

 **LOGOSOL**

USER MANUAL

Ref. No. 0458-395-0631



LOGOSOL WDU WOOD DRYING UNIT

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THANK YOU FOR CHOOSING A LOGOSOL MACHINE!

Welcome! We are very pleased that you have demonstrated your confidence in us by purchasing this wood drying kiln, and we will do our utmost to meet your expectations.

Logosol has been manufacturing sawmills since 1989. In that time we have supplied approximately 50,000 machines to satisfied customers the world over.

We care about your safety as well as we want you to achieve the best possible results with your wood drying kiln. We therefore recommend that you take the time to carefully read this user manual from cover to cover in peace and quiet before you begin using the equipment. Remember that the machine itself is just part of the value of the product. Much of the value is also to be found in the expertise we pass on to you in the user manuals. It would be a pity if that were not utilised.

We hope you get a lot of satisfaction from the use of your new equipment.

Bengt-Olov Byström

Bengt-Olov Byström
Founder and Chairman,
Logosol in Härnösand, Sweden



Read through the user manual carefully and make sure you understand its contents before you use the equipment.



This user manual contains important safety instructions.



WARNING! Incorrect use can result in serious or fatal injuries to the operator or others.



LOGOSOL continuously develops its products.
For this reason, we must reserve the right to modify
the configuration and design of our products.
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Illustrations: Martin Melin
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TABLE OF CONTENTS

Safety instructions	4
Machine description	5
Drying chamber	5
Assembly	6
Setting the thermostat	6
Maintenance	7
Components: WDU wood drying unit	8
Technical data / electrical system	10
CE Declaration of conformity	11

SAFETY INSTRUCTIONS



For your own safety, do not start the Logosol WDU wood drying unit without first having read and understood all the contents of this user manual. Do not let persons who have not read the instructions use the Logosol WDU.



If used incorrectly, the WDU can cause injury and material damage.

KEY TO SYMBOLS



This symbol means 'WARNING'. Pay particular attention where this symbol appears in the manual text.



This symbol is followed by instructions that must be observed. Pay particular attention where this symbol appears in the manual text.

WHEN USING THE EQUIPMENT

The drying unit may only be used for drying wood in a chamber intended for this purpose.



Risk of fire.



For maximum electrical safety and fire safety, a residual current circuit breaker should be used.



Ensure that the air in the drying cabinet can circulate and that the wood is not closer to the drying unit than 0.3 m.



The drying chamber should be set up such that the damage that can occur in the event of a fire is minimized. We recommend that you contact your local fire authority for advice if you are unsure.



Risk of water damage.



Condensed water from the drying process can leak out of the drying chamber. Place the drying chamber on a surface that can withstand water.



Set up the drying chamber in a place that can withstand moist air.

During use:

- Never set the thermostat at a higher temperature than 50 degrees C.
- Place the wood drying kiln such that the start / stop button is not blocked.
- Never step on the power cable of the drying unit. The cable should be protected against accidental damage.
- The WDU wood drying unit must not be modified or rebuilt.
- The machine's warning labels are there for your own and others' safety. Damaged or illegible labels must be replaced.



In this user manual "**cut the power**" means that the cable that supplies power to the drying unit should be disconnected from the mains and placed such that no unqualified person can reconnect it. Wait until the drying unit has completely cooled.

Cut the power:

- before touching the part of the drying unit that is on the inside of the drying chamber.
- before opening any of the inspection hatches on the drying unit.
- before cleaning or other maintenance.
- before moving the drying unit.



Risk of burn injury.



The drying unit has hot heating elements. It must not be started until it is correctly installed in a drying chamber, and the drying chamber is closed. Never put your hands inside the drying unit if the power cord is not disconnected.

BEFORE CONNECTING THE EQUIPMENT TO THE MAINS

Check that:

- no loose objects are left inside the drying unit.
- all inspection hatches are correctly fitted.
- the power cable is in good condition.
- the labelling of the drying unit matches your electrical connection.

MACHINE DESCRIPTION

The Logosol WDU is a drying unit intended for installation through the wall of a drying chamber and for drying wood that is clean from sawdust and dirt. The WDU generates heat and sets the air in the chamber in motion to reach a uniform drying result and minimize cracking and movement in the wood. The machine consists of a centrifugal fan that blows out the air through an electrical heater, and an air inlet that mixes cold outside air with the heated air stream. The fan runs continuously while the WDU is switched on. The heater is controlled by a thermostat, which measures the temperature of the circulating air, and is adjusted from the outside of the drying chamber. The WDU raises the temperature of the

circulating air with approx. 25 degrees C when the heater is activated. In addition to the thermostat, the WDU has an overheating protection that turns off the WDU if the temperature gets too high.

DRYING CHAMBER

The Logosol WDU must be installed in an insulated drying chamber with a volume of at least 1 m³ and max. 4 m³, and with these minimum dimensions: L: 2 m, W: 0.5 m, H: 1 m. Install the WDU through the short side of the chamber.

- The wood that is to be dried must not be placed closer to the WDU than 0.3 m.
- The wood should have a thickness of at least 10 mm and be securely stacked in the chamber.
- The drying chamber should be made of a material that that can withstand at least 80 degrees C.
- It is optional to use the air inlet of the drying unit (A6), the purpose of which is to increase circulation in the chamber.
- The drying chamber should always have a thermometer that can be read from the outside and that have a temperature sensor on the inside.
- The drying chamber should have a valve to let out moist air.

THERMOMETER

Use an oven thermometer or the like that can withstand temperatures above 100 degrees C. Check the thermometer by immersing the sensor in boiling water. The thermometer should then read approx. 100 degrees C.

The sensor of the thermometer should be placed on the short side opposite to the WDU in the chamber, and at a height of 0.5 m above the chamber floor.

ASSEMBLY

- The WDU must not be installed closer than 10 cm from the floor, ceiling or walls of the chamber.
- The Logosol WDU must be installed through an opening that is 250 mm in width and 505 mm in height, and be mounted level. The unit must be mounted with the air outlet downwards.
- The air outlet of the drying unit should not be directed towards the material being dried, but should blow in the air under the material.
- Check that the external cooling fan of the fan motor has free space, and that the controls of the electrical system are easily accessible.

CHECKING THE FUNCTIONING OF THE FAN

When the WDU is correctly installed in a closed drying chamber, check that the cooling fan of the fan motor (B10) rotates in the right direction (clockwise seen from the back of the motor). If the fan does not start or rotates in the wrong direction when the WDU is switched on, cut the power.

ADJUSTING THE THERMOSTAT

The air circulation allows the WDU to dry the wood quickly and energy-efficiently at relatively low temperatures. Set the thermostat to a maximum of 50 degrees C. The temperature can be lowered if you want to save energy.

Check the internal temperature of the chamber during operation. It is normal that the thermometer shows a lower temperature than the the set value of the thermostat. If the thermometer shows a higher temperature than the set value, turn off the WDU and check the functioning of it.

CHECKING THE FUNCTIONING OF THE THERMOSTAT

Cut the power. Place the WDU in a room that is heated to at least 20 degrees C, and wait until the WDU has reach the same temperature. Turn the setting knob of the thermostat (B11) to below 20 degrees C and then turn it back to above the ambient temperature. You should hear a distinct click when the setting knob passes the ambient temperature. If no click is heard, the WDU must not be started.

Read separate drying instructions or use Logosol's smartphone application for optimum drying technique.

MAINTENANCE

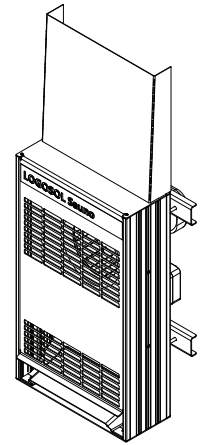
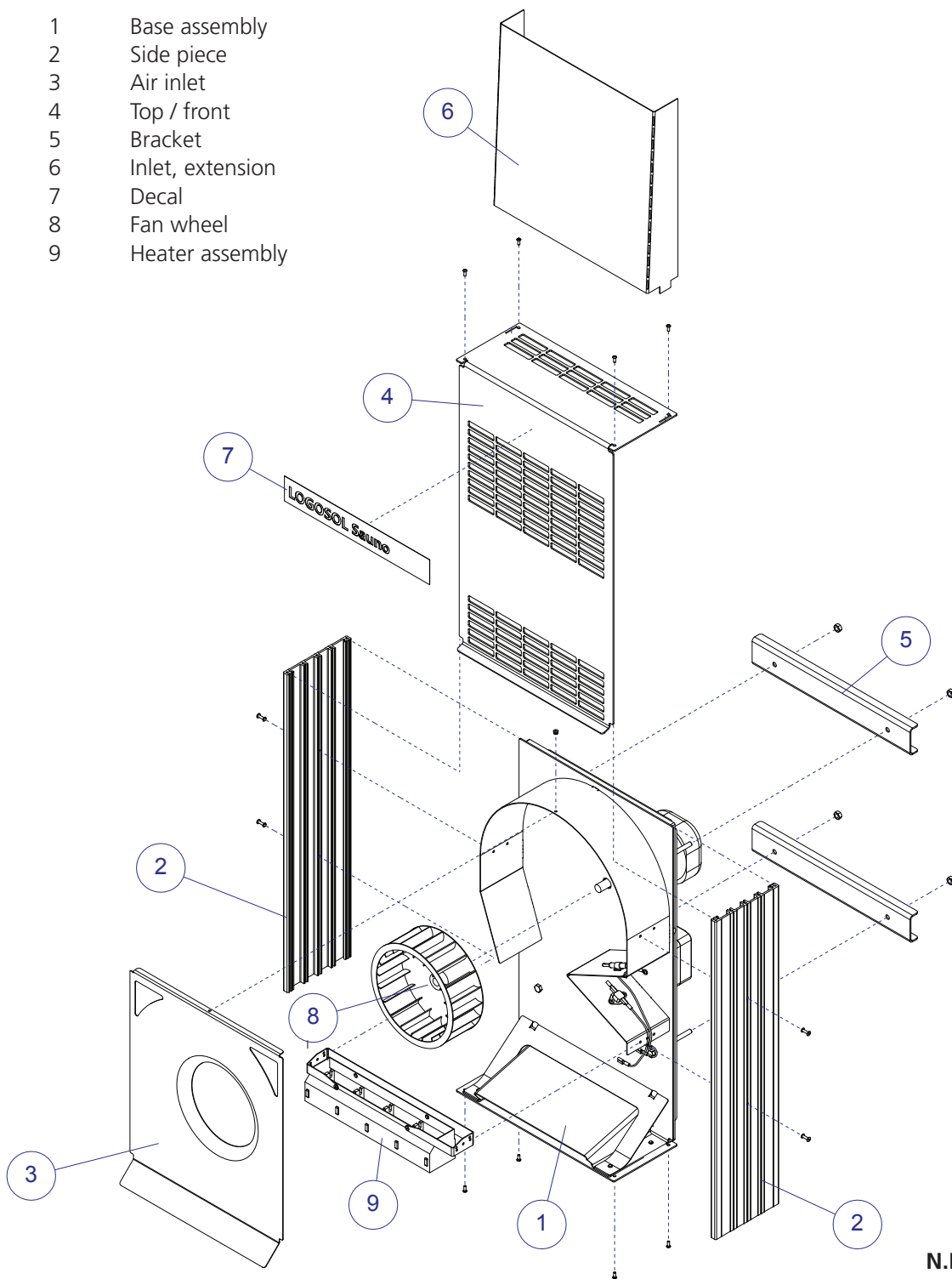
The parts of the drying unit can be attacked by corrosion. Some sorts of wood are more corrosive than others. The fan wheel (A8), the heater and the heater bracket (A9) are parts that will be worn by corrosion and have to be replaced after a period of time.

After every fifth drying cycle or as needed:

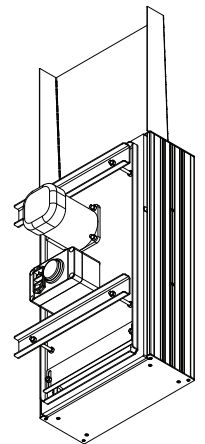
- Cut the power.
 - Remove the drying unit from the drying chamber.
 - Open the front grille (A4).
 - Check that the fan wheel and the heater are not damaged by corrosion. If that is the case, replace damaged parts.
 - Check that the fan wheel can rotate freely.
 - If necessary, clean the heater (A9) and the fan wheel (A8) with a soft brush, soap and water.
 - Make sure all water has dried before reinstalling the grille (A4) and restoring the WDU to its original design.
- Check that the motor and its external cooling fan are clean. Remove any dirt.
 - Only use original spareparts, attachments or accessories that are supplied by Logosol or that are specifically approved by Logosol for the purpose. **After service, the drying unit has to be restored to its original design.** All parts have to be correctly installed before the drying unit is taken into use.

COMPONENTS: WDU WOOD DRYING UNIT EXPLODED VIEW A

- 1 Base assembly
- 2 Side piece
- 3 Air inlet
- 4 Top / front
- 5 Bracket
- 6 Inlet, extension
- 7 Decal
- 8 Fan wheel
- 9 Heater assembly



Assembled view (front)



Assembled view (back)

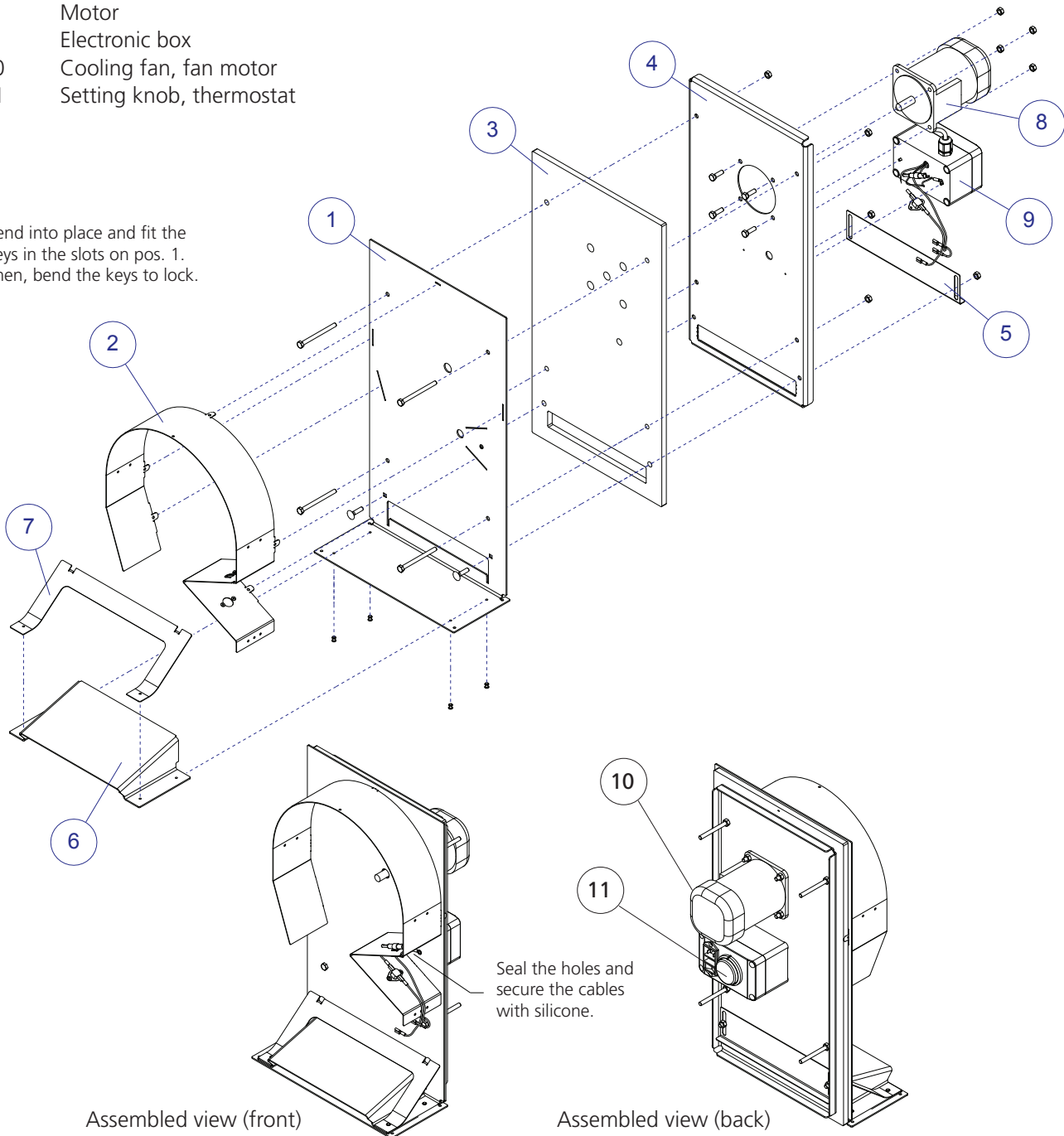
N.B.

Note the orientation of pos. 2 (the longest distance between hole and edge should be facing upwards).

COMPONENTS: WDU WOOD DRYING UNIT EXPLODED VIEW B

- 1 Bottom / back
- 2 Fan housing
- 3 Back piece, foam plastic
- 4 Outer back piece
- 5 Choke
- 6 Vent
- 7 Spoiler
- 8 Motor
- 9 Electronic box
- 10 Cooling fan, fan motor
- 11 Setting knob, thermostat

Bend into place and fit the keys in the slots on pos. 1. Then, bend the keys to lock.



TECHNICAL DATA

LOGOSOL WDU WOOD DRYIN UNIT	
Height	545 mm
Length	315 mm
Depth without motor	125 mm
Depth with motor	275 mm
Weight	8.7 kg
Power	2.2 kW
Electrical supply	230 V, 10 A

ELECTRIC SYSTEM



Risk of electric shock.



The electrical equipment may only be opened by a qualified electrician.

Wiring diagram is found inside the junction box of the drying unit.



EU declaration of conformity

LOGOSOL AB,
Fiskaregatan 2
S-871 33 Härnösand
SWEDEN
Phone: +46 611 18285,

hereby declares that **Logosol WDU Wood Drying Unit** is manufactured in conformity with:

Machinery Directive 2006/42/EG, EMC Directive 2004/108/EG and LVD Directive 2006/95/EG.

Mattias Byström, Product Manager, is responsible for technical documentation.

Härnösand 2019-12-12
Malte Frisk, CEO

A COMPLETE WOOD DRYING KILN!

Never before has it been so easy to get perfectly dried timber

For joinery you need dry wood. Mouldings, furniture, floors and windows are examples of when the dryness of the wood is particularly important. Preferably, the wood should have a moisture content down to, or even below, 10% and have no cracks. This can be hard to achieve by traditional air drying. With your own drying kiln, you produce perfectly dried, valuable joinery timber in a few weeks.

Recommended moisture content for timber:

Furniture-dry	6-10 %
Room-dry, joinery-dry	10-15 %
Gluing-dry	14 %
Planing-dry	15-19 %
Air-dry (shipping-dry)	15-23 %

A wide interest

It is clear that there is a wide interest in the drying chamber with the updated Sauno drying unit. Logosol's products make it very easy. Never before has there been a complete solution, where you can be up and running with drying your joinery timber within an hour after you started assembling the equipment.

Advantages of the WDU drying unit:

- ✓ Powerful fan action for effective circulation in your drying chamber.
- ✓ Integrated air intake.
- ✓ Uniform & controlled drying result.
- ✓ Perfect together with the Logosol Drying Chamber that has a top valve for controlling how quickly the steam is let out.

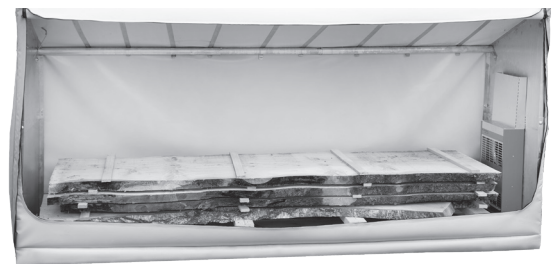


LOGOSOL WDU Wood Drying Unit

SKU: 6200-000-0000

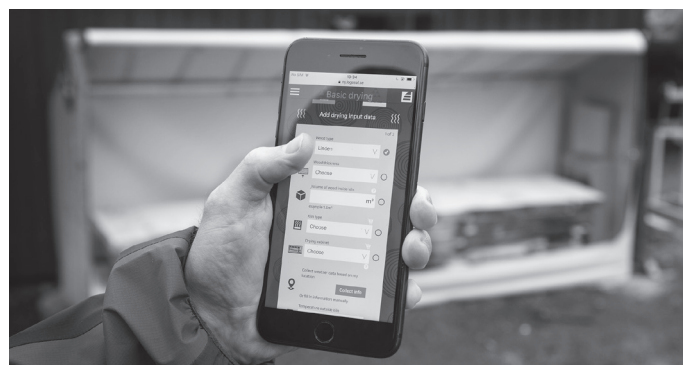
Advantages of the drying chamber:

- ✓ Loading in is easy thanks to the big opening.
- ✓ Uniform and controlled drying result.
- ✓ Perfectly dried, valuable joinery timber in a few weeks. Within a week you will have dried pine timber ready for planing and moulding.
- ✓ Energy-efficient drying with a perfect result. You get less cracks and warping compared to air-dried timber.
- ✓ The drying chamber together with the drying unit only weighs about 50 kg; it can easily be moved by two people.



LOGOSOL WDU Wood Drying Unit incl. Drying Chamber

SKU: 6200-555-0000



LOGOSOL APP FOR DRYING

In 2020, Logosol will launch an app for wood drying. By entering some values, such as sort of wood, thickness, volume and outside temperature e.g., you get instructions on how to set the dryer and a forecast for when the wood will have dried to the desired percentage.

The app is an interactive system, which allows everyone who uses the drying chamber to enter their actual values. The constants of the mathematical calculations are thus continuously updated, making the drying instructions and forecasts relatively accurate. The app is easy to use and makes you a drying expert right away.



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