we declare that we have applied the following technical standards:

EN 303-5:	2012-10	EN 60335-1:	2012-10
EN 61000-6-2:	2005	EN 61000-6-3:	2007 + A1:2011

Seekirchen, 21/ 3/ 2016

WINDHAGER ZENTRALHEIZUNG Technik GmbH

Rid Kede

Richard Reiter, Solid Fuel Development

WINDHAGER ZENTRALHEIZUNG Technik GmbH

Christoph Sandner, Executive Board

#### + WARRANTY CONDITIONS

The warranty conditions require that the boiler and related accessories be properly installed and started up by Windhager Customer Service or the customer service partner; otherwise the manufacturer's warranty will not be honoured.

Malfunctions resulting from improper operation or adjustment as well as use of poor-quality fuel types or fuel types that are not recommended are not covered by the warranty. Further, the warranty shall be void if equipment other than that provided by Windhager is installed. The special warranty conditions for your system are available in the "Warranty conditions" sheet supplied with your boiler.

Start-up and regular maintenance following the terms of the "Warranty conditions" will assure safe, environmentally friendly and economical operation of your system. We recommend that you obtain a maintenance agreement.

#### AUSTRIA

Windhager Zentralheizung GmbH Anton-Windhager-Strasse 20 A-5201 Seekirchen near Salzburg T +43 6212 2341 0 F +43 6212 4228 info@at.windhager.com Windhager Zentralheizung GmbH Carlbergergasse 39 A-1230 Vienna

#### GERMANY

Windhager Zentralheizung GmbH Deutzring 2 D-86405 Meitingen near Augsburg T +49 8271 8056 0 F +49 8271 8056 30 info@de.windhager.com Windhager Zentralheizung GmbH Gewerbepark 18 D-49143 Bissendorf

#### SWITZERLAND

Windhager Zentralheizung Schweiz AG Industriestrasse 13 CH-6203 Sempach-Station near Lucerne T +41 4146 9469 0 F +41 4146 9469 9 info@ch.windhager.com Windhager Zentralheizung Schweiz AG

Rue des Champs Lovats 23 CH-1400 Yverdon-les-Bains

Windhager Zentralheizung Schweiz AG Dorfplatz 2 CH-3114 Wichtrach

#### ITALY

Windhager Italy S.R.L. Via Vital 98c I-31015 Conegliano (TV) T +39 0438 1799080 info@windhageritaly.it

#### UNITED KINGDOM

Windhager UK Ltd Tormarton Road Marshfield South Gloucestershire, SN14 8SR T +44 1225 8922 11 info@windhager.co.uk

#### windhager.com



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