

November 30, 2023

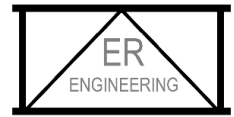
## Thermowood Sauna

Location	Steamboat Ski and Resort Corp 2305 Mt. Werner Cir. Steamboat Springs, CA 80487
Client	Danny Leo
ERE Project Number	23.100.07
Revision Number	2



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Allen A. Winzler, P.E.  
CO Registration No.: 63242



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### **Project description**

This project is the review of a wood sauna structure manufactured by Backcounty Recreation. The structure resembles a large barrel laid on its side, supported on two saddle boards and mounted on a base platform. The structure including the base is 8'-4.75" tall by 7'-9.5" wide by 8' long and weighs approximately 2,500 pounds.

### **Scope of work**

Entertainment and Rigging Engineering has reviewed the structure to determine the wind loads that can be resisted and the roof snow loads that can be supported.

### **Assumptions, Requirements & Limitations**

- Any structures, attached elements, activities, or conditions on-site not specifically described in scope of work above have not been reviewed by ER Engineering and are the responsibility of others.
- Snow will be manually removed from the roof if accumulations reach a depth of 36 inches.

### **Summary of Conclusions**

This review has determined that the structures included in our scope of work can safely remain stable in wind gusts up to 90 mph (Basic/Mapped Wind speed of 115 mph) and can safely support roof snow loads in excess of 60 psf (Ground Snow Load of 85 psf).

### **Revisions**

- 1 Clarified wind and snow load design criteria. Added requirement for excess snow to be removed.
- 2 Updated location name.

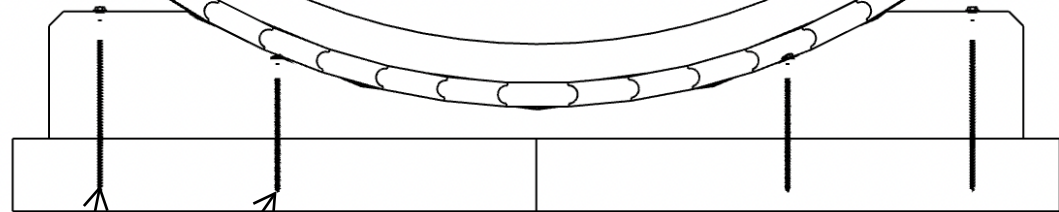
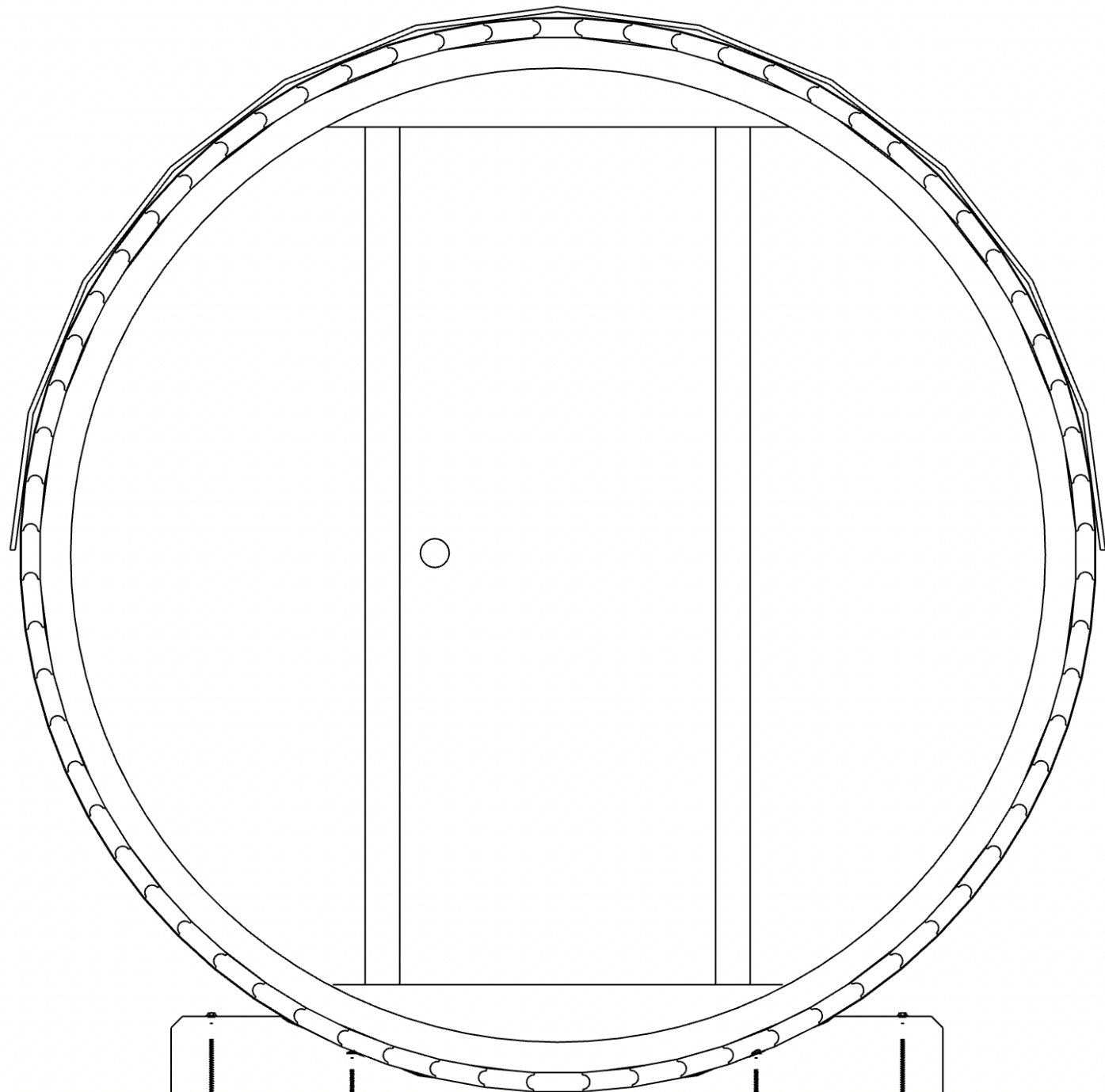




# APPENDIX A

## REFERENCE DRAWINGS

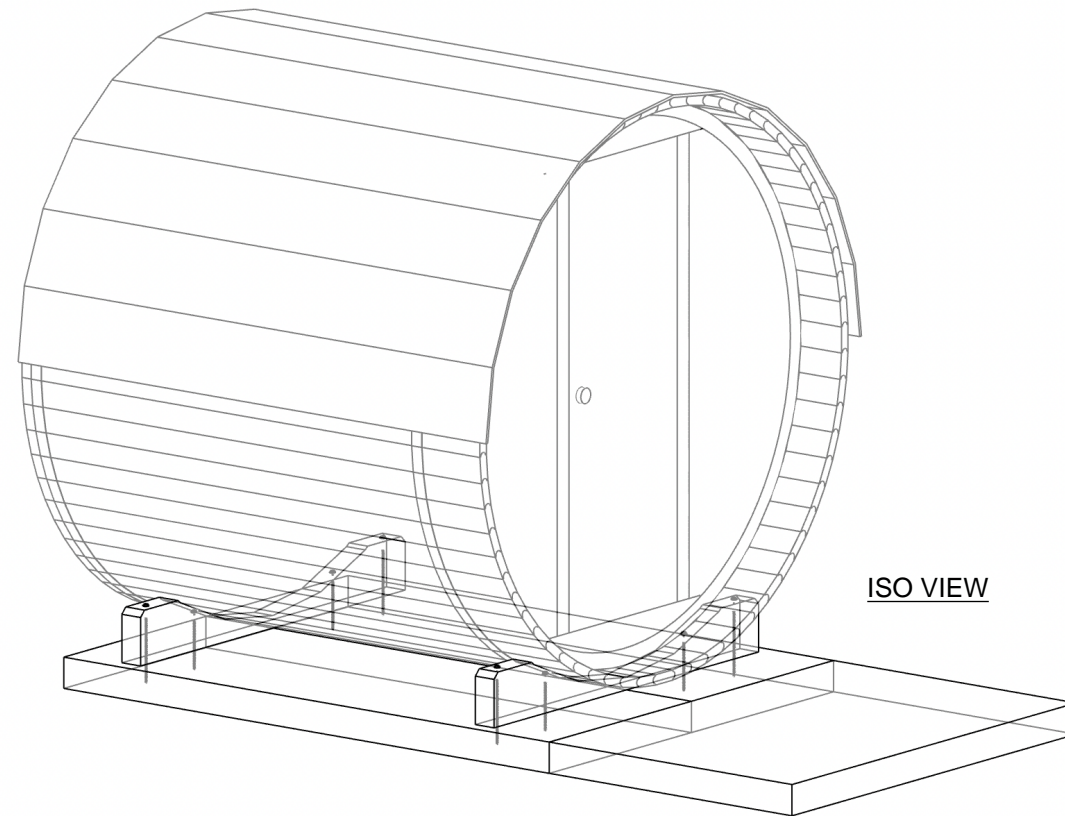




FRONT ELEVATION

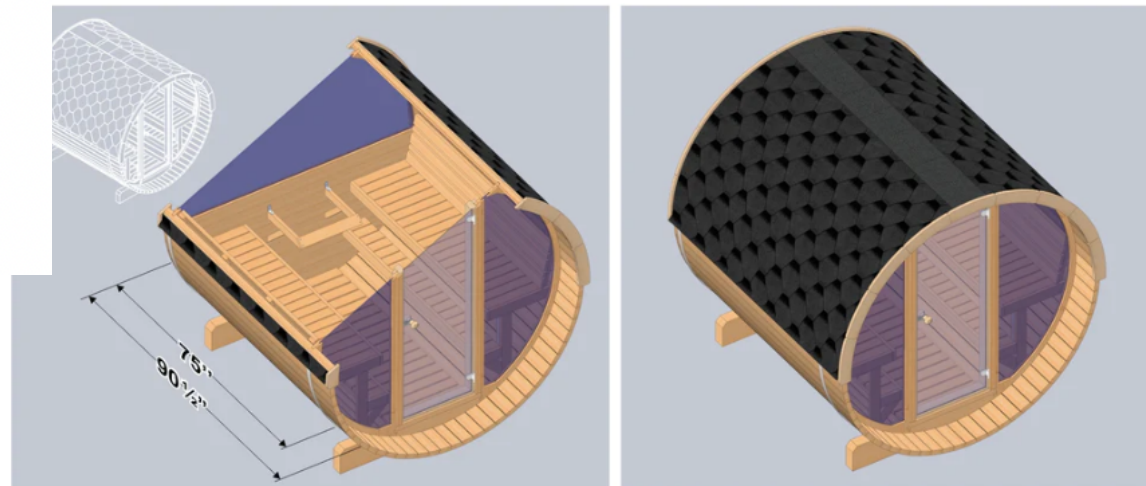
6' X 8' X 5.25" THICK  
BASE PLATFORM

3/8" LAG BOLTS, RECESSED 1" AND THRU-DRILLED  
IN SADDLE SUPPORT, LENGTH TO PROVIDE 4"  
THREAD ENGAGEMENT IN BASE PLATFORM, LOCATE  
TO BE CENTERED ON BASE PLATFORM BOARDS  
(NOT ON BOARD EDGE OR BETWEEN BOARDS)



ISO VIEW

MANUFACTURER'S SPECIFICATIONS



	95 1/2"		92 1/4"		67" x 8 3/4"		93"x43 1/4"x37"
	93 1/2"		74 1/2" 27 1/4"x1		73 3/4"		2,000 lbs



Entertainment and Rigging Engineering  
6310 Donegal Drive  
West Chester, OH 45069  
(513) 614-0401

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Project Name

THERMOWOOD SAUNA

Event/Venue Name and Address

2305 MT. WERNER CIR.  
STEAMBOAT SPRINGS, CO 80487

Client Name and Address

ISSUE/REVISIONS

Sheet Name

SAUNA ASSEMBLY

Project No.

23.100.07

Date

2023-11-30

Sheet

S1.0



BACKCOUNTRY RECREATION  
HOT TUBS & SAUNAS

## 6 Person Scenic Vista Sauna Installation Manual

Please read and understand the complete instructions prior to assembly and use of your sauna. Customer agrees not to hold Redwood Outdoors or any of its authorized dealers liable for improper installation, maintenance and repair of this product.

*[www.backcountryrecreation.com](http://www.backcountryrecreation.com)*



**6 Person Scenic Vista Sauna**

## *Before Installation*

### **READ THIS ENTIRE MANUAL THROUGH TO THE END BEFORE PROCEEDING WITH THE ASSEMBLY.**

Our sauna kits are designed for ease of assembly by the customer, and every attempt has been made to make assembly information as clear as possible. If you have any questions about assembly, please do not hesitate to call us at **1877-446-3565 options 2**, or send us an email at **info@backcountryrecreation.com**.

Thank you again for choosing Redwood Outdoors. We are grateful for your business and know you will have many years of enjoyment in your sauna!

### **ELECTRICAL REQUIREMENTS**

All electrical heater wiring must be performed by **A QUALIFIED LICENSED ELECTRICIAN**.

Use copper wire with 90C insulation. Do not use aluminum wire to make the connection. Consult with an electrician so you can determine the requirements for your particular situation. All wiring must conform to all national, state, and local codes and regulations. For further information and instruction on your heater installation and operation, please consult the provided heater manual.

### **CHOOSE A SITE WITH A STRONG AND LEVEL FOUNDATION**

It is important to choose a site that has a level, strong, and stable foundation. This is critical because a sauna with several bathers inside can weigh well over 1000 lbs. A deck or concrete pad (patio) are both excellent options for placing your sauna atop. If you will be placing the sauna directly on the ground, we recommend you rest the support cradles atop concrete pavers to prevent the cradles from settling into the ground. This could result in the sauna not sitting level and may cause issues over time.

### **CONCRETE PAD**

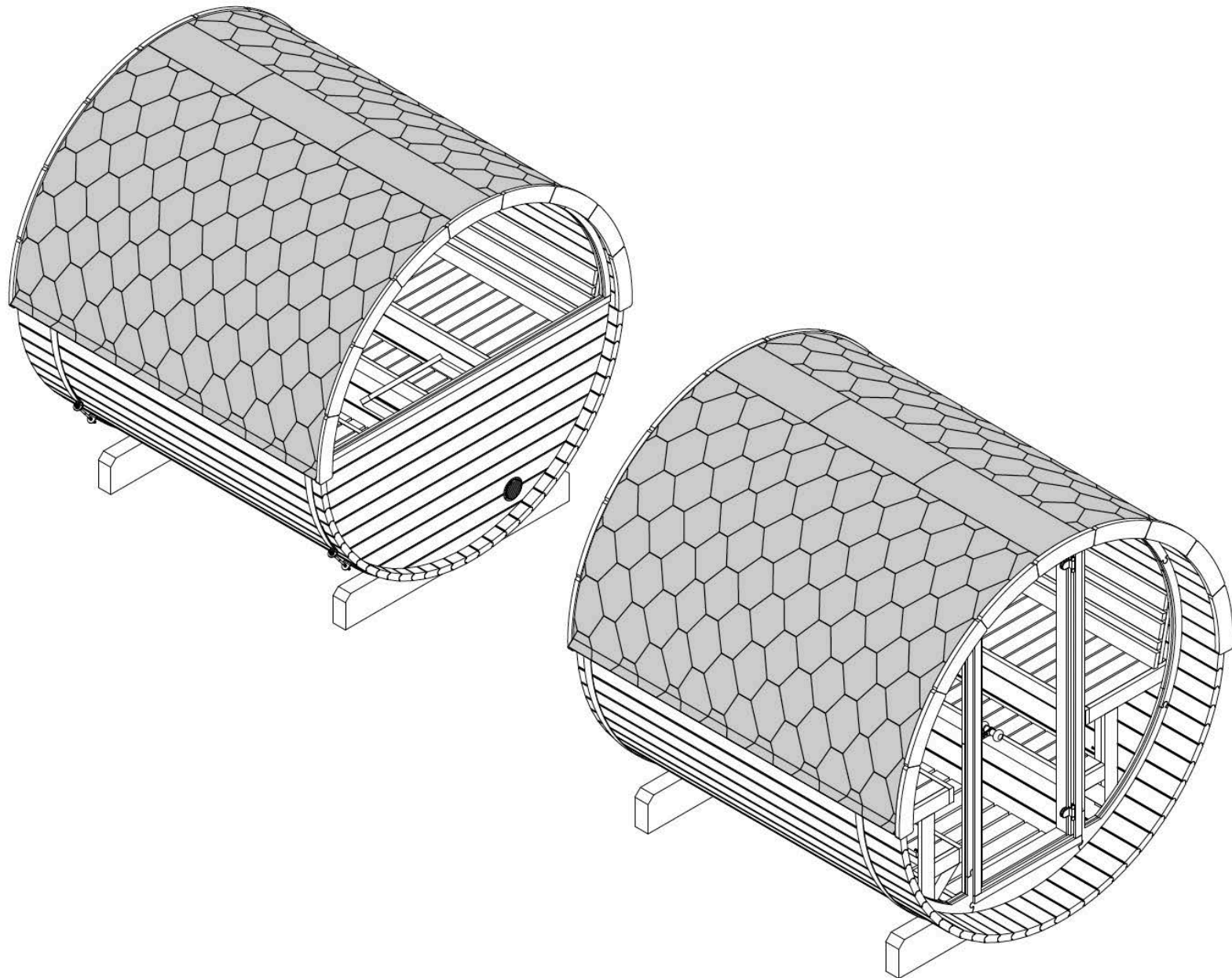
If constructed properly (compacted well and leveled), a concrete pad will maximize the life of your sauna. The concrete pad should be at least 4" thick and reinforced with mesh to minimize cracking. We recommend constructing the pad significantly larger than needed for the sauna alone, as this will allow room for accessories such as chairs and tables. There is a wealth of information available online with instructions on how design and pour a concrete pad.

### **DECK INSTALLATIONS**

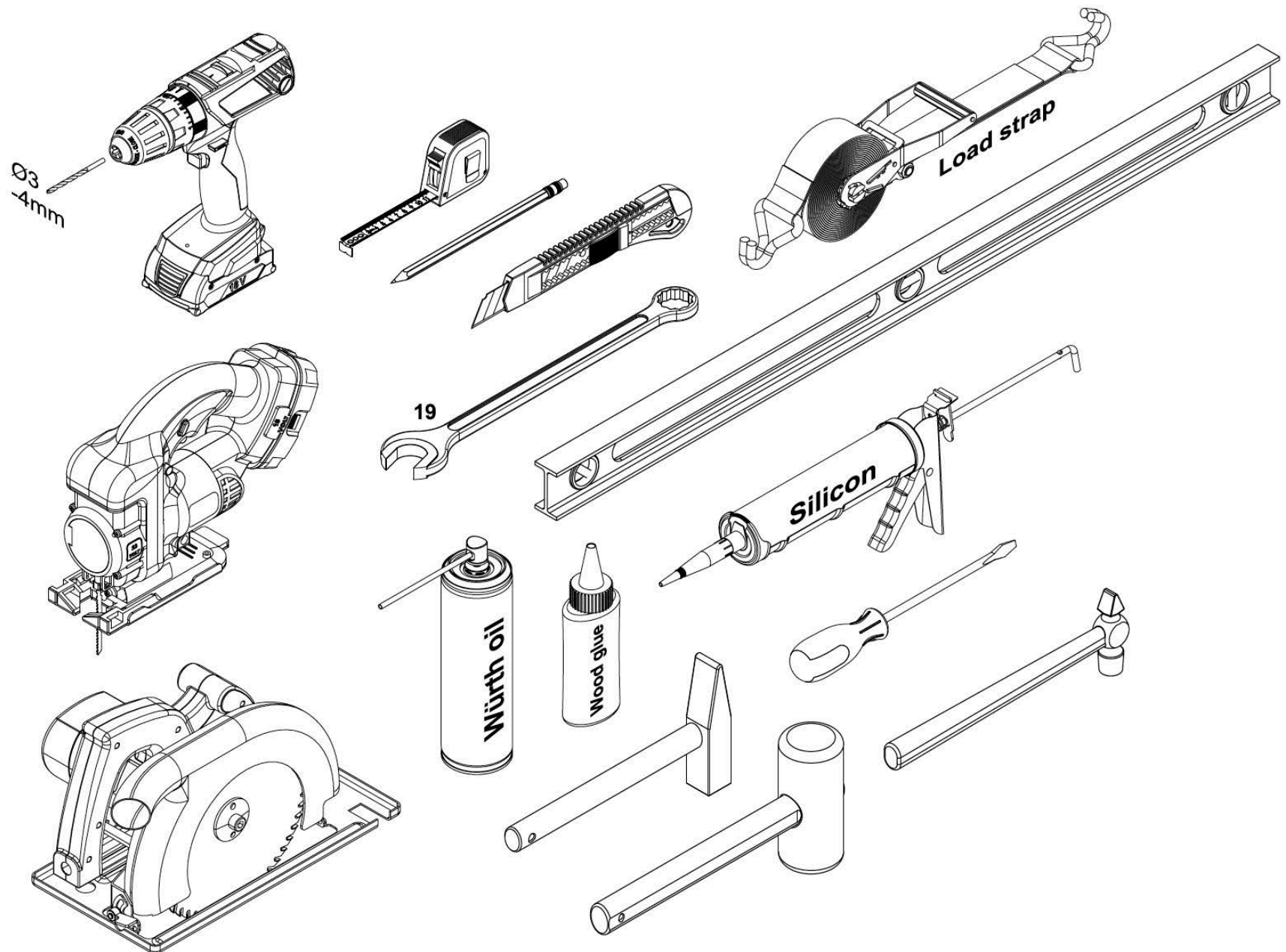
If you have ever seen a sauna on a deck, you know it is a wonderful place for a sauna. It looks great, and it is close to the house, meaning you will maximize your usage of the sauna. If you choose to install your sauna on a deck, be sure that your deck has been designed to support the weight of a full sauna (over 1,000 lbs). We recommend you have the deck inspected by a qualified architect or building engineer prior to proceeding.



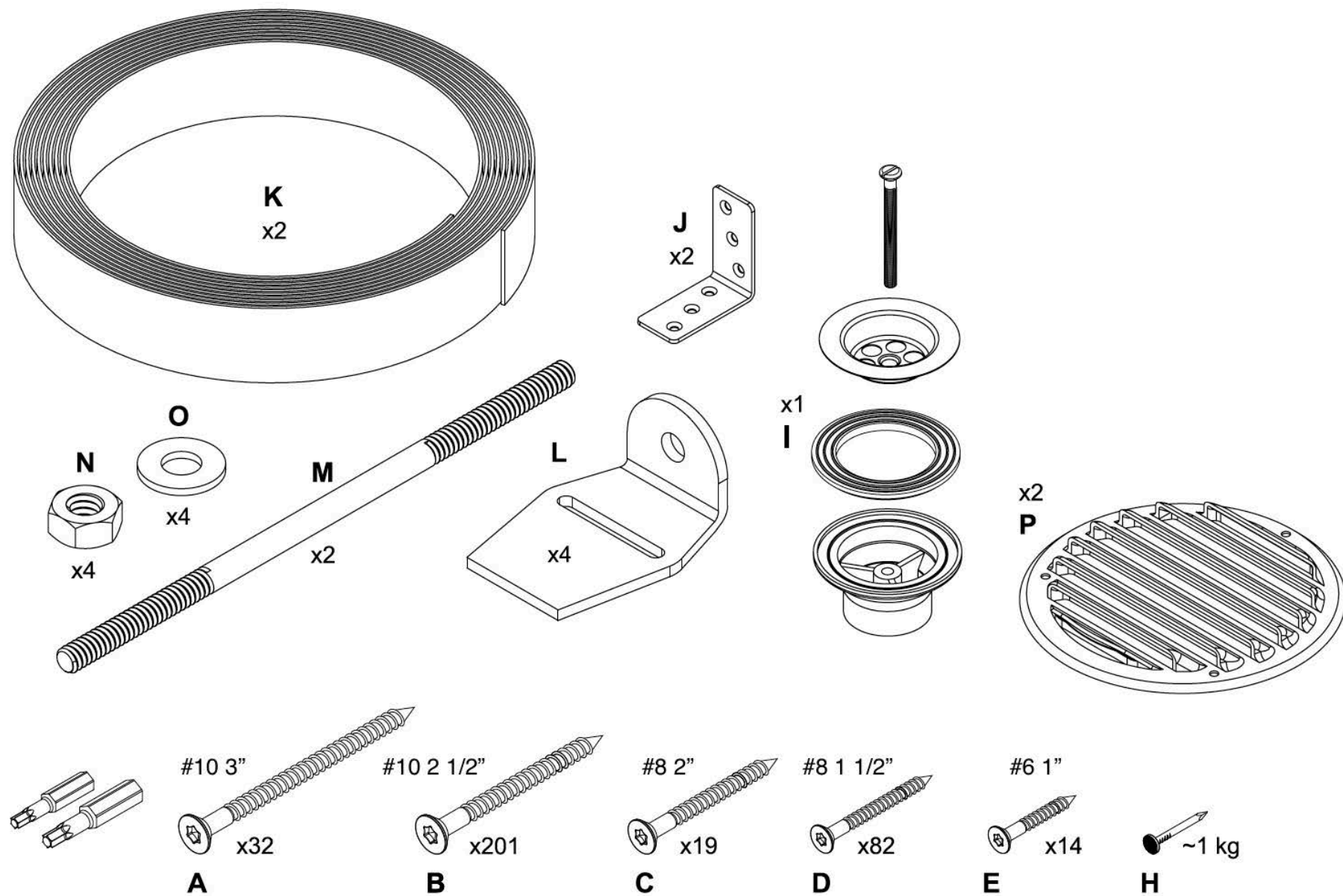
## *Finished Sauna*



## Tools Needed for Assembly (Not Provided)

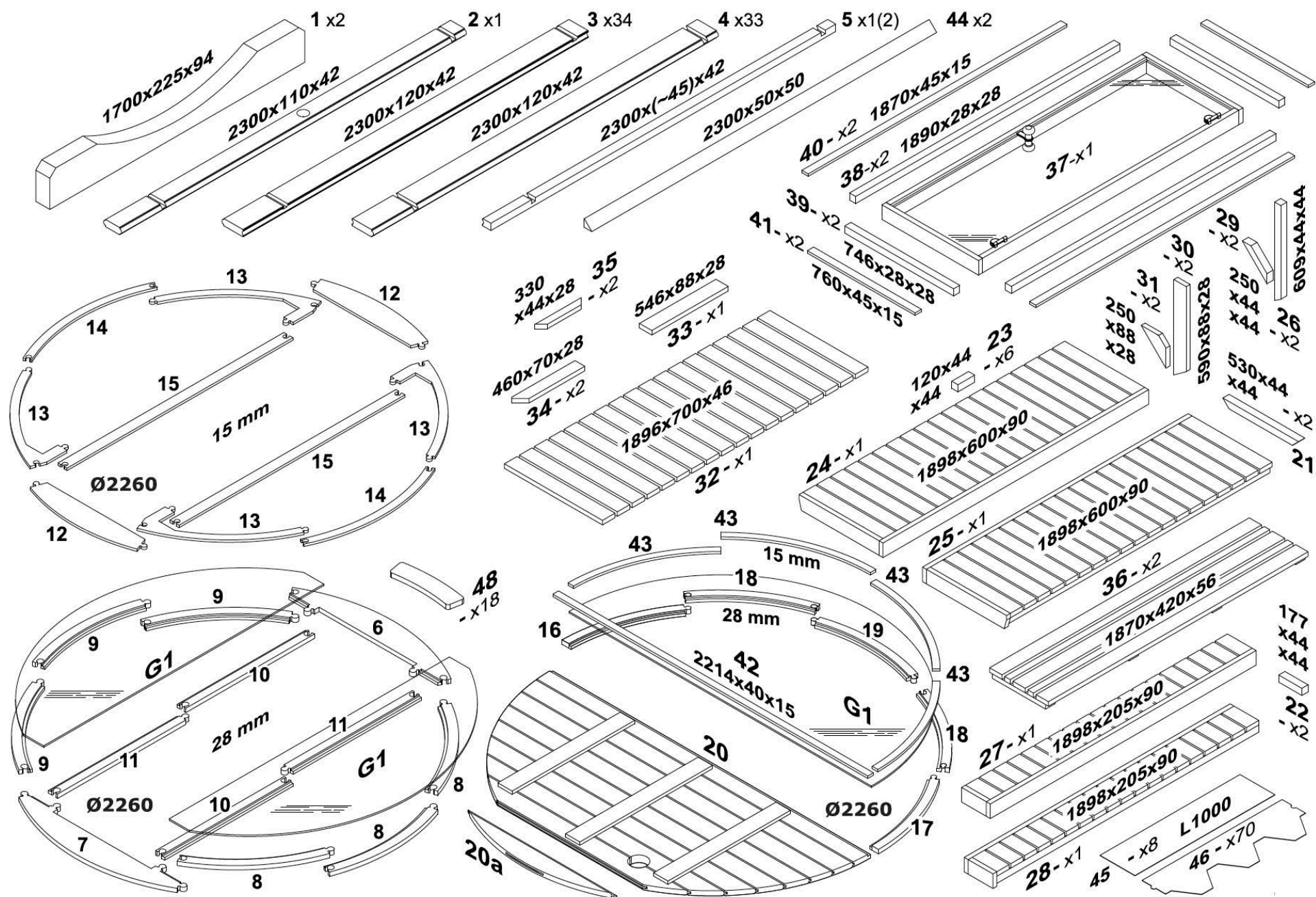


## Hardware Provided





# Parts List



### PAINTING

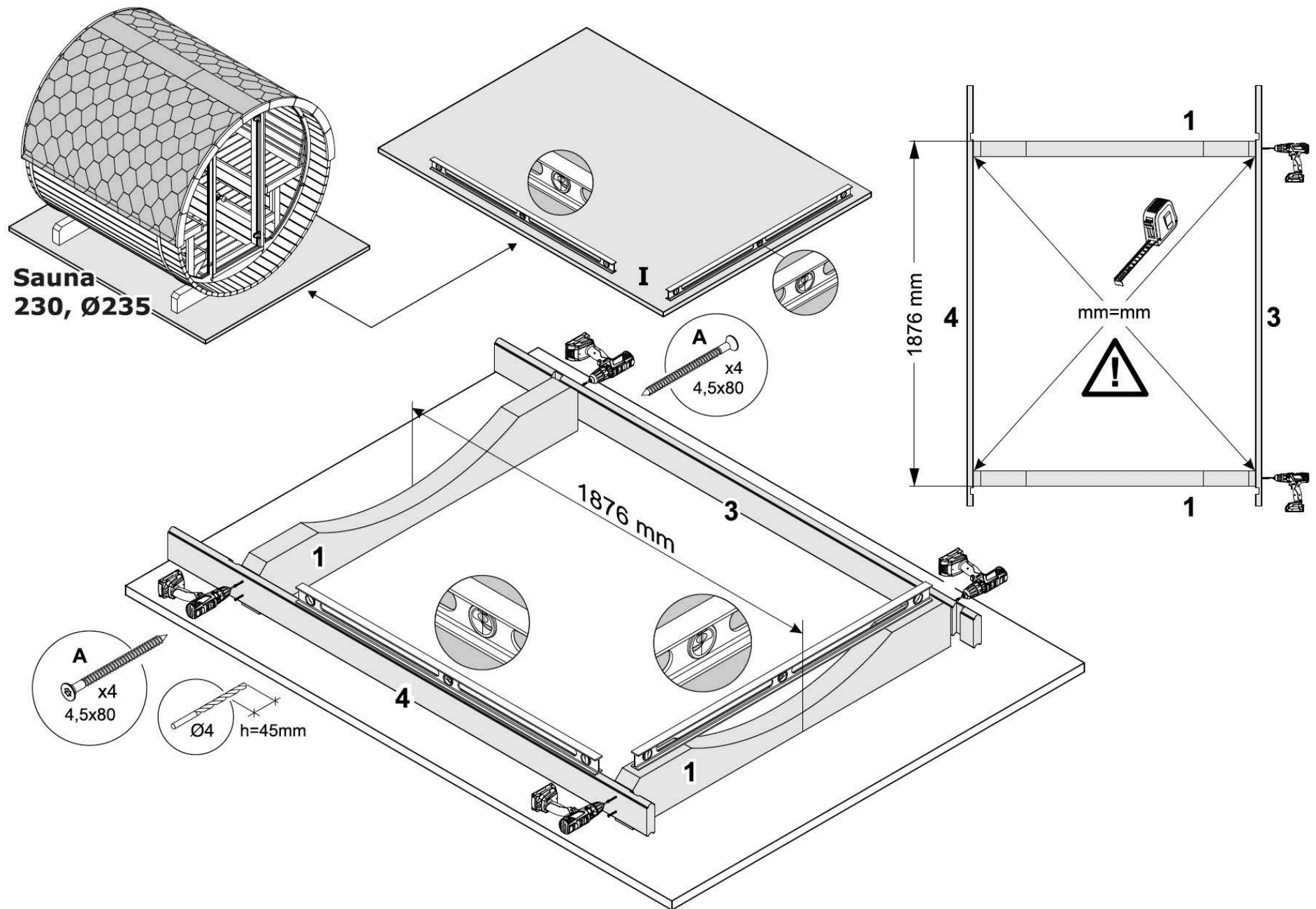
The wooden cradles (**part detail 1**) and the wooden gables (**part detail 48**) should be painted or stained with an exterior wood sealant to increase their longevity and protect against rot.

The front wall glass frames (**part details 12, 13, 14, 15, 42, and 43**) are a lighter color than rest of the sauna's wood and can be painted or stained to a darker color to better match the color of the sauna body. However, **no parts that are inside the sauna should be painted**, if you decide to paint these pieces be careful to paint the **outer face only**. If exposed to the high temperatures inside the sauna, the paint may vaporize and release harmful gases. This step can be skipped depending on your aesthetic preference.

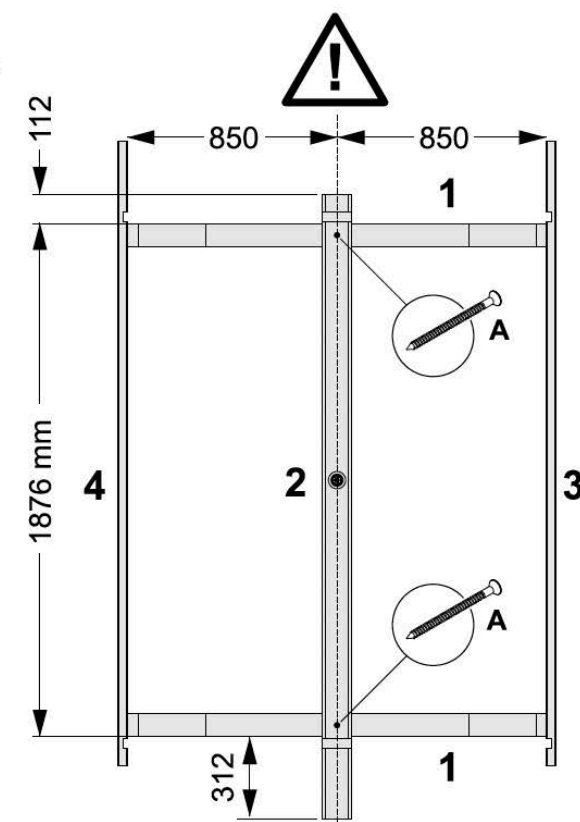
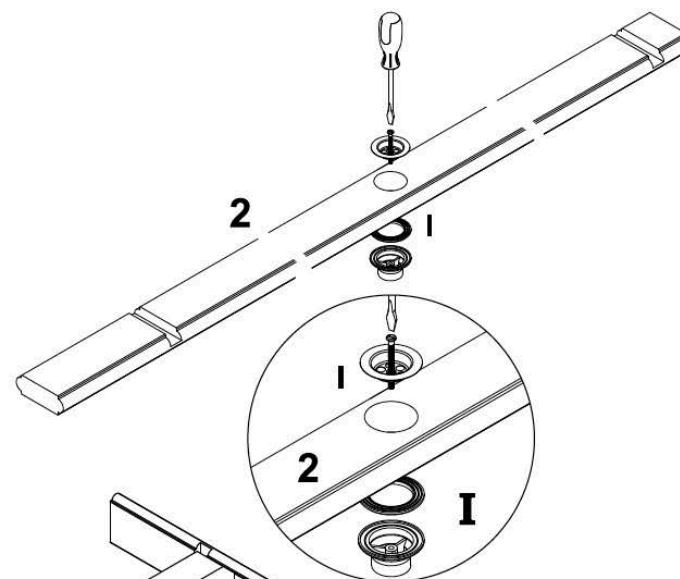
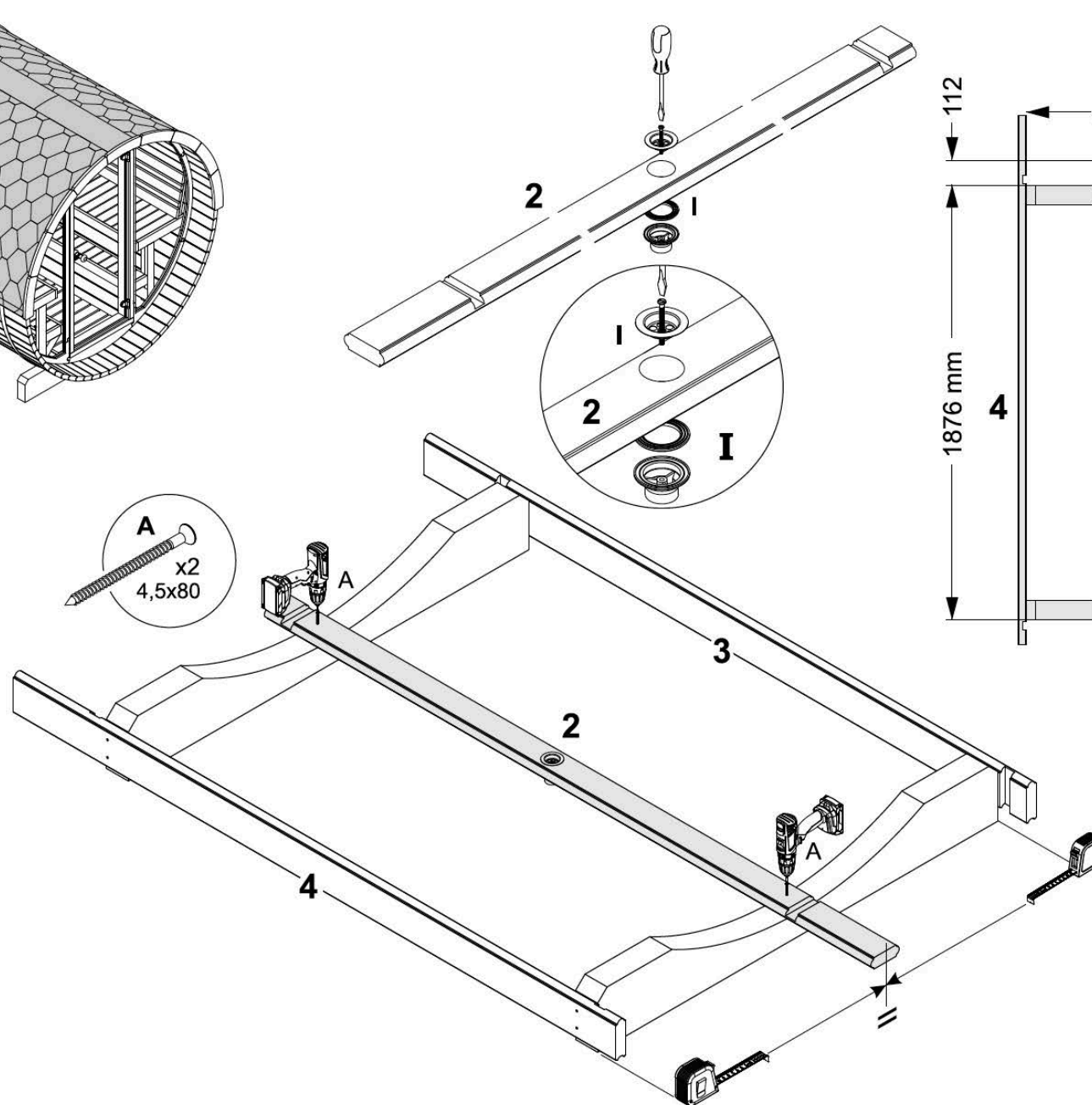
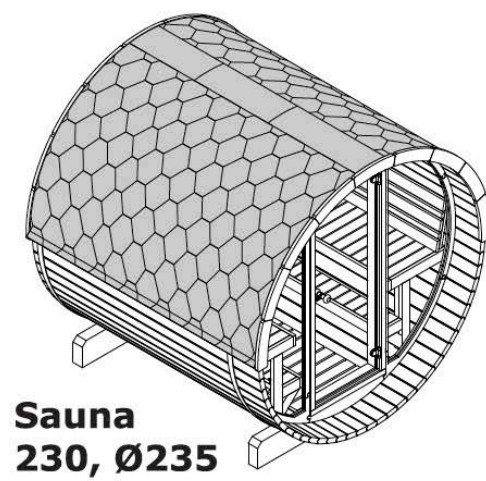
We recommend painting before starting assembly. A bottle of paint was included in your crate. You can purchase another paint if you prefer a different color.



## Sauna Assembly

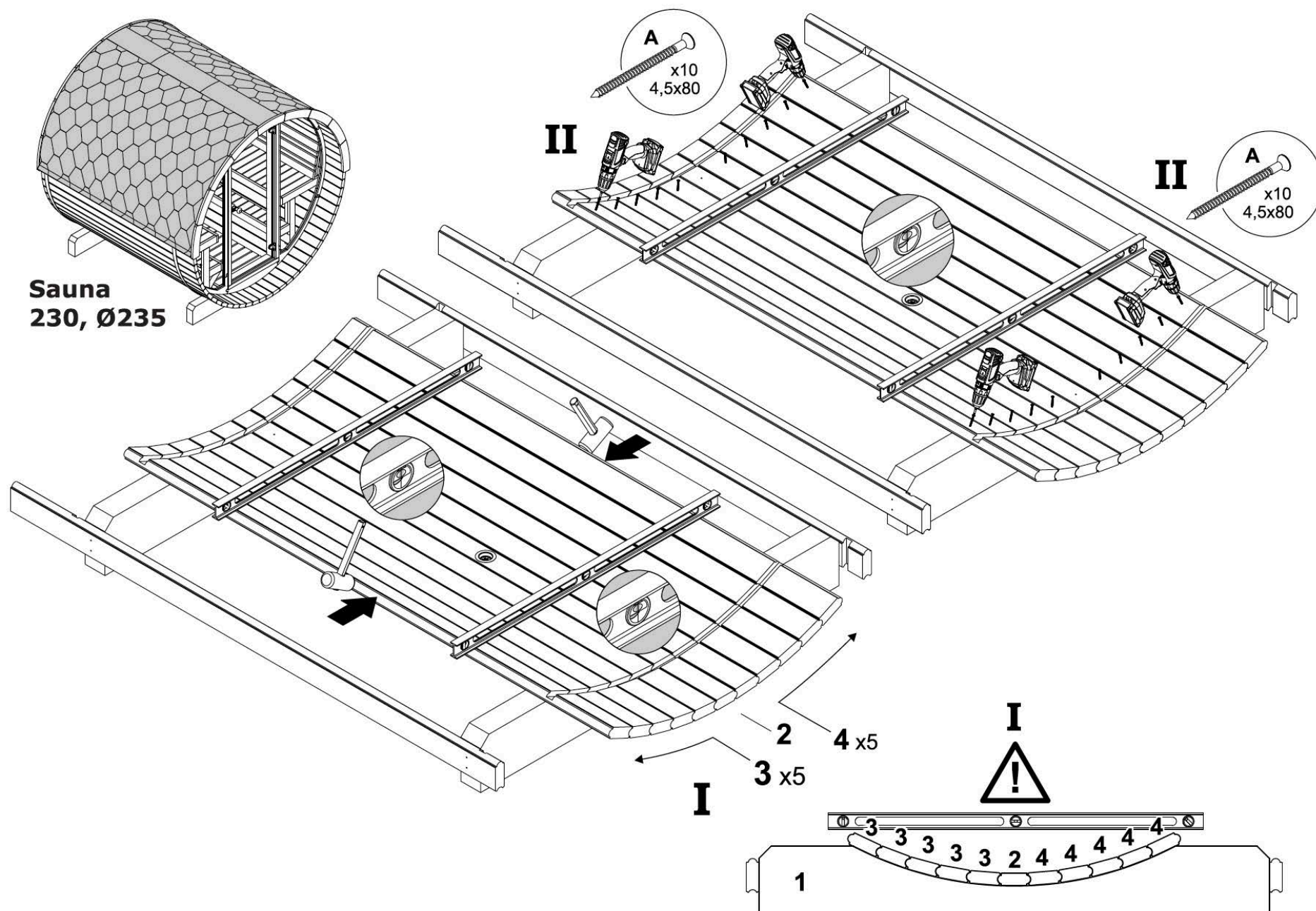


## Sauna Assembly



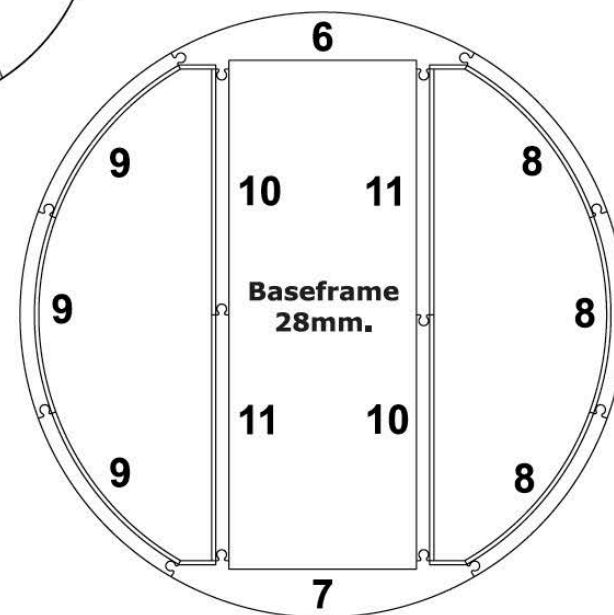
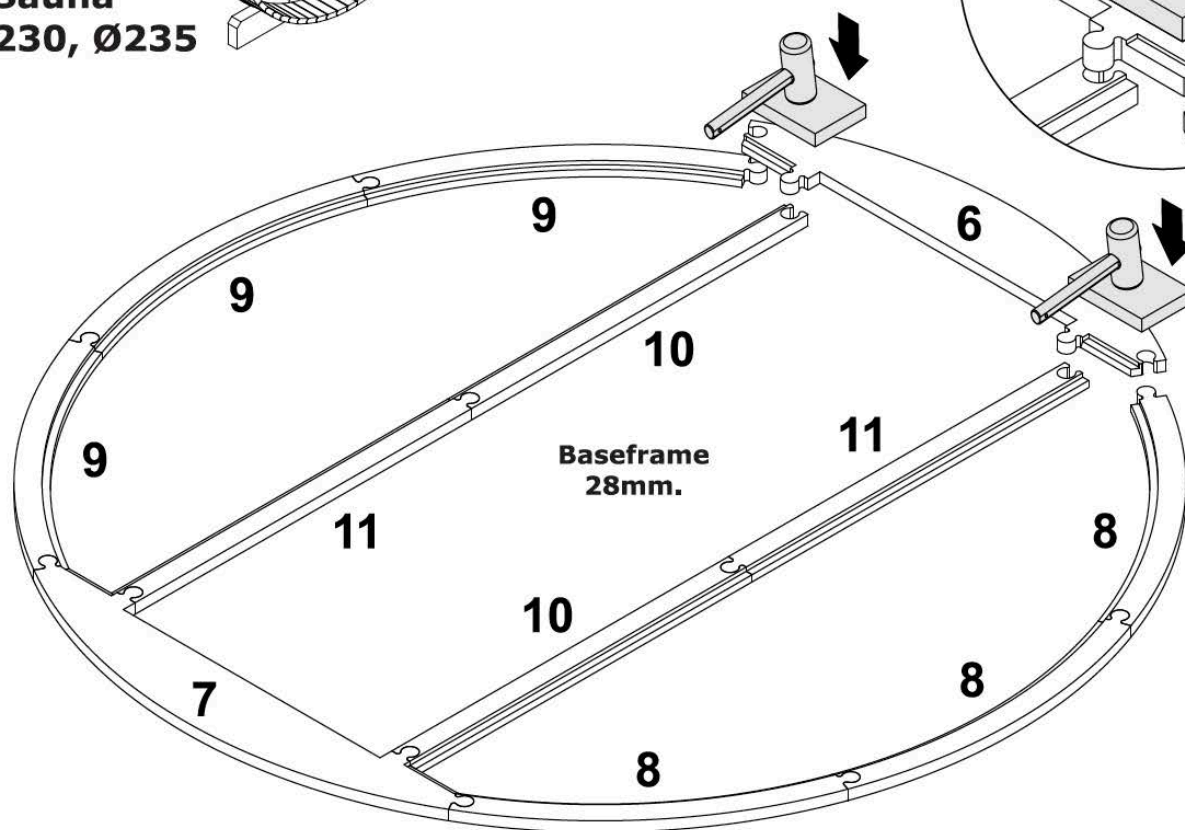
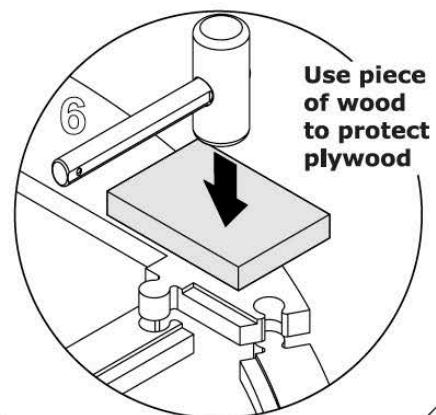
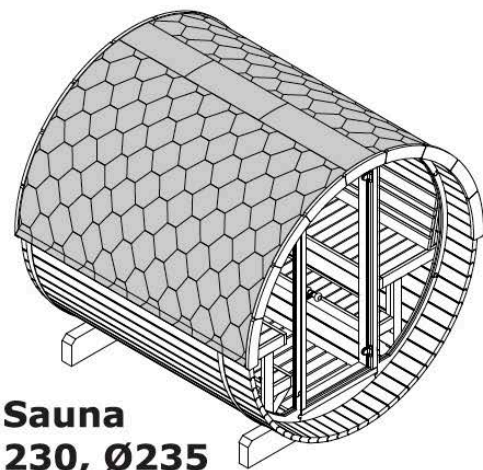
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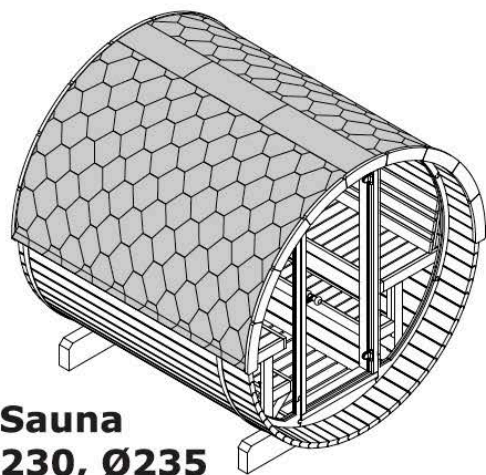
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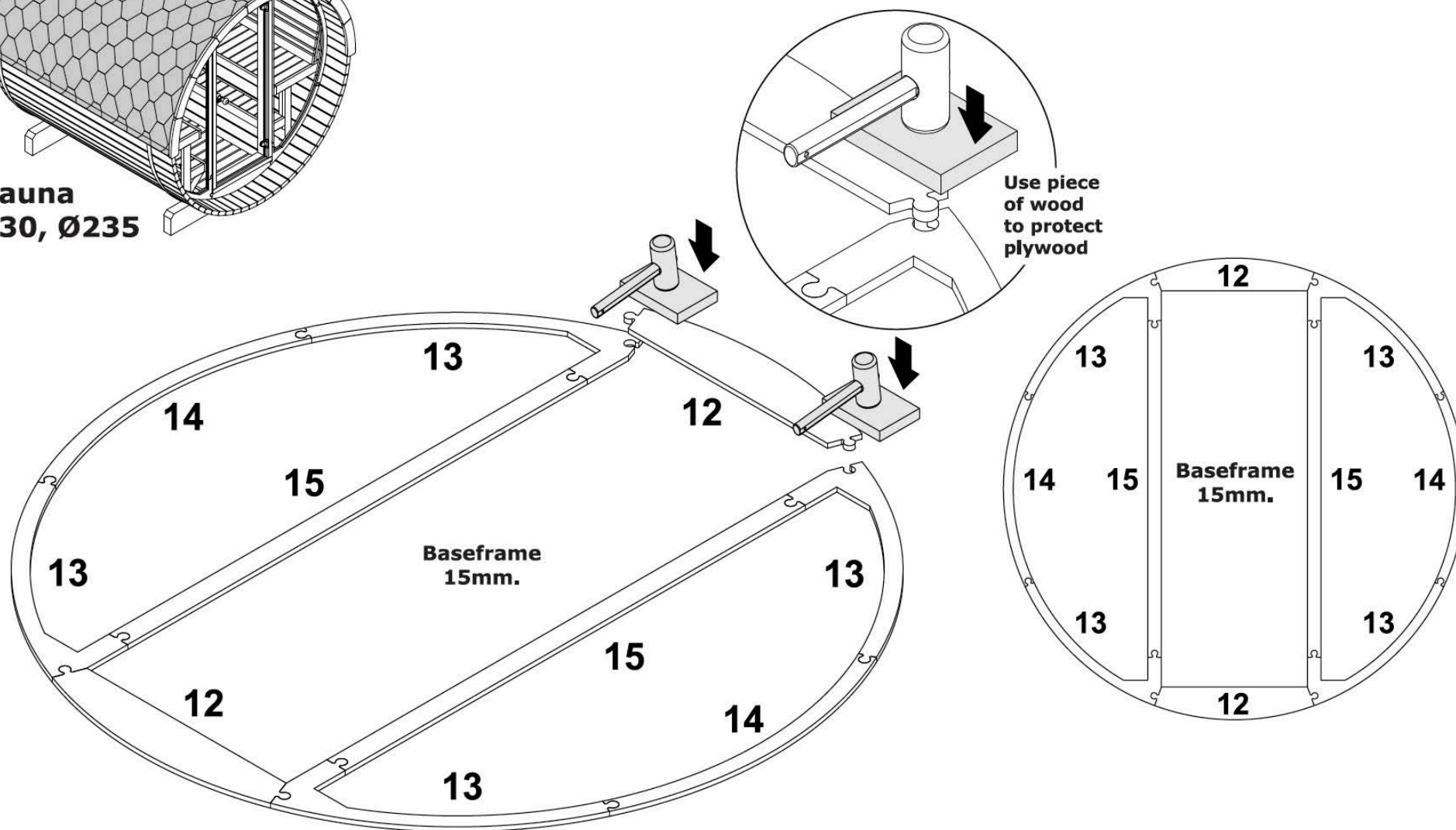


## Sauna Assembly





**Sauna**  
**230, Ø235**



## Sauna Assembly



*Note that this 2190mm piece is not included in the kit. Cut a 2190mm piece from the pallet or crate the sauna came on for use here.*



### III 4x50

**V** 4x50  
x3

~2190mm

**Use piece of wood to protect plywood**

#### IV 20a

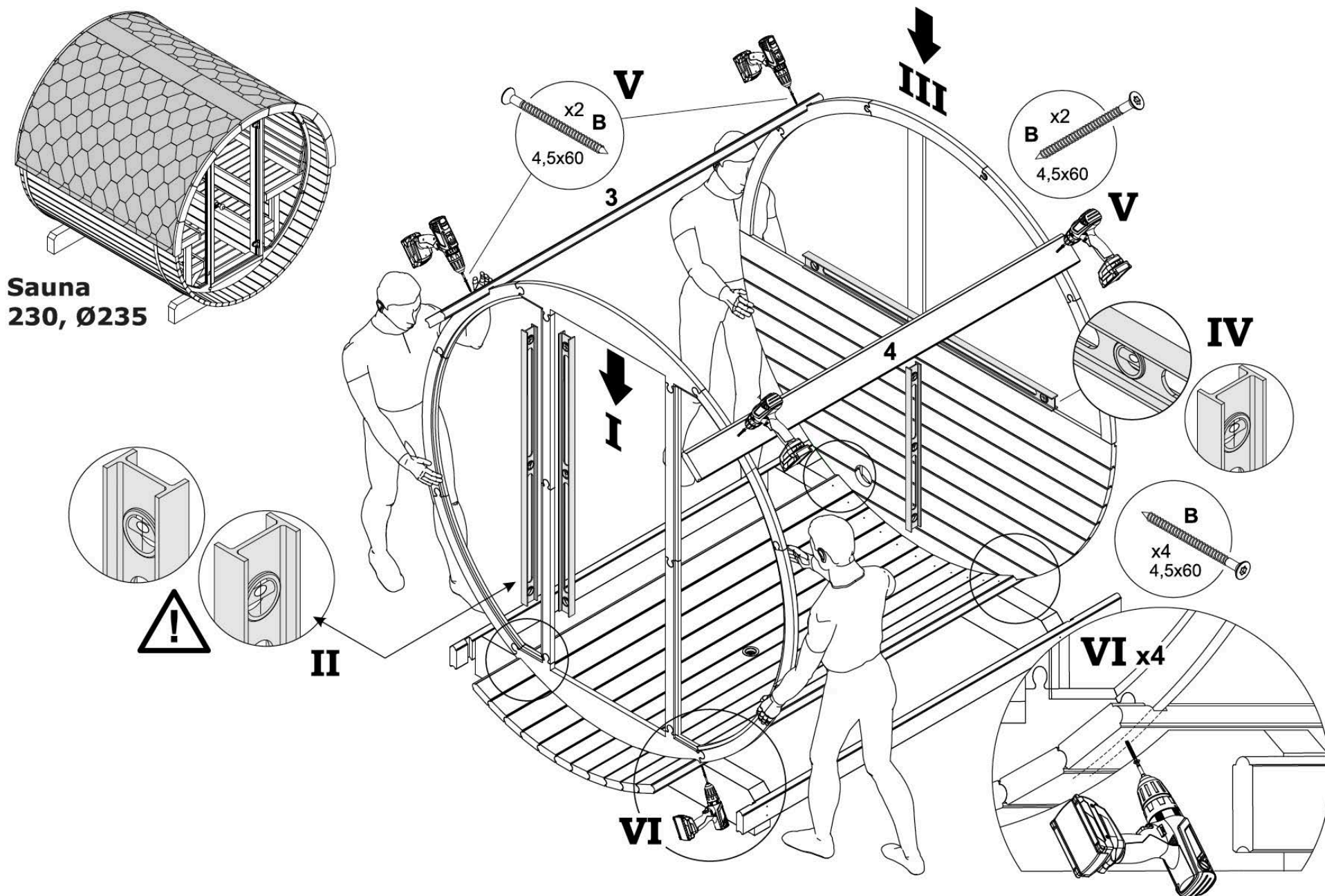
**x2**

4x50

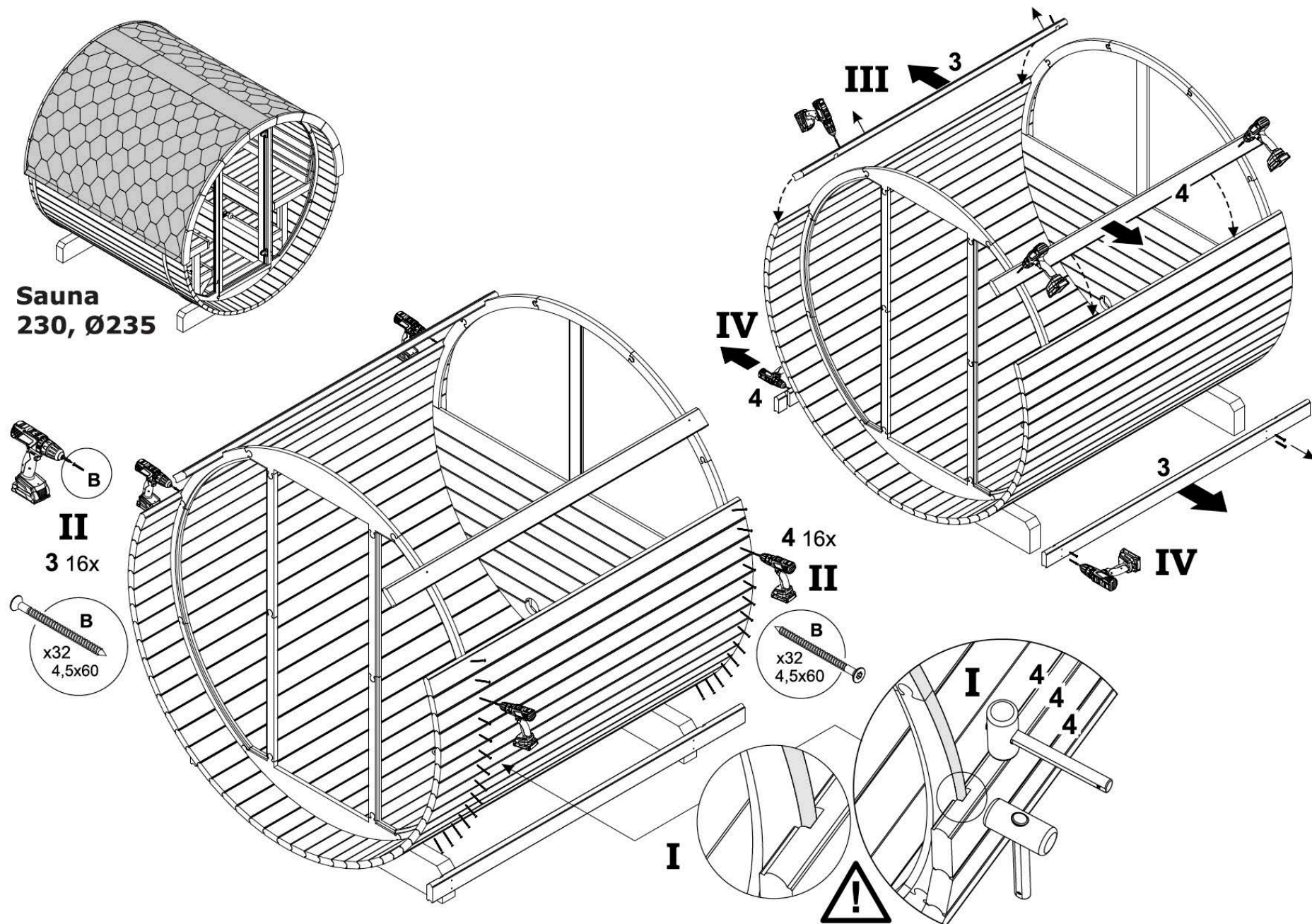
**Drill hole Ø4mm  
before screw** ✓



## Sauna Assembly

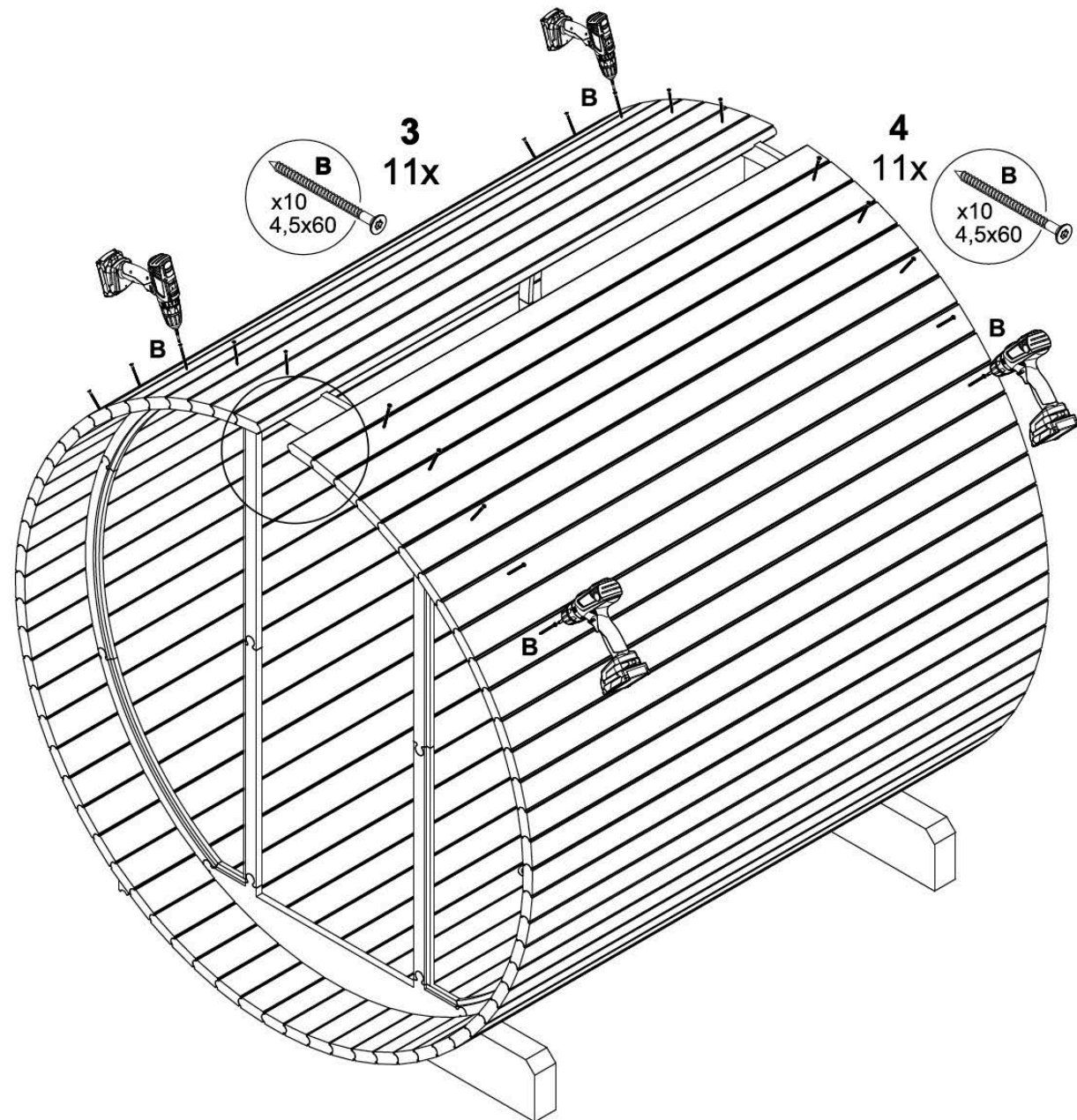
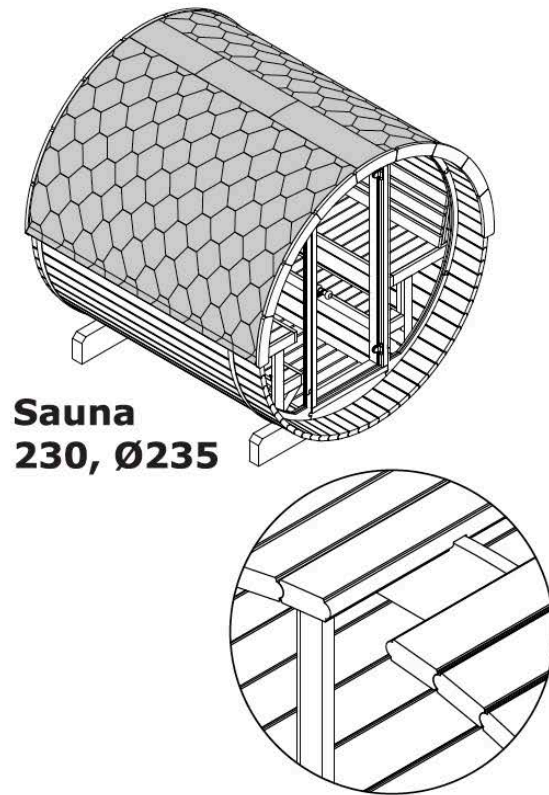


## Sauna Assembly





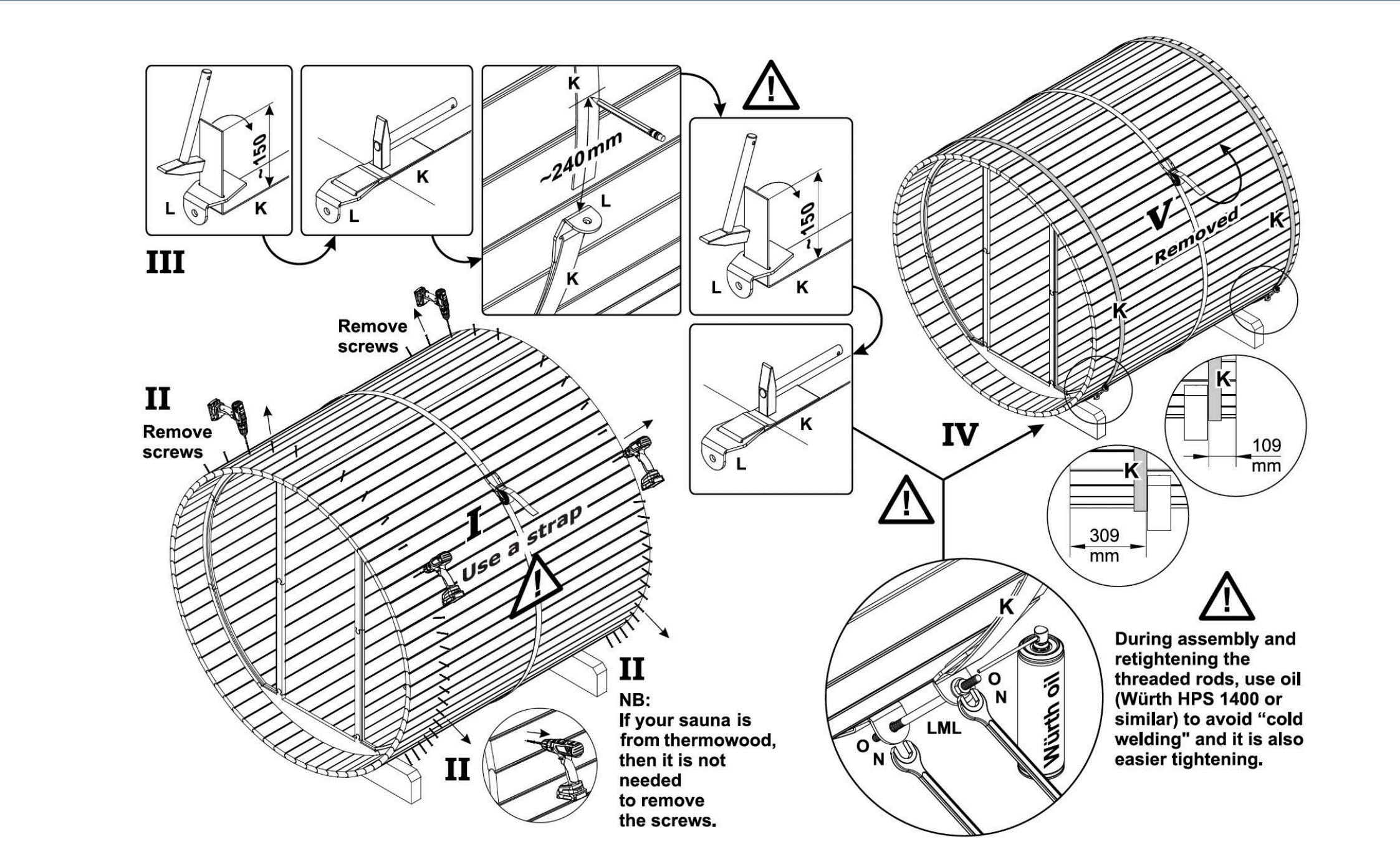
## Sauna Assembly



## Sauna Assembly

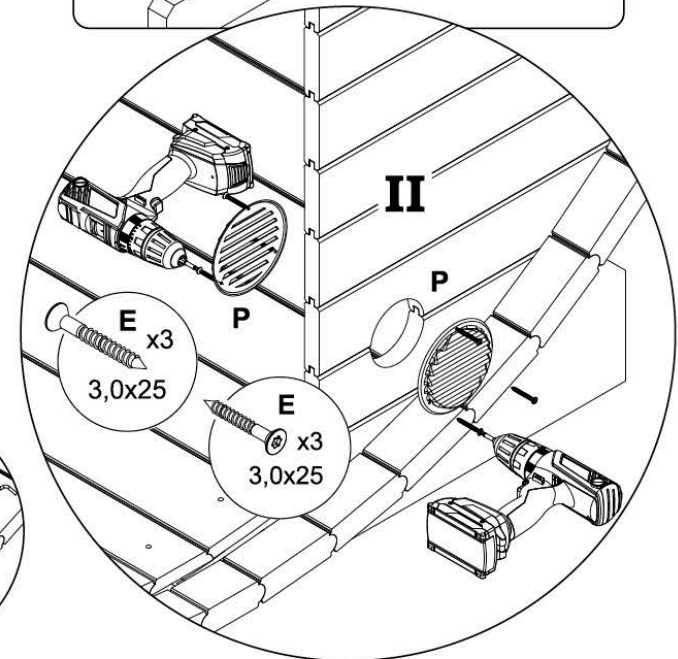
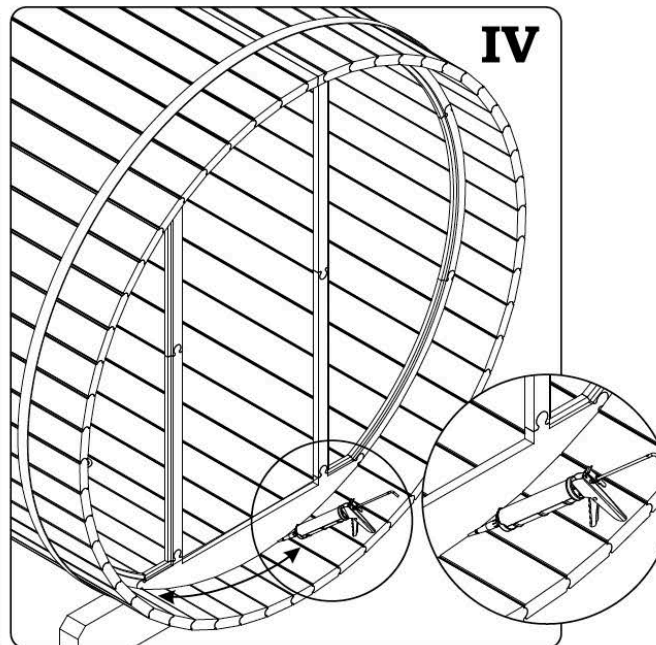
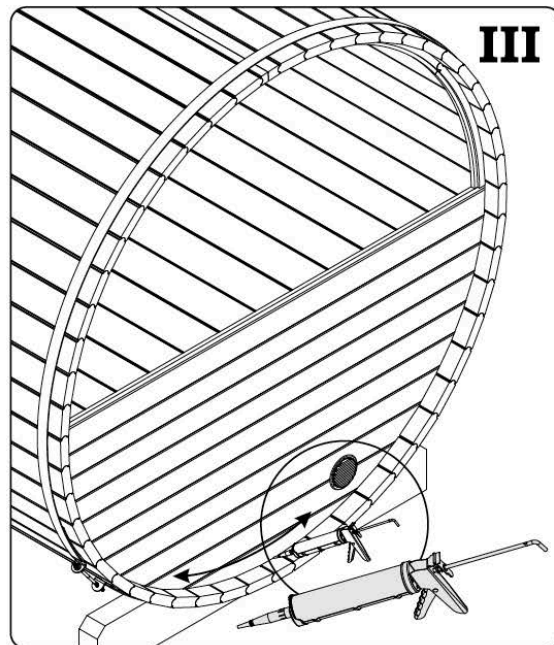
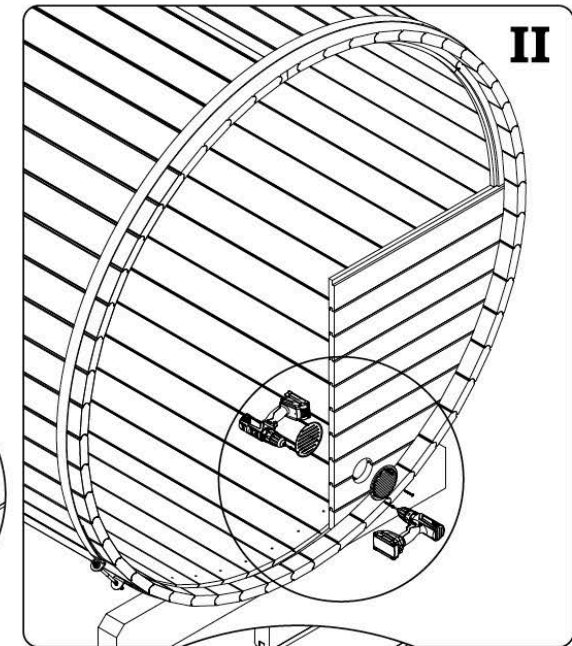
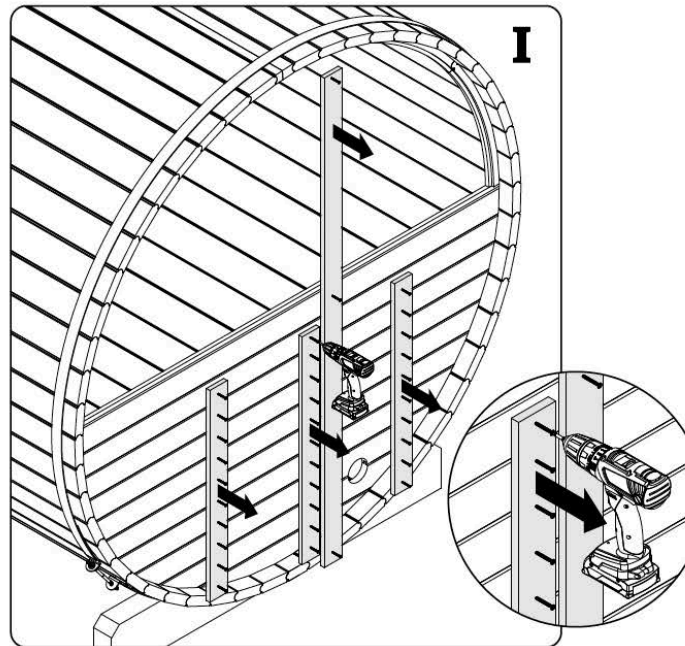
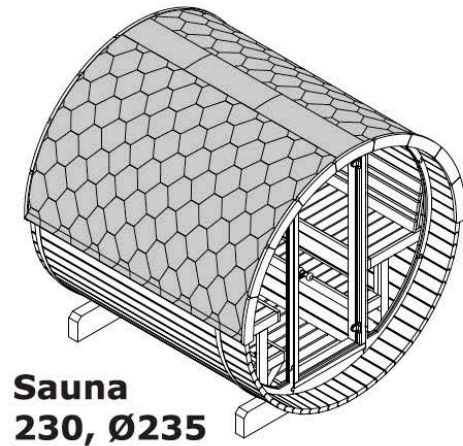






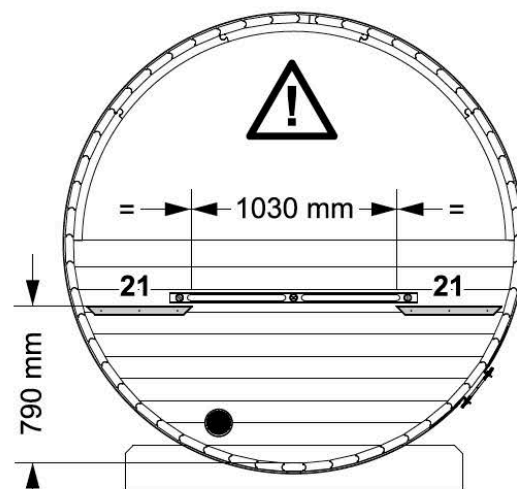
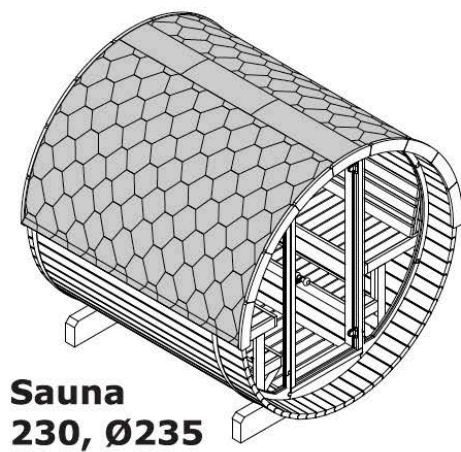


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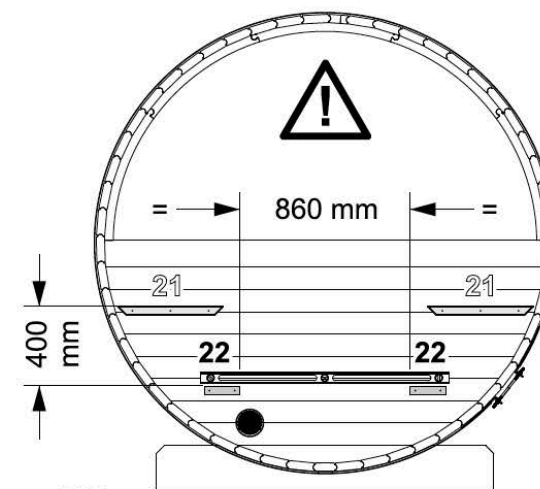




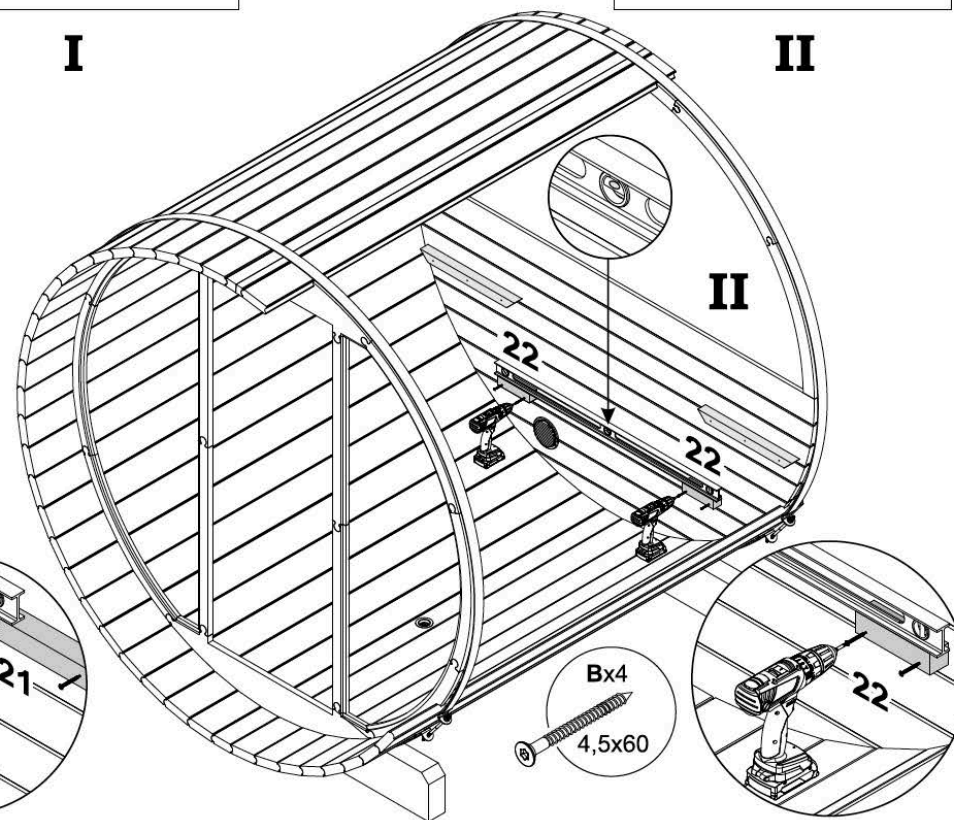
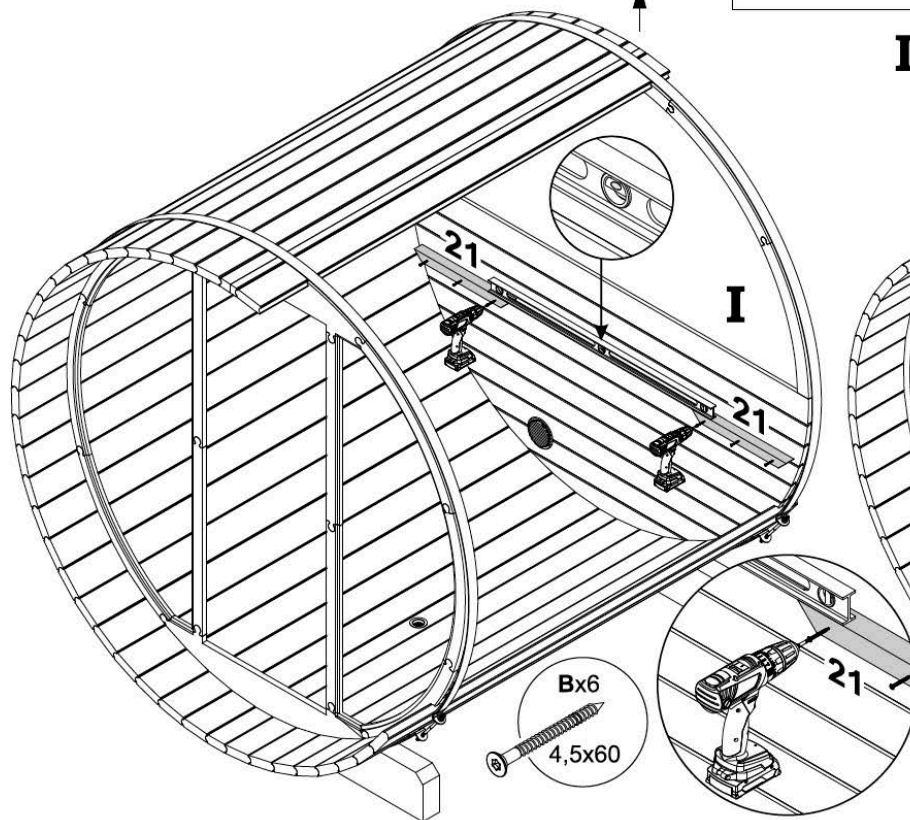
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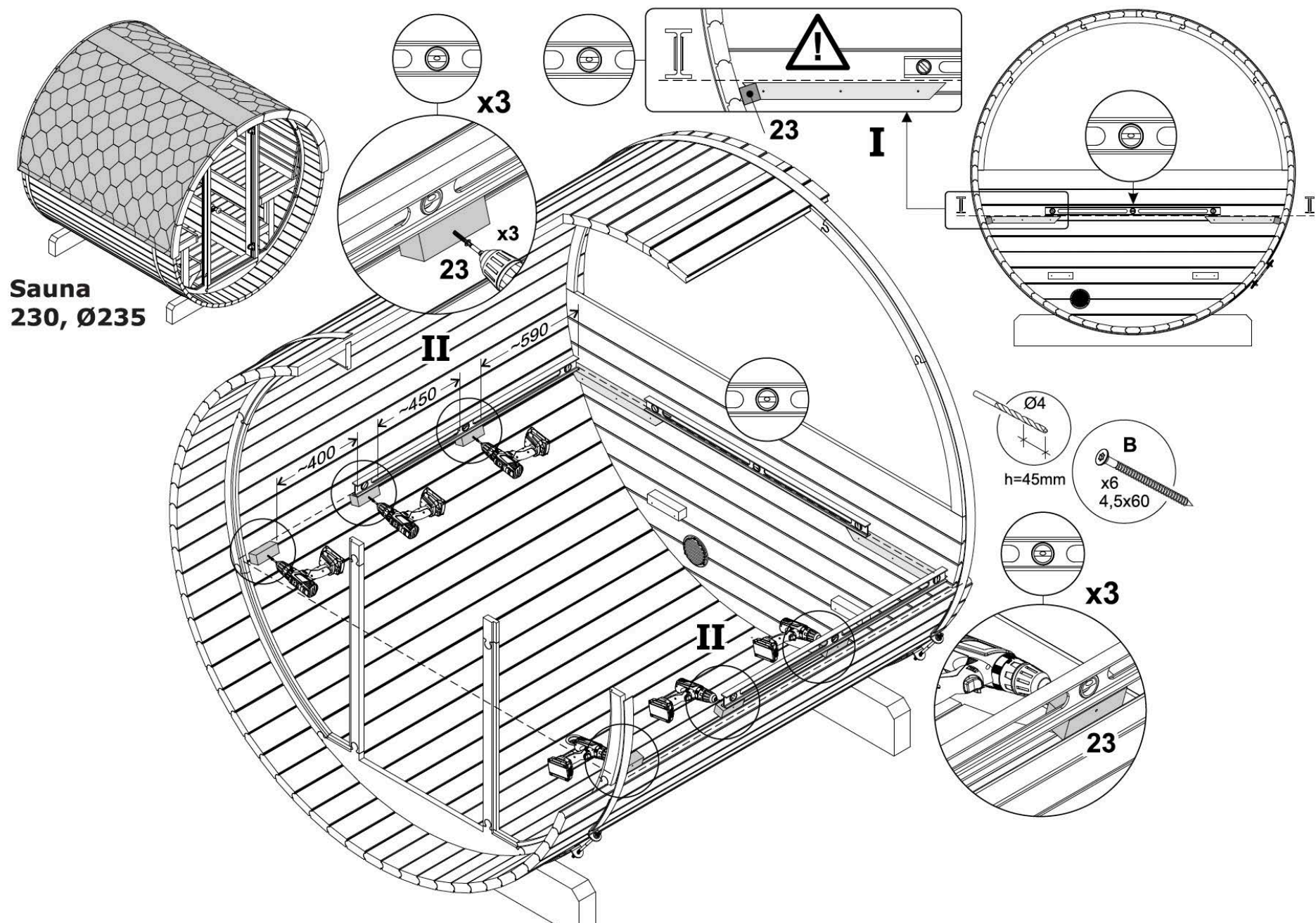
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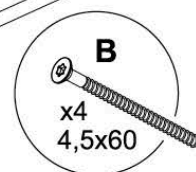
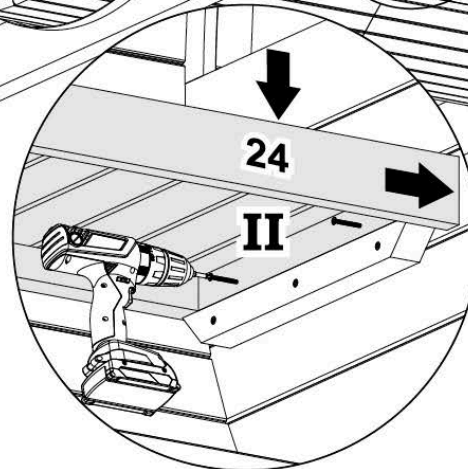
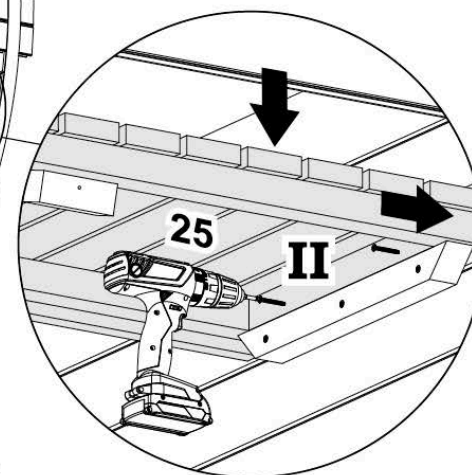
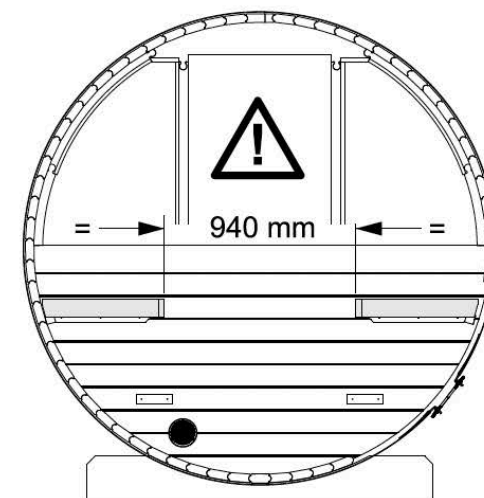
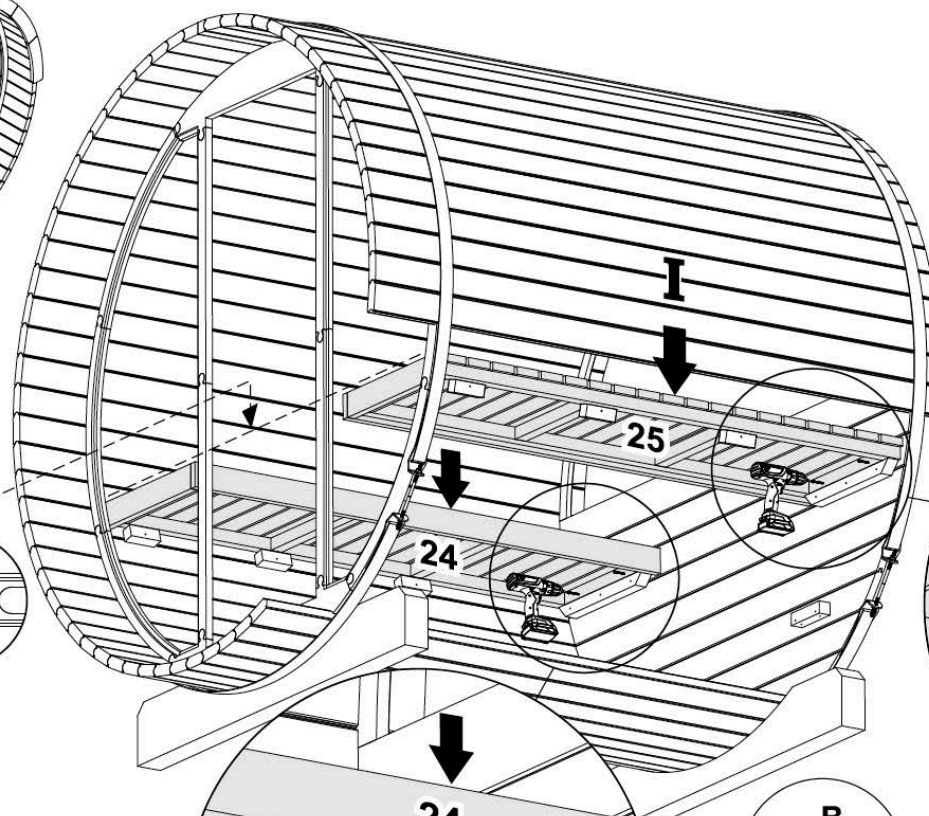
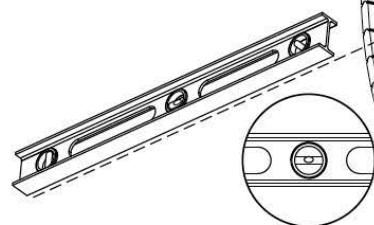
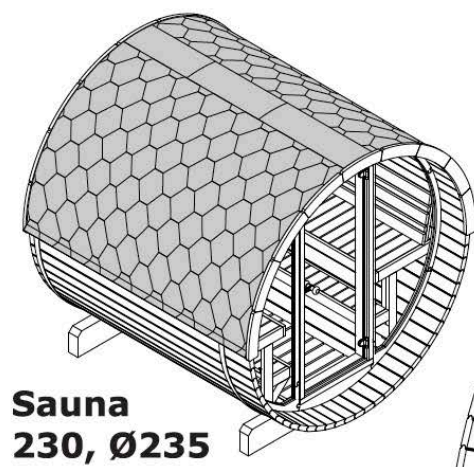


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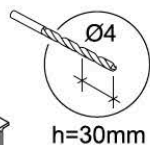
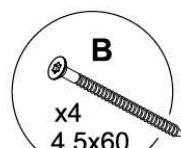
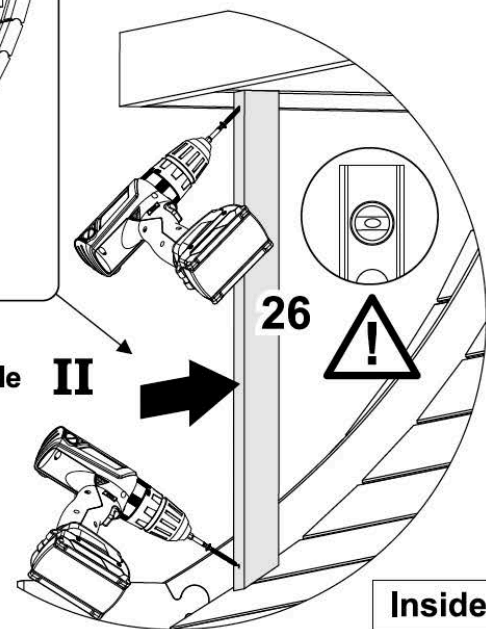
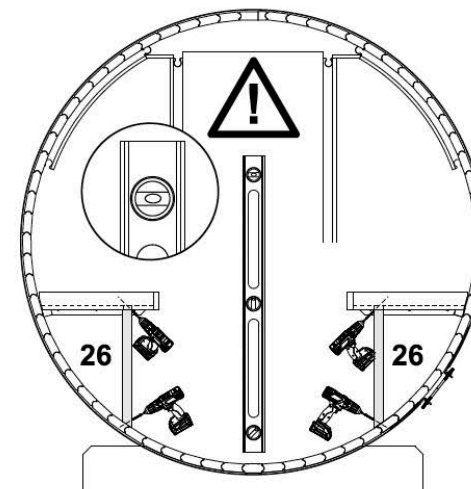
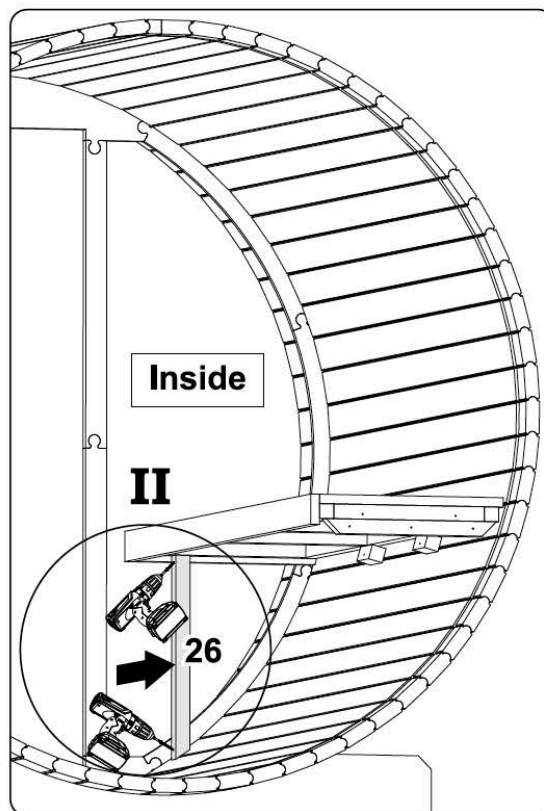
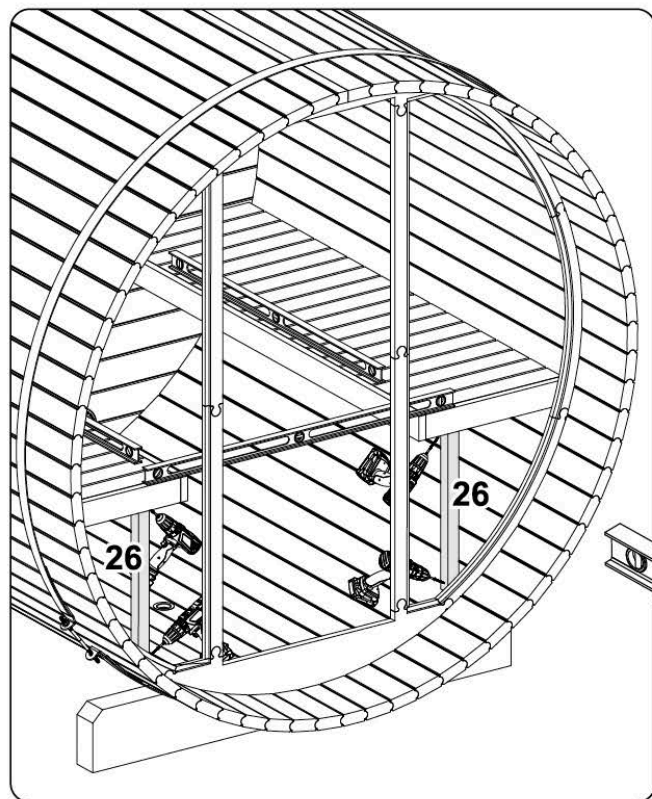
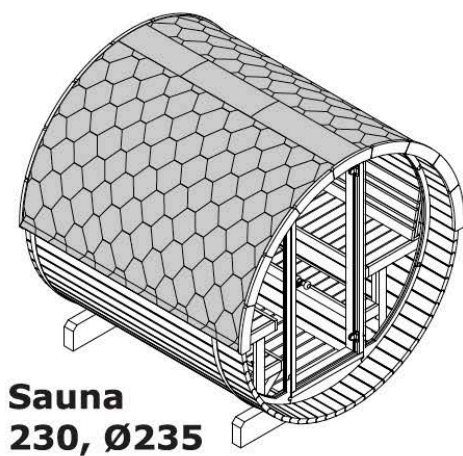




## Sauna Assembly



## Sauna Assembly



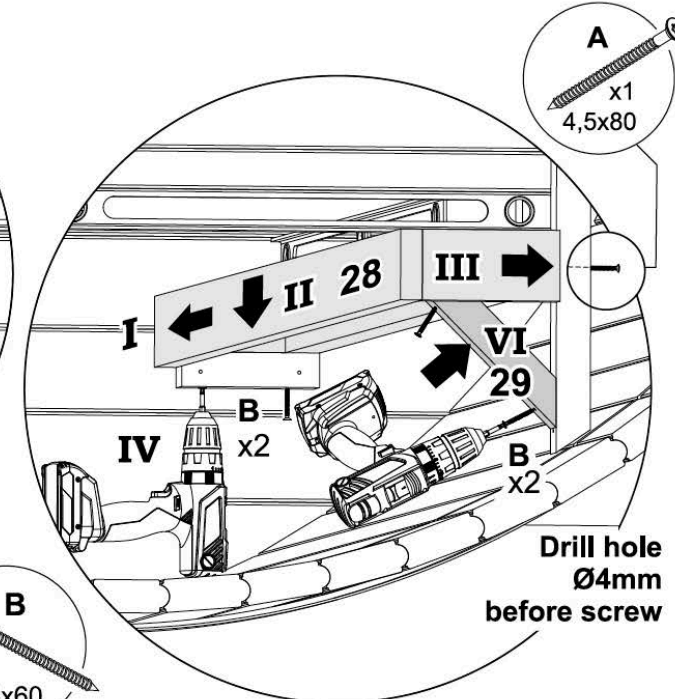
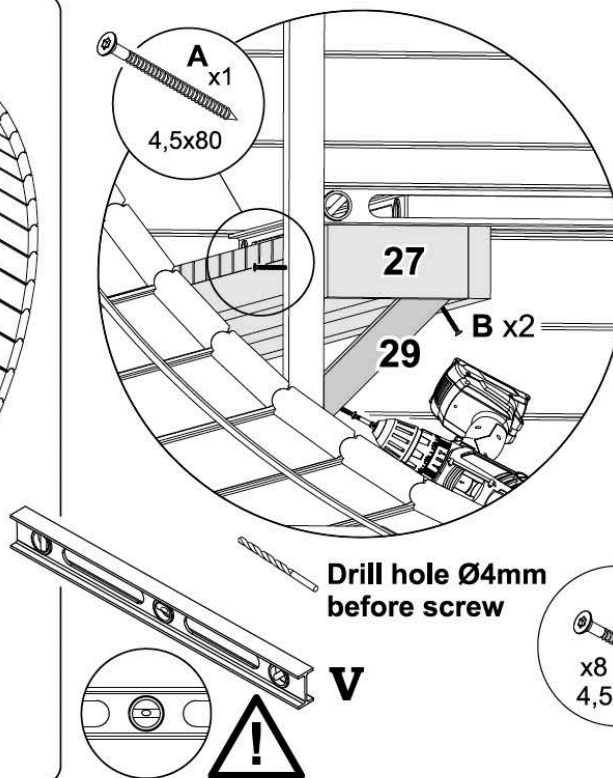
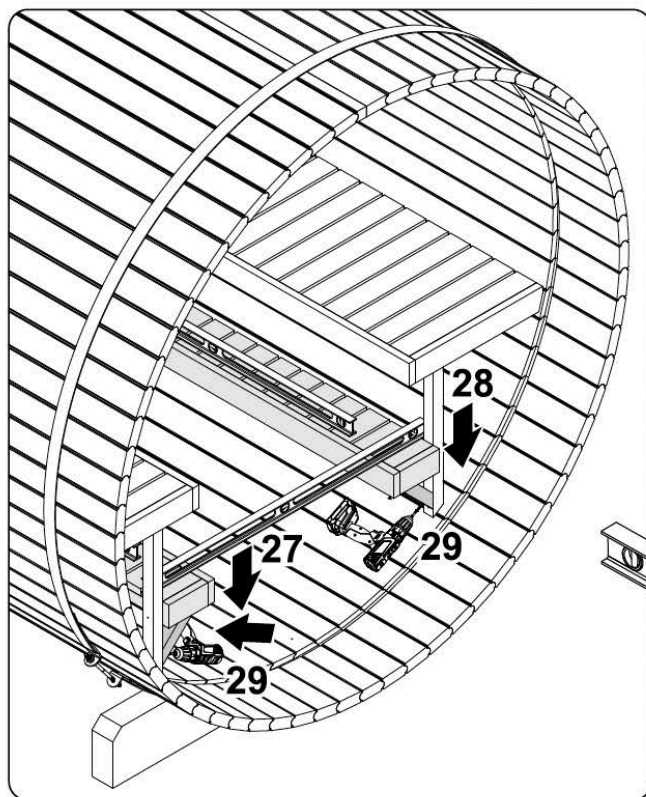
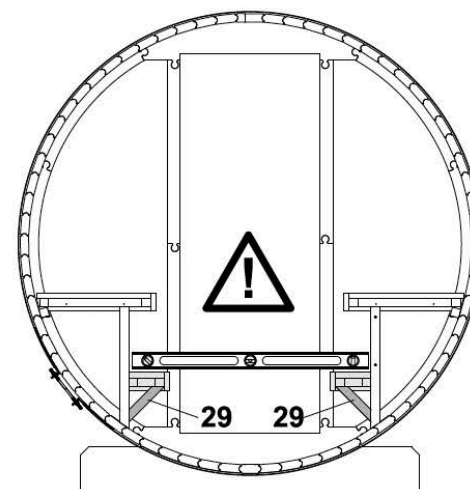
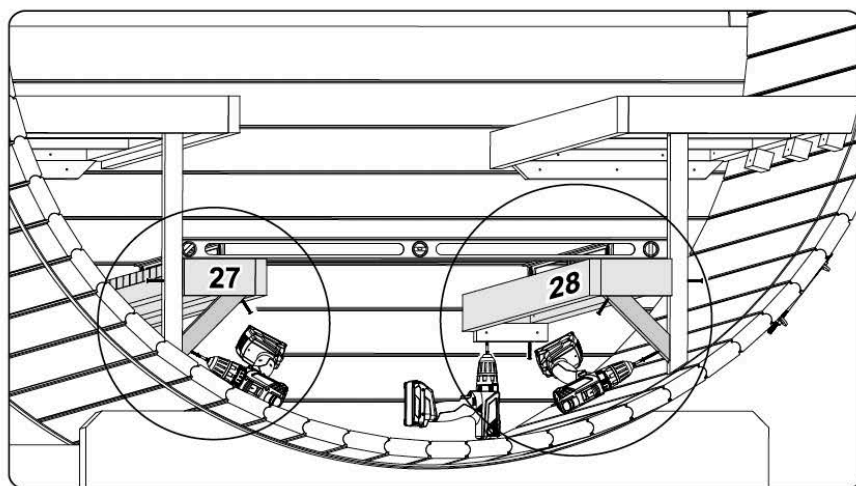
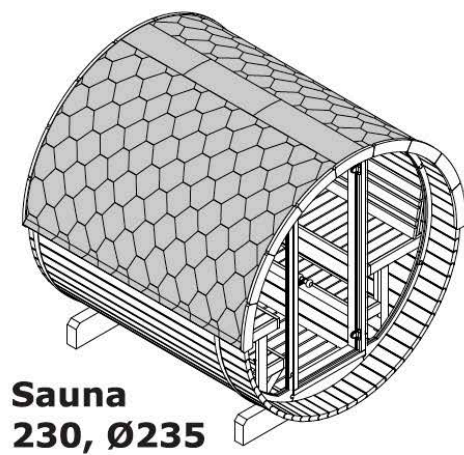
Drill hole  
Ø4mm  
before  
screw

**I**

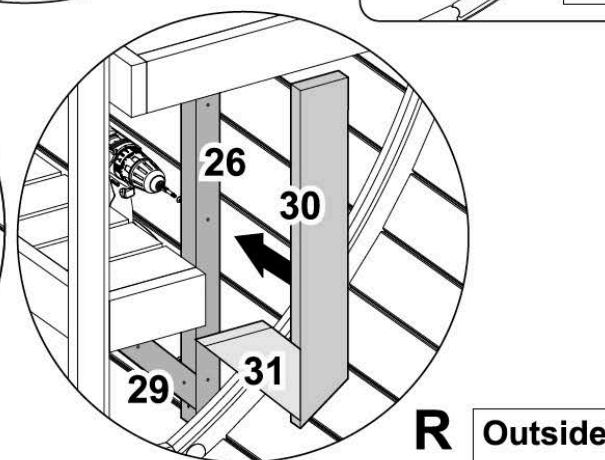
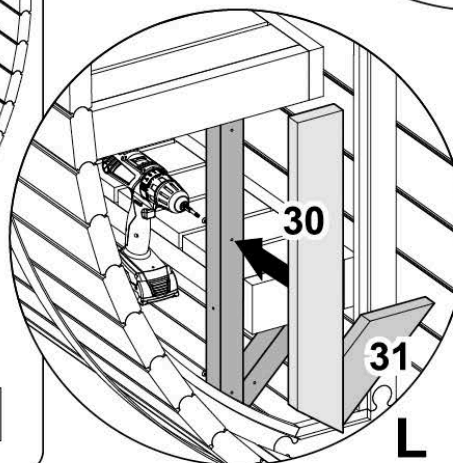
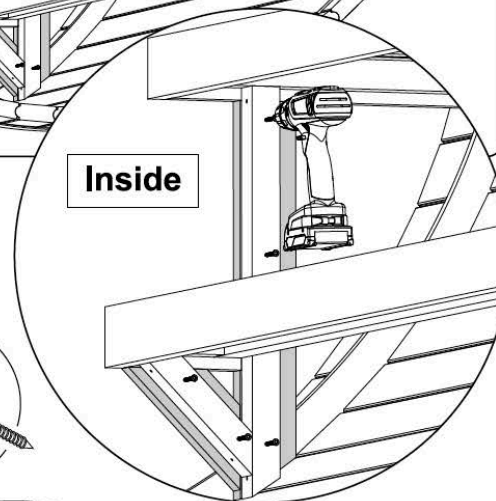
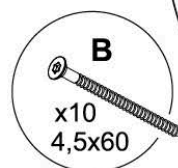
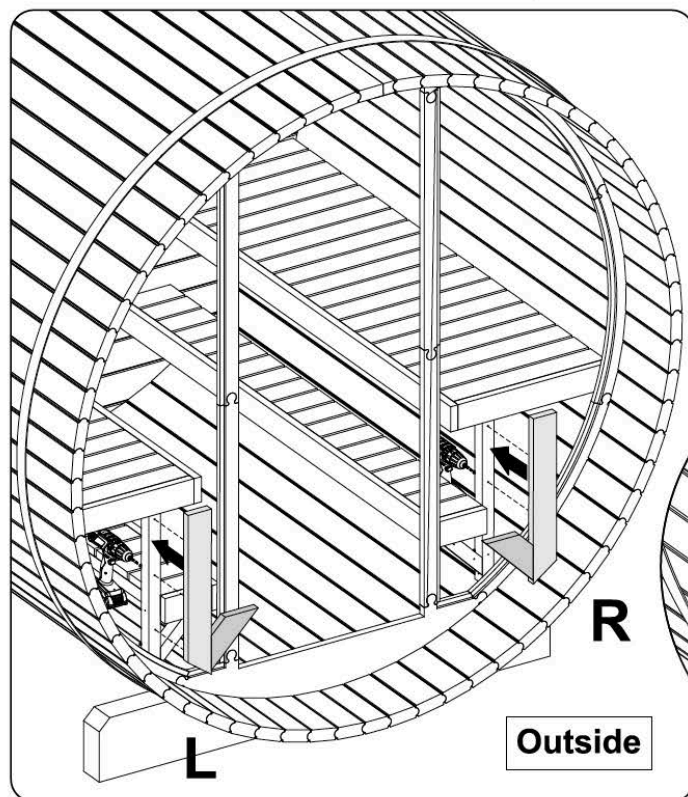
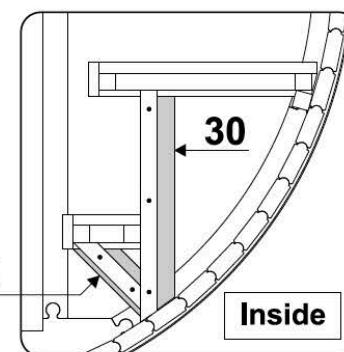
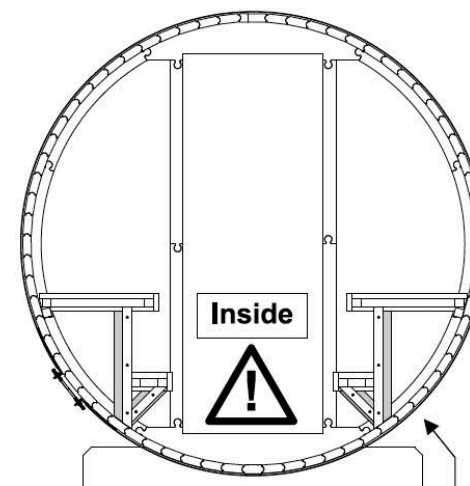
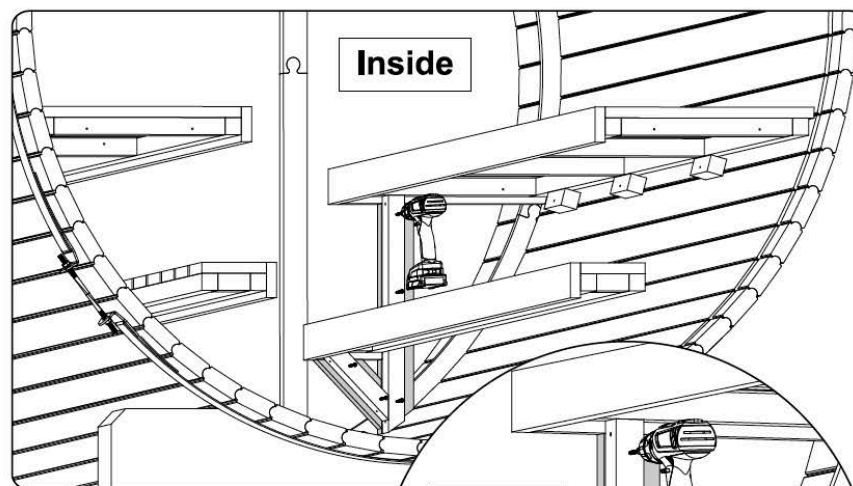
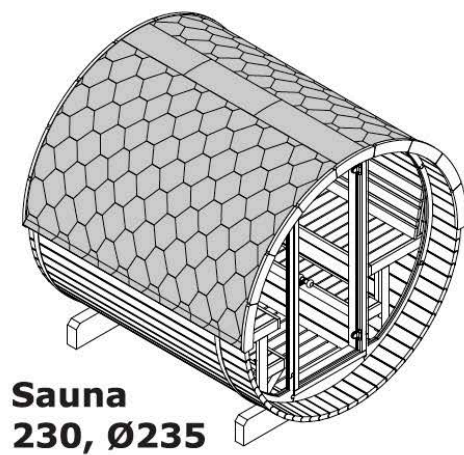




# Sauna Assembly

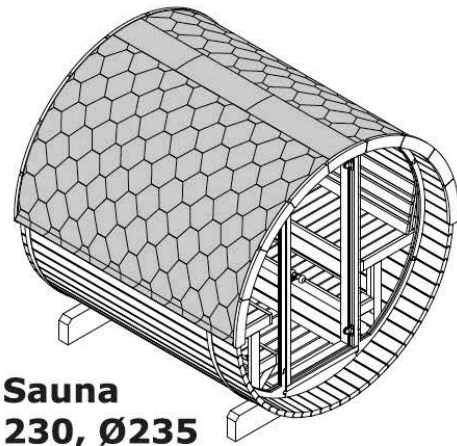


## Sauna Assembly

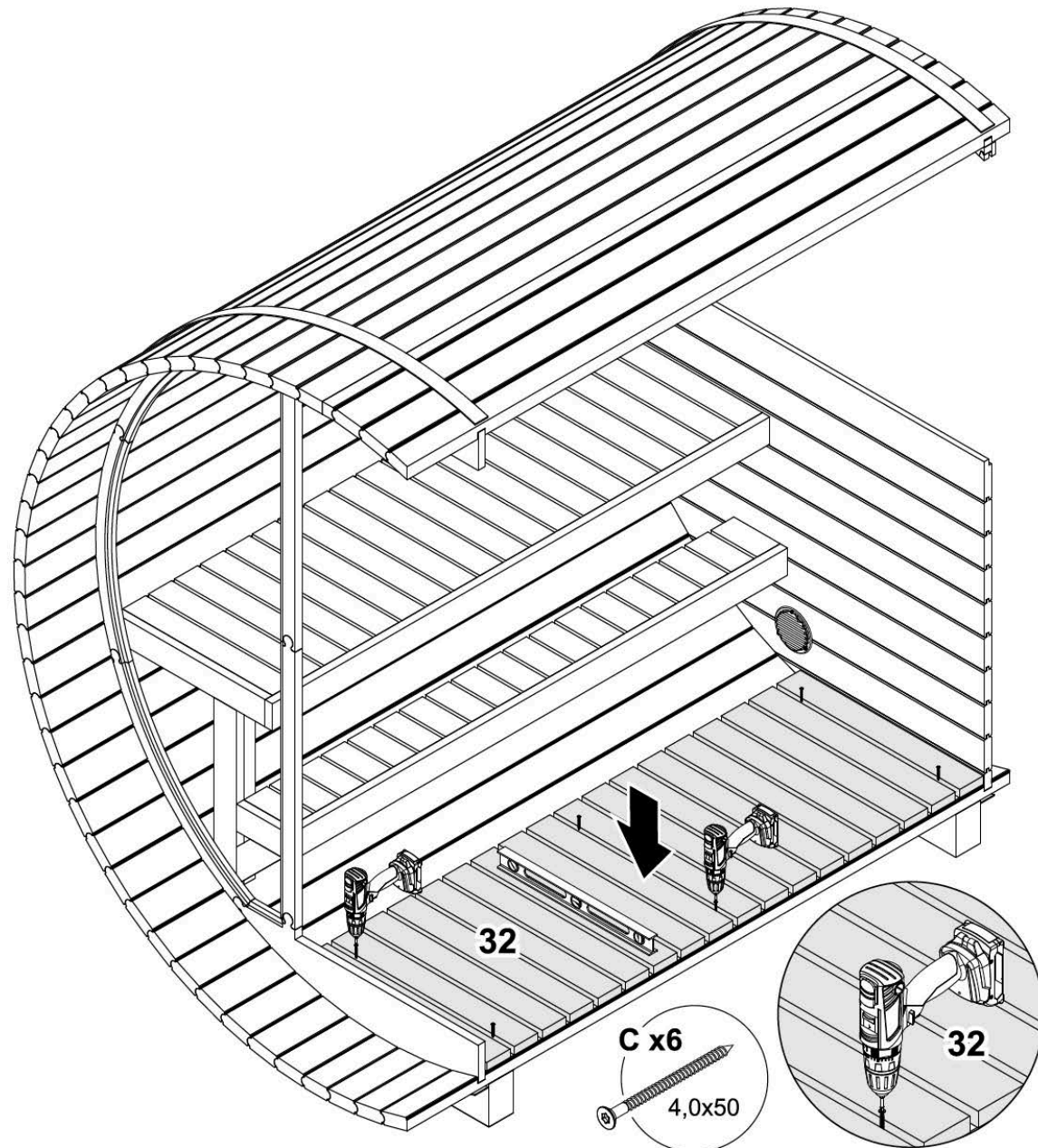




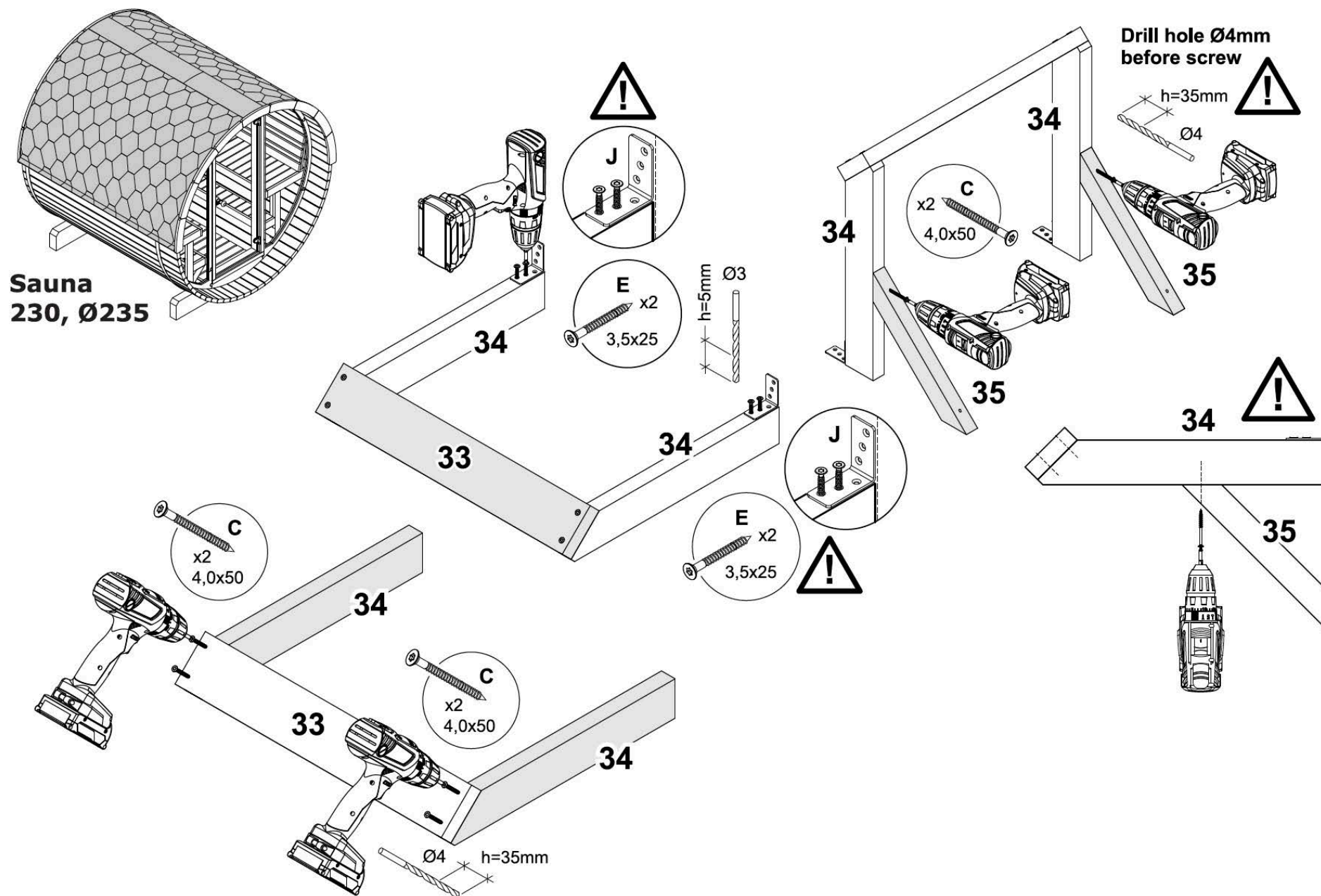
## Sauna Assembly



**Sauna  
230, Ø235**

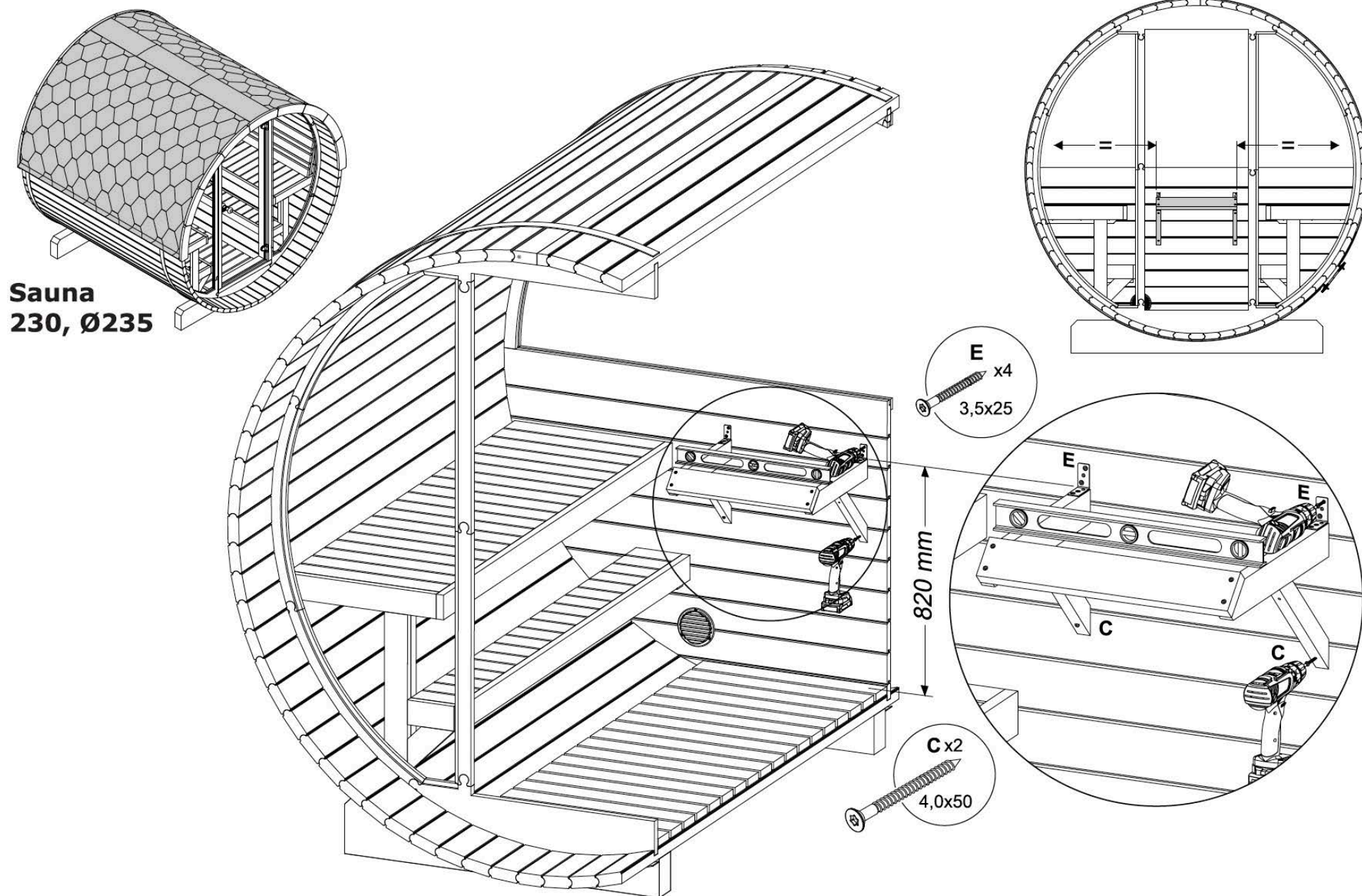


## Sauna Assembly

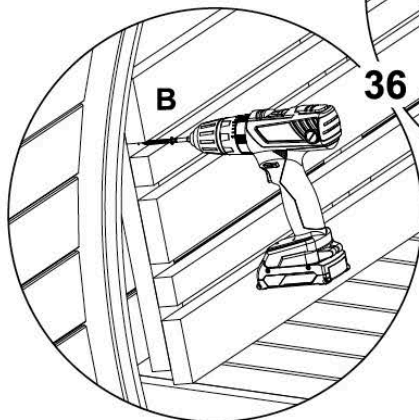
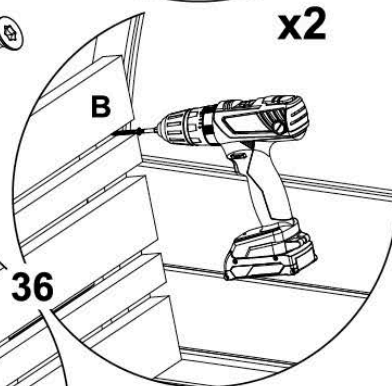
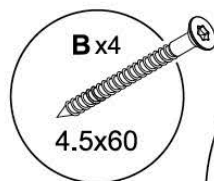
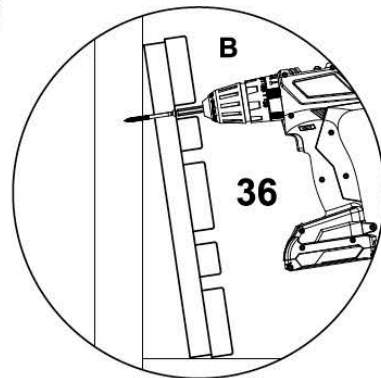
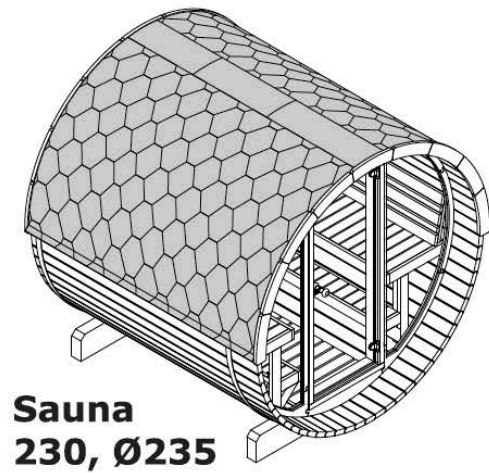




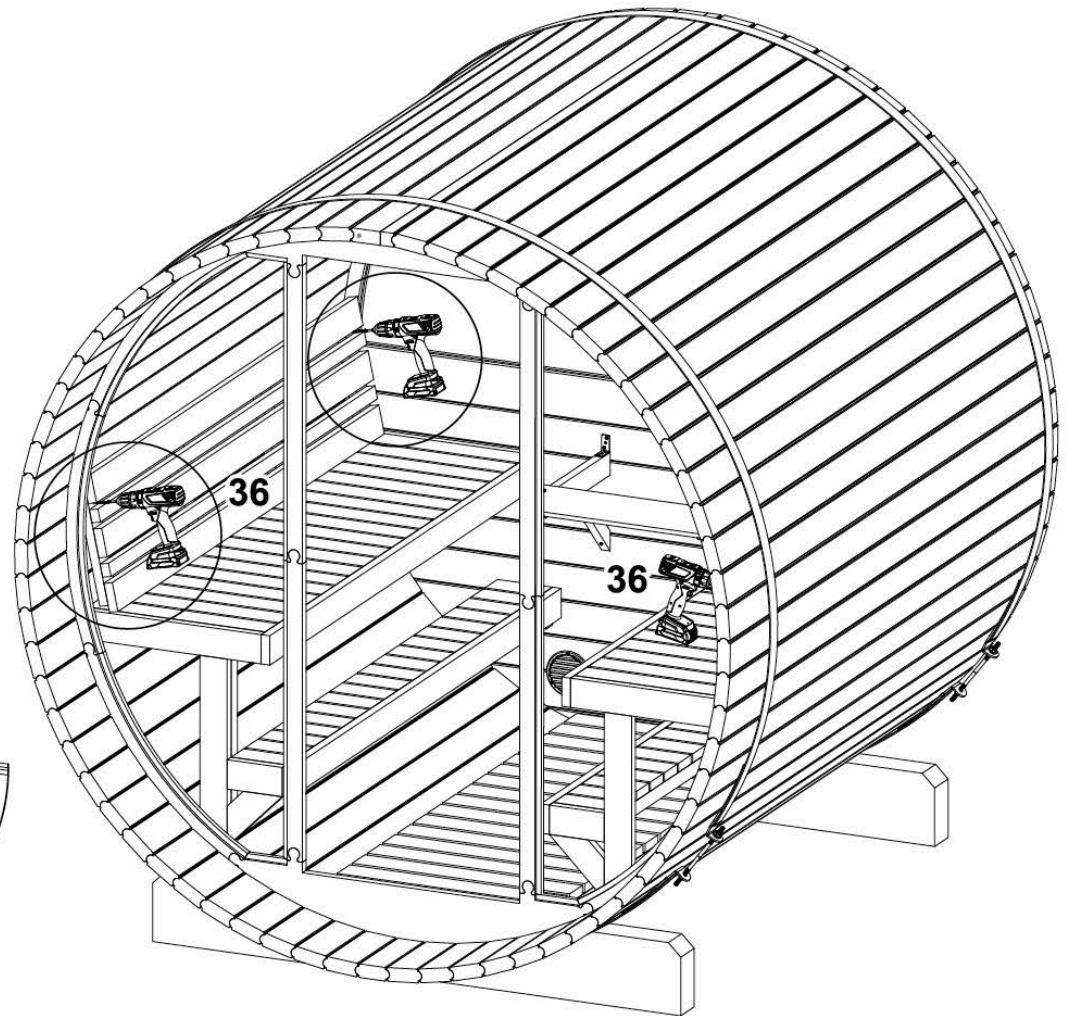
## Sauna Assembly



## Sauna Assembly

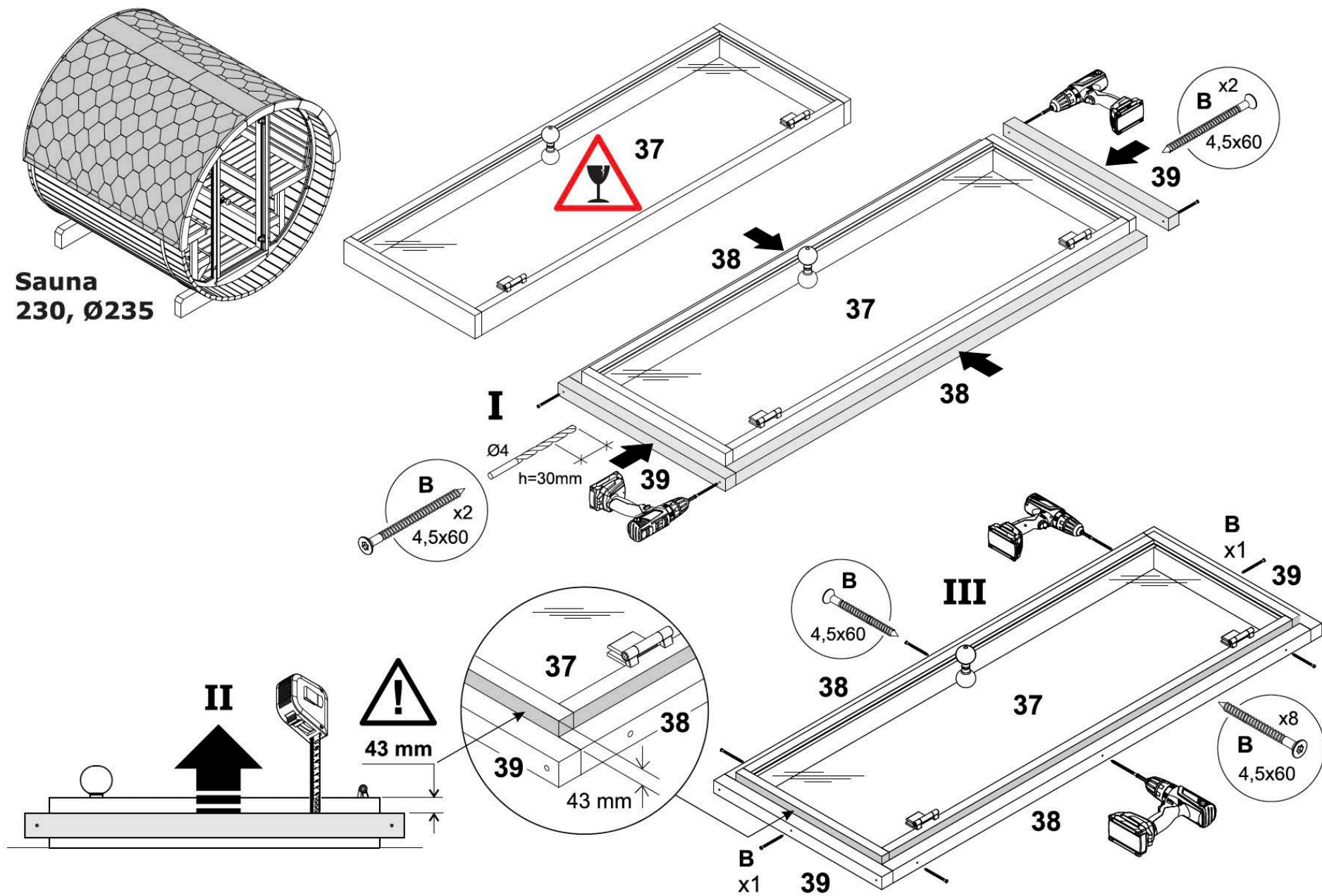


**x2**

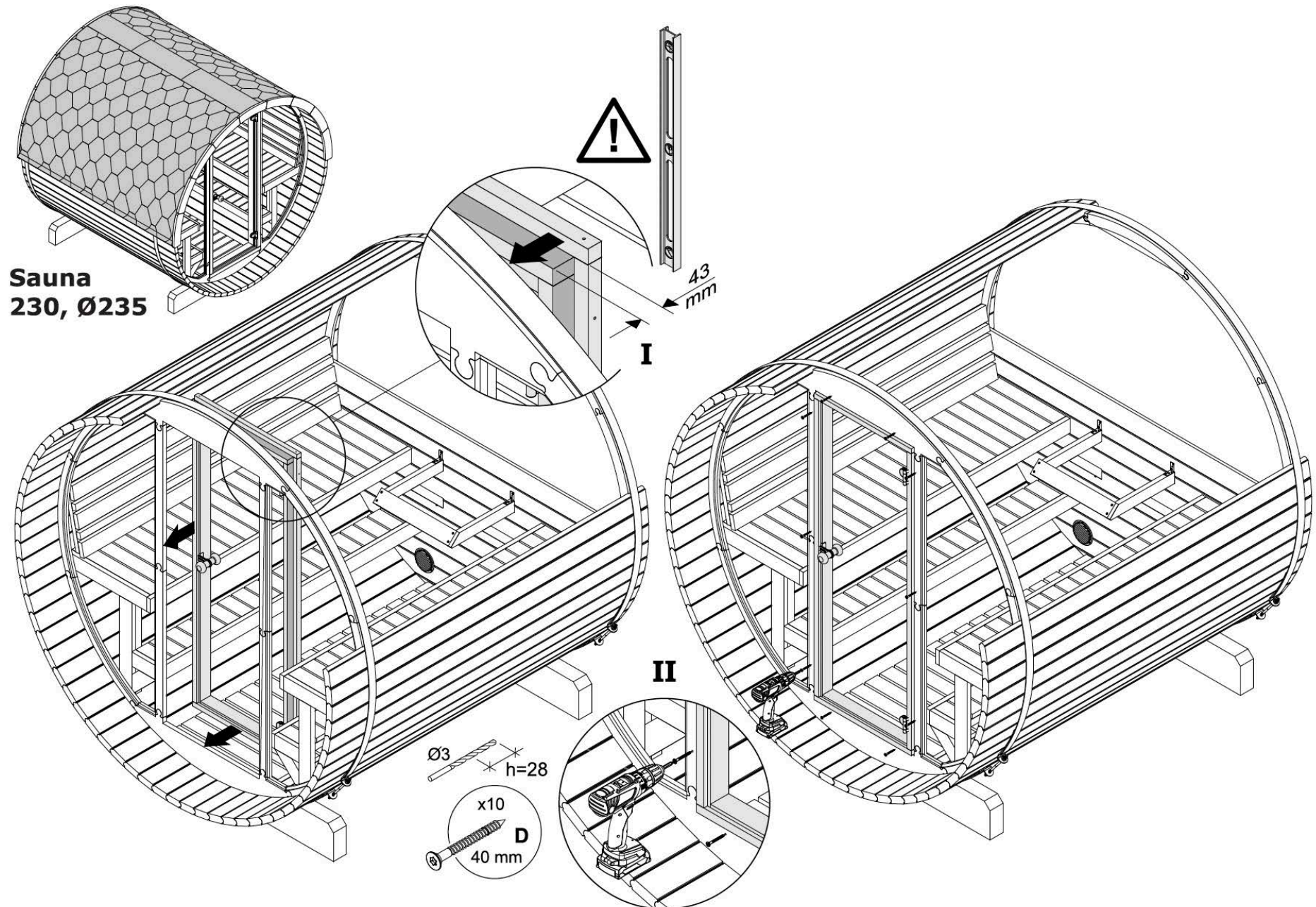




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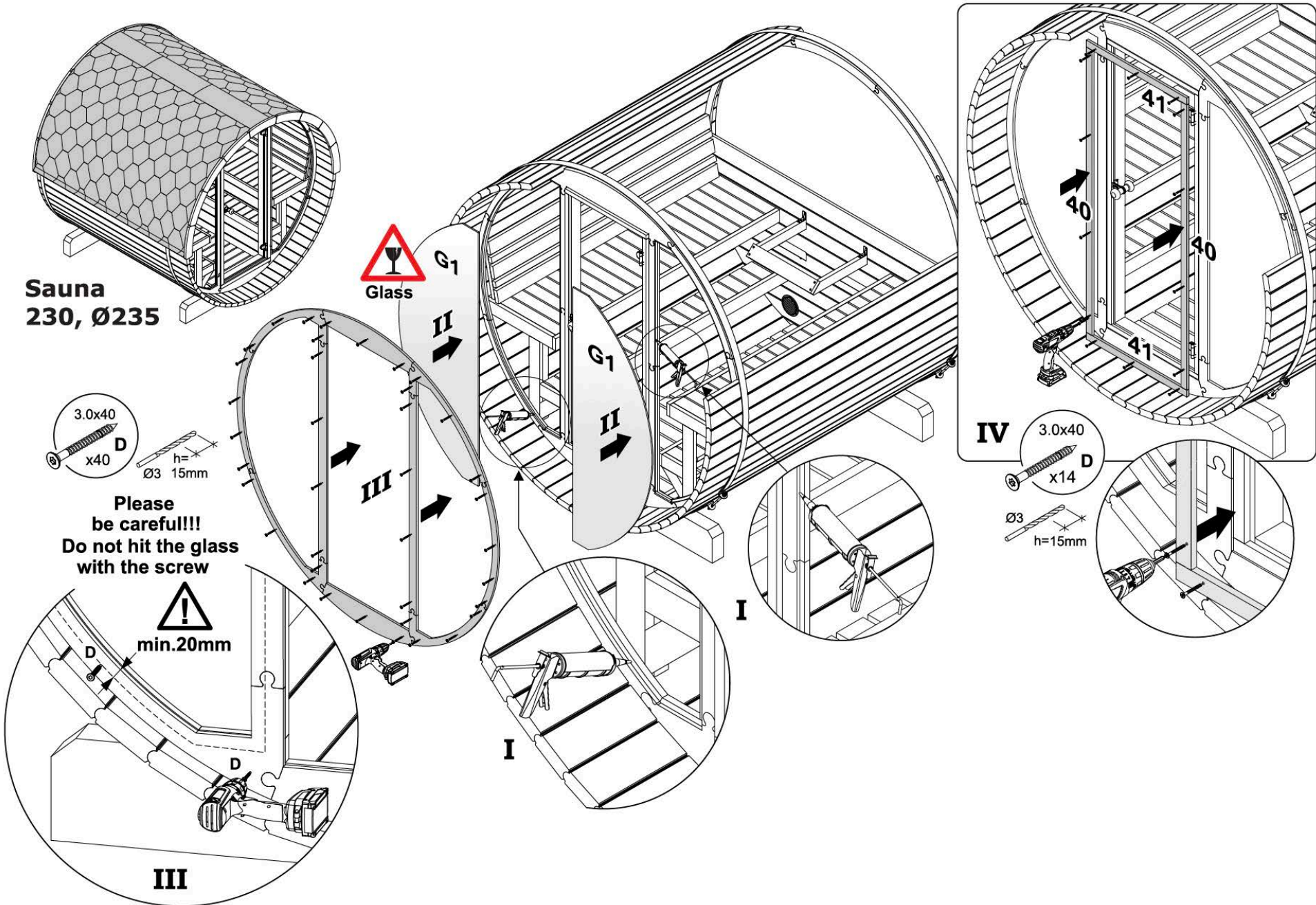


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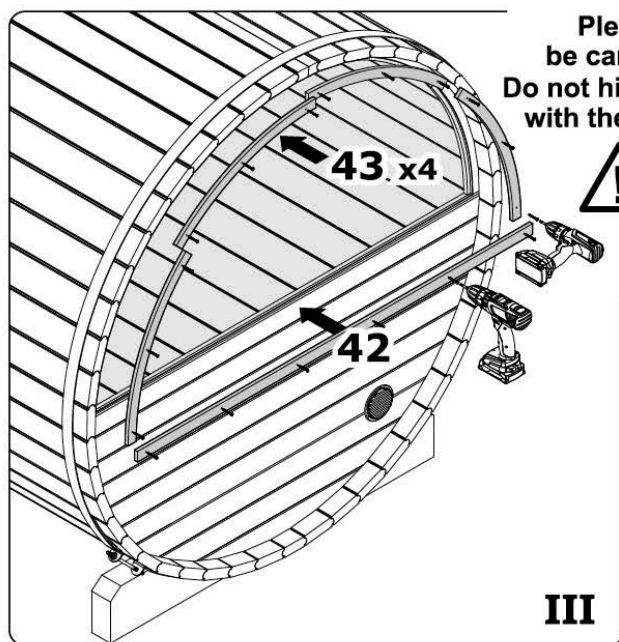
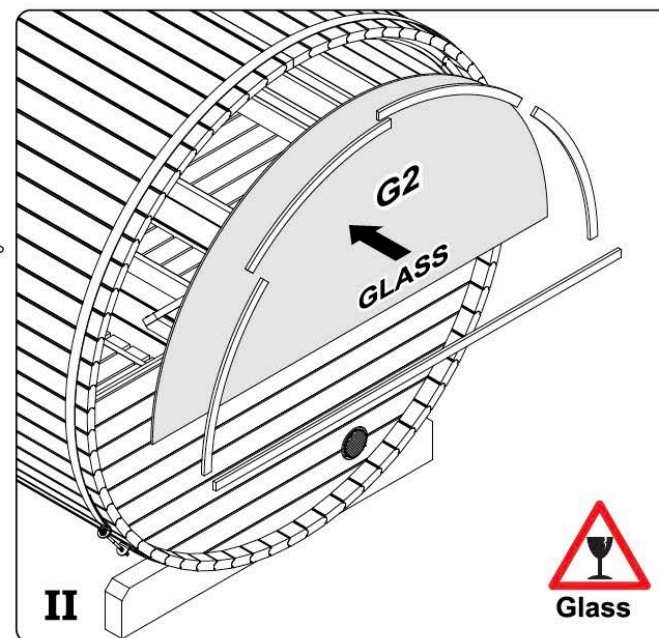
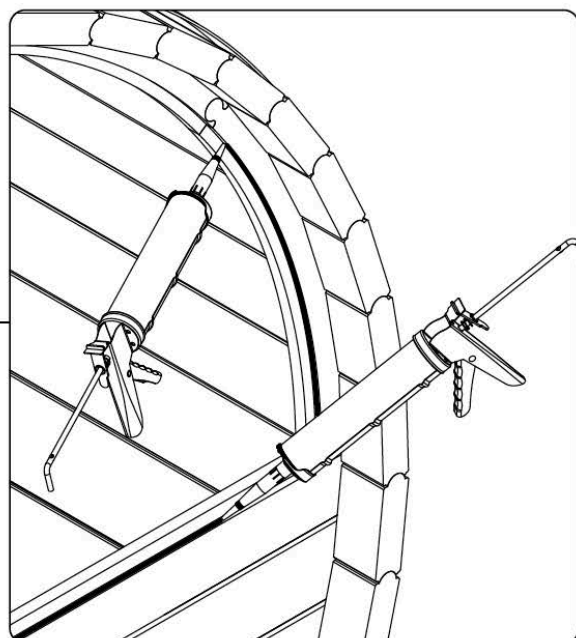
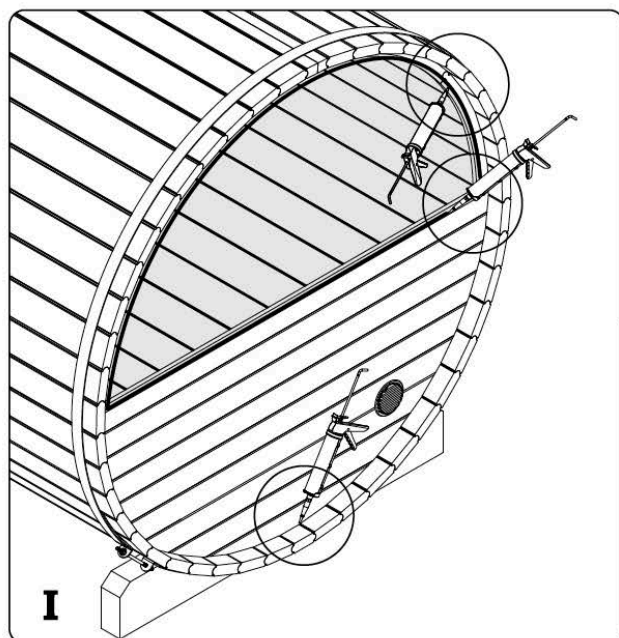




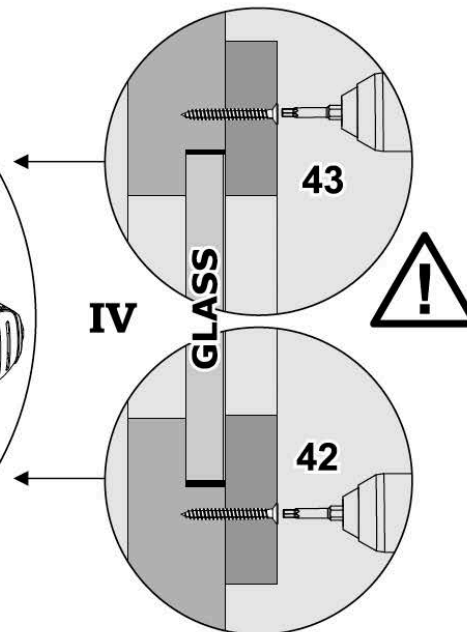
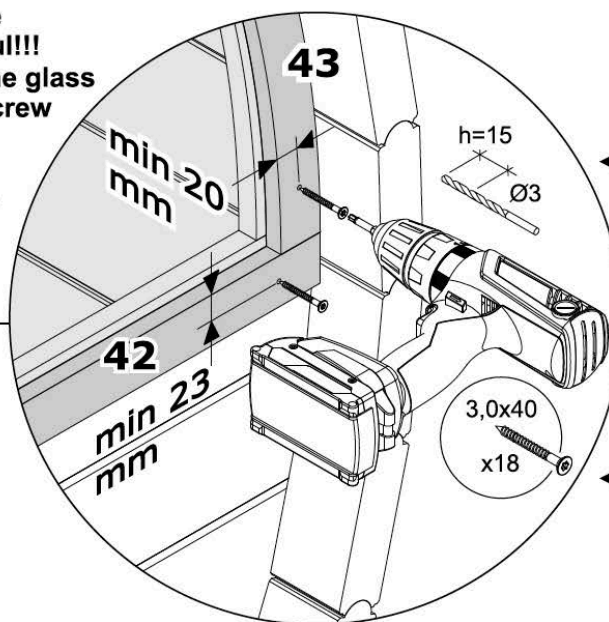
## Sauna Assembly



## Sauna Assembly

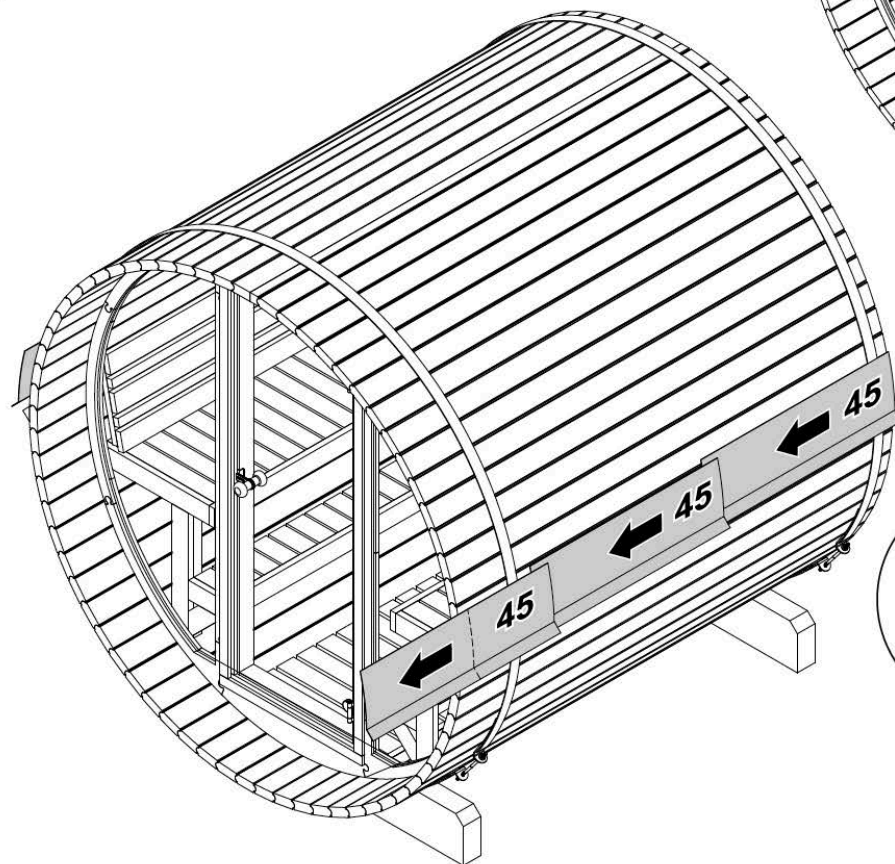
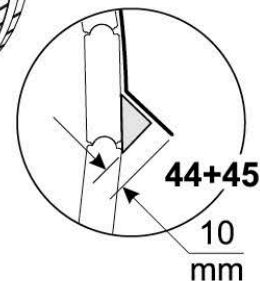
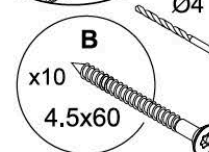
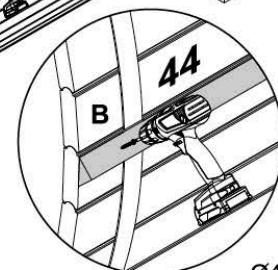
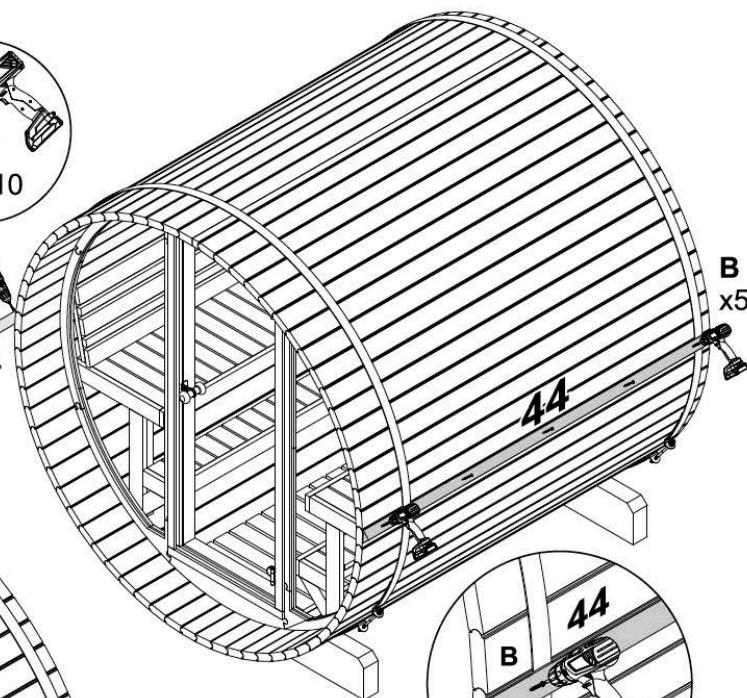
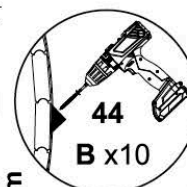
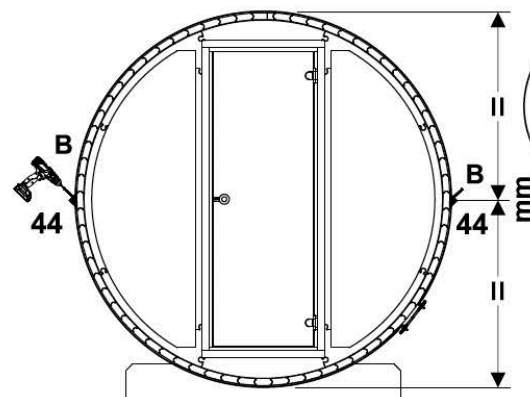
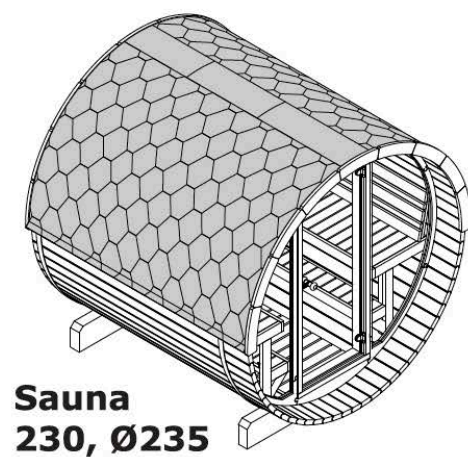


Please be careful!!!  
Do not hit the glass  
with the screw



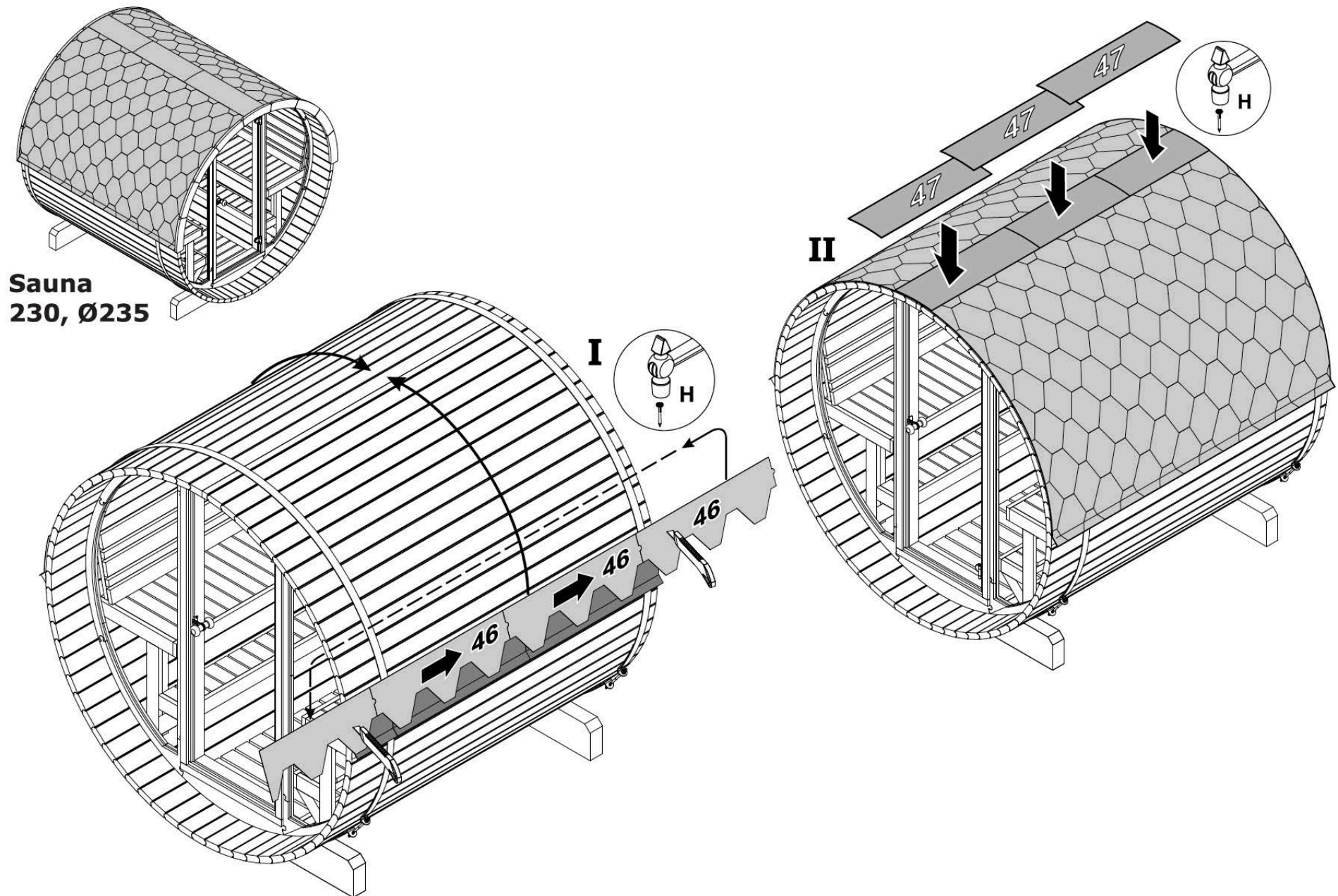


# Sauna Assembly

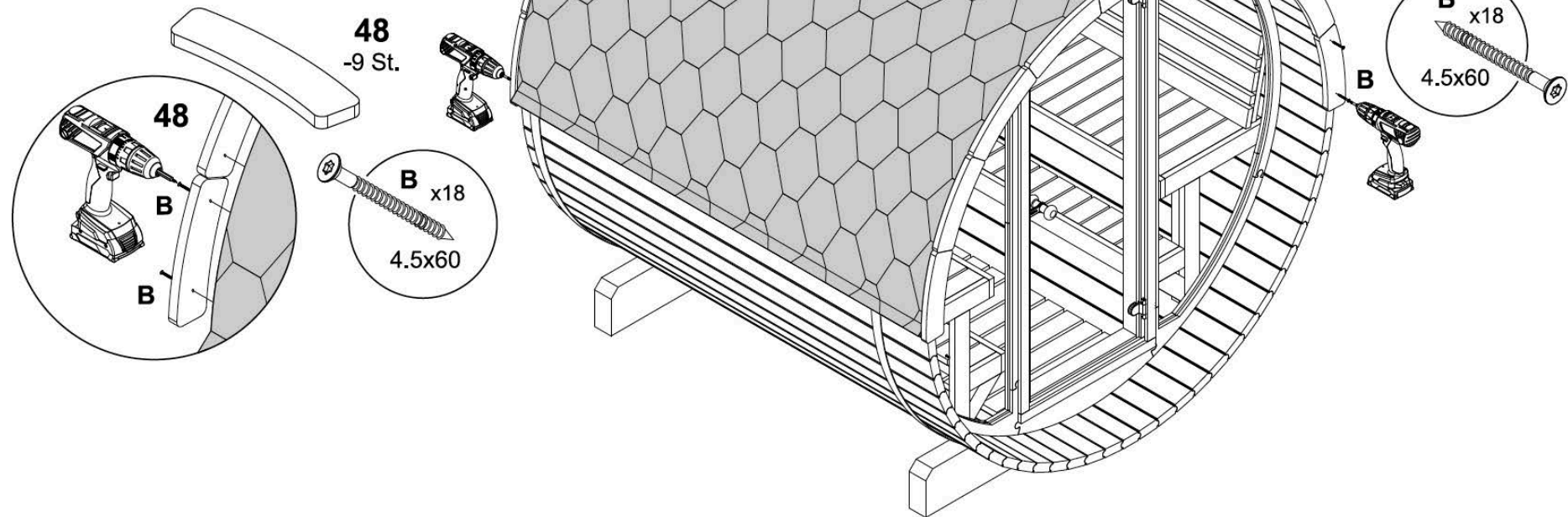
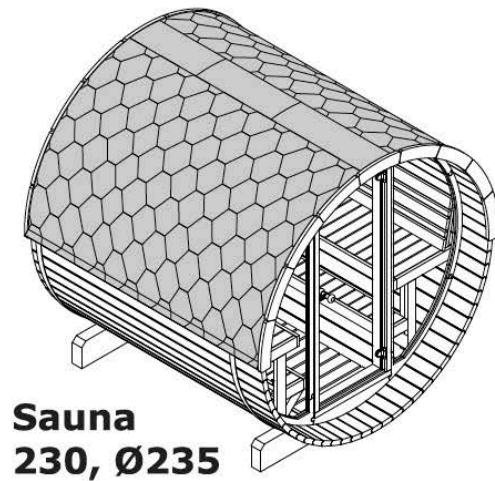




## Sauna Assembly



## Sauna Assembly







## Warranty and User Guide

### WARRANTY

Our electric sauna heaters come with a 1-year limited warranty. Our wood-burning sauna stoves come with a 1-year manufacturer's guarantee on materials and workmanship. Our warranty does not cover issues resulting from customer damage, installation errors or misuse. We offer a warranty against manufacturing defects on our all wood products. If your product contains a manufacturing fault or defect, we will offer to exchange either the whole unit or the defective part thereof, at our sole discretion. Because wood is a natural product we cannot take responsibility for natural wear and degradation that may occur over time. The life expectancy of our wood products varies depending on your choice of lumber, how you care for the wood, whether shingles are installed and your local climate.

### FIRST USE INSTRUCTIONS

Wash the layer of rock dust off of the sauna rocks before using them. If the rocks are not cleaned there may be smoke coming from the heater during the first use as a result of the dust / other particles being burned. When your sauna is set up and working you should "break-in" the sauna before using it for the first time. Turn it on to its highest setting and keep it like that for about 1 hour. This is recommended to burn off any oils and impurities from manufacturing, and it also "cures" the wood stove. After about 3/4 of an hour, slowly pour about 1 liter of cold water onto the rocks. It should all turn to steam and not come out of the bottom of the heater. If it does not, you're pouring too fast.

### HOW TO TAKE A TRADITIONAL SAUNA

- Pre-heat your sauna to the desired temperature (usually between 160-185°F)
- While it's warming up, take a nice hot shower or a dip in a hot tub or pool
- Enter the pre-heated sauna, relax and allow your body to perspire in the soft dry heat. Do not throw water on the rocks during the first part of the session
- Cool off with a cold shower or a quick swim in a lake or pool.
- Re-enter the sauna and sprinkle water on the rocks. This will increase humidity to about 30% to assist in perspiration.
- Half a cup every 5 minutes should be enough. Too much water will just cool off the rocks and you'll get less steam. After a 20-30 minute sauna, cool off in the shower or lake or pool.
- Repeat this sauna/cold shower process as often as desired.
- It is important to drink during your sauna session and even a light snack.
- Like bathing in a hot tub, excessive exposure can be harmful to a person's health. People with poor health should consult their physicians before using the sauna.

THESE ARE GUIDELINES ONLY. ENJOY YOUR SAUNA WHATEVER WAY YOU DESIRE.

**CHILDREN MUST BE SUPERVISED BY ADULTS.**

### MAINTAINING YOUR SAUNA AFTER INSTALLATION

Your Backcountry Recreation sauna is designed for outdoor use and the lumber is naturally resistant to the elements. Over time, natural weathering will cause the color and appearance of the wood to change. To help preserve the sauna's initial look, stain the exterior with a UV-inhibiting stain. Consult a local paint store for their recommendations on the best stain for your sauna. We do not recommend painting or varnishing your sauna. NEVER use commercial wood sealers from local hardware stores. These are not designed to withstand the sauna temperatures or humidity!

Properly assembled, you should not experience water dripping into the sauna. You may experience some water seepage, particularly on the top and sides of the sauna. This is due to the porous nature of softwoods as well as the tongue and groove design of the staves. Water seepage or leakage will not harm the sauna and in most cases will evaporate quickly in the hot, dry interior. If you wish to completely waterproof your sauna, we suggest covering it with a roof. You can also purchase our asphalt roofing shingles which cover the top of your sauna.

It is considered good sauna etiquette to take a shower with soap before entering the sauna as well as sit on a double layer of terrycloth towels; this will prevent perspiration from getting onto the benches and walls where the oils will accumulate over time.

Under normal conditions, washing the floor and benches several times a year will maintain the sauna's cleanliness. The benches can be washed with a mild solution of soapy water to remove any buildup and perspiration stains from the wood. Refrain from using ammonia or harsh cleaners as they can turn the wood gray.

#### Preventing and Treating Mold

Like any outdoor structure, mold can develop as a result of moisture getting trapped inside the sauna. This is especially true for saunas as the bathers will sweat, releasing additional moisture into the air which can be absorbed into the wood. The key to preventing mold from forming is to ensure the inside of the sauna is dry.

**After you have finished each sauna session**, leave the door fully open so that the wood can dry out. The flooring can be lifted and placed outside to dry faster. Before closing the door, wipe the side of the sauna (walls/roof, benches, flooring, etc.) with a dry towel or cloth to remove any remaining moisture. If you are using your sauna regularly (i.e., multiple times a week), this ventilation should largely prevent mold formation.

**If you are not using your sauna regularly**, run a dehumidifier and/or fan inside the sauna to keep air circulating (ensure you are emptying the dehumidifier water tank regularly). Also place desiccants (e.g., a commercial desiccant such Damp-Rid or non-commercial desiccant such as charcoal briquettes/kitty litter) on dishes and place them around the inside of the sauna.

If you are seeing mold in the sauna, this should be treated early before it has time to grow and take hold. Clean the affected area to remove the mold. The wood can be cleaned with soapy water, white vinegar, or sodium bicarbonate (baking soda). If you are unable to remove the mold with these solutions, try stronger cleaning agents (such as diluted bleach) or sanding down the area with sandpaper. Any rags, etc. that come into contact with the mold must be disposed of.

**Proper protective equipment (safety goggles, breathing mask, etc.) must be worn when removing mold.**



*Contact Us*



BACKCOUNTRY RECREATION

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H O T   T U B S   &   S A U N A S

## CONTACT US

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