

CUSTOM CUT SAUNA INSTALLATION MANUAL



IMPORTANT SAFETY INSTRUCTIONS

DANGER: Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING: Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION: Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE: Indicates information considered important, but not hazard-related.



READ ALL INSTRUCTIONS BEFORE INSTALLATION AND USE TO AVOID INURY OR DAMAGE TO SAUNA



FOLLOW SAFETY INFORMATION IN THIS DOCUMENT TO AVOID SERIOUS INJURY OR DEATH



REFER TO YOUR LOCAL BUILDING CODES FOR ANY SPECIFIC INSTALLATION REQUIREMENTS



ALL ELECTRICAL WORK NEEDS TO BE COMPLETED BY A LICENSED ELECTRICIAN. FAILURE TO DO SO COULD CAUSE INJURY OR DAMAGE TO THE HEATER.



KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE

A WARNING

- This sauna is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the sauna by a person responsible for their safety.
- Consult your doctor about any health-related limitations related to sauna use. Ignoring advice from your medical provider could cause serious injury or death.
- Do not let people with pre-existing health conditions bathe in the sauna on their own. Using the sauna could cause these users to lose consciousness.
- Parents should consult your pediatrician before allowing children to use the sauna. Ignoring advice from your medical provider could cause serious injury or death.
- Do not smoke, use alcohol, or exercise in the sauna. These tasks could cause users to lose consciousness.
- Do not exceed 30 min. in the sauna at one time, as excessive exposure may be harmful to health. The sauna should not be used as an endurance test.
- Do not place any combustible material over the sauna heater (towels, bathing suits, wooden bucket or ladle)! This will cause the sauna to catch fire.
- Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98,6 °F. The symptoms of hyperthermia include an increase in the internal temperature of the body, dizziness, lethargy, drowsiness, and fainting.
- Only use stones approved for sauna heater use. Inadequate stones may crack or explode leading to serious injury.

• Do not sleep in a sauna that the heater is operating. Sleeping in a heated sauna may lead to injury or death.

A CAUTION

- Keep all occupants away from the heater and when it is hot. The stones and outer surface of the heater may burn your skin.
- Do not throw excessive amounts of water on the stones. The evaporating water is boiling hot and could cause burns.
- Do not throw water directly onto the elements. This could cause burns and damage to the heater.
- Be very careful when moving in the sauna, as the benches and floors may be slippery. This could cause the user to slip and fall.
- Do not alter the sauna in any way, unless explicitly instructed in this manual. Altering the sauna could lead to structural damage, increasing the risk to bodily harm.
- When moving and lifting heavy pieces, use two or more people. Moving pieces without adequate manpower will lead to injury.



Materials provided in sauna kit include:

Wall/Ceiling T&G	Door Hardware (unless otherwise noted)
Bench(es) and Bench Supports	Hardware bag
Under Bench Lighting	Sliding Vent Cover
Backrest(s)	Vapor Barrier
Trim to cover all wall and ceiling joints	Heater with Xenio Controller
Pre-hung Door (unless otherwise noted)	

T&G will be bundled and labeled for installation (ie. front wall, left wall, ceiling, etc). Minor trimming of boards may be required depending on site conditions. Only use boards for walls they are pre-allocated for, if you do not follow the labels you could end up being short on a specific length board. If lengths do not correspond to site conditions, please contact us before installing or cutting the boards.

Materials not provided in sauna kit:

- Wall Framing
- Insulation
- 1-3/4" or 2" Galvanized Finishing Nails
- Ductwork or materials for outlet venting
- Materials to install pre-hung door
- Any electrical components not included in heater or lighting kit

Your sauna room can have any floor that is firm, flat and nonporous; including concrete, ceramic or tile. Do NOT install on a carpeted surface.

Tools Required:

- Hammer and Nail Set (Pneumatic Nailer recommended, but not required)
- Drill/Electric Screwdriver
- Rubber Mallet
- Tape Measure
- Level
- Square
- Hand Saw & Miter Box (Miter Saw recommended, but not required)
- Table Saw
- Jig Saw

Sauna Room Preparation:

Room Framing:

Walls should be framed using 2X4's with base plate and top plate. If sauna is adjacent to an existing wall such as brick or block, frame wall with 2X4 framing or minimum of vertical 2X2 furring strips. 2X4's to be placed at 16" on center. Corners should have a stud on both sides to connect T&G during installation.



If T&G will be installed vertically, 2X4 blocking is required between the studs. Blocking is required at the base, top, and at least every 16" in between.





Baseplate:

Baseplate should be treated 2X4's due to water that may spill in sauna environment. Floor should be made from a nonporous surface such as concrete, ceramic or tile.



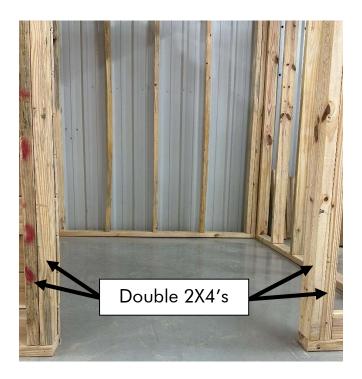
Ceiling Framing:

Ceiling should also be framed in 2X4's. If ceiling span is greater than 8', we recommend using 2X6's to prevent the ceiling from sagging. We recommend an 84" ceiling height for sauna performance, but any reasonable ceiling height is acceptable.



Door Rough Opening:

Door opening to be framed out to 32" by 76-1/2" unless otherwise noted/preapproved, using double 2X4's. Ensure door opening is square and plumb. Pre-hung door will come in 2X6 frame, this will allow for T&G thickness on the inside and $\frac{1}{2}$ " sheet rock or another wall finishing on exterior. Do NOT frame threshold, as pre-hung door will sit directly on the floor, leaving a 5/8" gap between glass and floor to allow for air flow. Note: If the pre-hung door is not provided as part of the kit, the rough opening is at your discretion



Air Outlet:

Pre-hung door comes with airgap below the door to create an air inlet, but you will need to create an air outlet. For best sauna performance, air outlet should be as far away from the door as possible and never on the same wall as the door. Air outlet also needs to be on an interior wall to vent the sauna room (never vent to the outdoors). A hole will need cut from the interior of the sauna to the adjacent space to create this outlet. We recommend placement under an upper bench, if possible, but it is not required. The most desirable height from the floor to the vent is between 12"-60", but again is not required. It is also permissible to run duct work between the studs to a drop ceiling above for the air outlet. It is also permissible to place air outlet in the ceiling if this is the best option for proper sauna venting.

Electrical:

- Ensure all electrical work is completed by a licensed electrician.
- Electrical rough-in to be completed once sauna room framing is complete, but before insulation and sauna boards are installed.
- Always follow wiring instructions per applicable installation manual.
- If your heater has a power unit, refer to heater manual for guidance on location and any requirements. It should be mounted outside the sauna, but near where the heater will be located inside the sauna.
- If your heater has a Xenio Controller, run data cable per installation manual to the location of the power unit location. The controller should be mounted outside the sauna.
- If your heater has a temperature (in certain cases a humidity as well) sensor, run data cable to location outlined in installation manual.
- See lighting section below for further information on connecting lights.

Insulation:

Once the room is framed and electrical is complete, install insulation between studs in the walls and ceiling. Always refer to local building codes for any requirements specific to your location. Unfaced fiberglass batt insulation is recommended to prevent a double vapor barrier which could trap moisture. If faced insulation is what will be used, install with faced side towards the interior of the room.

Vapor Barrier:

Vapor barrier is supplied in your sauna kit. Starting at the bottom install the foil insulation rolling it out horizontal, stapling to studs to hold it in place. Working upward on succeeding passes, overlap foil on top of previous passes. Ensure entire wall is covered in vapor barrier. Depending on ceiling height, the amount of overlap will vary but we recommend 3" minimum.





You may also choose to tape seams with foil tape (not included). Complete the same process for the ceiling as well. We recommend to have an overhang down onto the walls, so there is no gap in the barrier in the corner where the walls meet the ceiling.

T&G Installation (Horizontal):

If you will be installing your T&G Vertically, skip down for notes/differences in installation. Kit was designed/manufactured with orientation at time of purchase and cannot be changed.

A few tips and notes before you begin:

- Your sauna kit comes with all the T&G boards precut to the correct lengths. They will be bundled together and labeled for easier installation.
- T&G should be installed with tongue facing up.
- When installing T&G, use galvanized or Stainless Steel fasteners to prevent corrosion.
- If using a hammer to blind nail, use a nail set to countersink nails so they don't interfere with T&G fitment.
- As you are installing your T&G, its easiest to cut a 6" long gap in the T&G in the location of your air outlet vent. Then install the next T&G on top, and in a later step we will install the sliding vent over this 6" gap. When choosing your location, ensure it will not interfere with the bench once it is installed and that the cut is between stud locations.

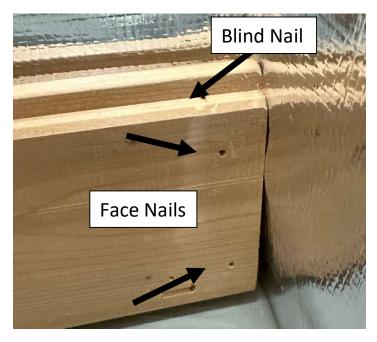


• If your heater model comes with a temperature and/or humidity sensor hardwired to the unit, find the location per manufacturer instructions. As you are installing the wall where the power unit is, we recommend drilling a hole or notching the tongue so you can route the cable out near the power unit. The cable then can easily be concealed using a cable concealer (not provided) to its location.

Start by installing the side walls first; the front and back walls are cut to fit between the side walls. The side wall T&G boards are cut just undersized for ease of installation, any slight gap will be covered by front and back walls. If you wish, you can lay out the boards first to match any color variations that naturally occur in the wood. Starting at the bottom, place the side wall T&G in place. It is recommended to offset the bottom board roughly ½" off the floor.



Measure from the top of the board to the ceiling on both ends to ensure the board is level with the ceiling. If you have an aggressive slope in the floor, you can cut the bottom board with a slight taper to keep boards level. It is very important this first T&G board is level, as the rest of the boards will follow. Once board is leveled, face nail through the ends of the first board to provide additional support to the rest of the T&G placed on top. Keep the face nails near the edge, and the front/back wall T&G will cover these face nails. We also recommend blind nailing through the tongue into the studs to keep the T&G flush to the wall. Pneumatic nailer is recommended to speed up the install, but a hammer and nail set can be used as well.



Position next board in place and face or blind nail, repeating process up the wall. Ensure the boards are sitting snug and flush on the board below it to keep them level. It is recommended every 3-5 boards to check distance to ceiling on each end to ensure boards are staying level. Once you reach the ceiling, measure the gap between the last board and the ceiling. Rip the last board on the table saw; it is recommended to have a roughly 1/2" gap to ceiling for ease of installation. Ceiling T&G will cover any gap that may result.

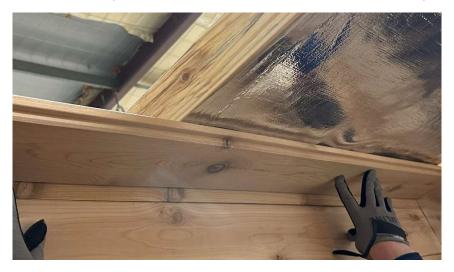


Following the same process as the side walls, install the back and front walls. Again, these T&G boards will be slightly short for ease of installation and prevent marring of side walls when positioning. Any gaps that appear in the corners will be covered by corner trim. If your door is centered and has T&G on both sides, periodically check the boards are even on both sides; you can use a full-length wall board as a guide. This will be important once you get to the top of the rough opening.

When installing the T&G on the wall with the door, when you get to the top of the R.O. you will need to notch this board. We recommend notching the board $\frac{1}{4}$ " to $\frac{1}{2}$ " bigger than the R.O. so there is no interference when you install the door. Any gap will be covered by R.O. trim.



Once all the walls are installed, it's time to install the ceiling. Follow the same installation process used for the vertical walls. Unless otherwise noted, the ceiling T&G boards will run perpendicular to the ceiling joists. (Picture has some vapor barrier removed to show T&G orientation to joists.)



Mark the ceiling joists and blind nail through the tongue into every joist. The last board will most likely need ripped down to fit into place. A 1/2" gap from this board to the wall is acceptable as it will be covered by ceiling trim.

T&G Installation (Vertical):

A few tips and notes before you begin:

- Your sauna kit comes with all the T&G boards precut to the correct lengths. They will be bundled together and labeled for easier installation.
- T&G can be installed with the tongue left or right, orientation doesn't matter.
- When installing T&G, use galvanized or Stainless Steel fasteners to prevent corrosion.
- If using a hammer to blind nail, use a nail set to countersink nails so they don't interfere with T&G fitment.

- As you are installing your T&G, its easiest to cut a 6" long gap in the T&G in the location of your air outlet vent. You will cut the entire section of one board and then notch roughly ½" ¾" on the boards on either side. Or you can notch 3" out of two adjacent boards. When choosing your location, ensure it will not interfere with the bench once it is installed and that the cut is between stud locations.
- If your heater model comes with a temperature and/or humidity sensor hardwired to the unit, find the location per manufacturer instructions. As you are installing the wall where the power unit is, we recommend drilling a hole or notching the tongue so you can route the cable out near the power unit. The cable then can easily be concealed using a cable concealer (not provided) to its location.

Start by installing the walls first; chose a corner and then work around the entire sauna. If you wish, you can lay out the boards first to match any color variations that naturally occur in the wood. The wall T&G boards are cut just undersized for ease of installation. We also recommended to offset the bottom of the board roughly 1/4" off the floor.

Place the groove end of the first board into the corner you are starting at. It is very important this first T&G board is vertically level, as the rest of the boards will follow. Once board is leveled, face nail through the top of the first board. Keep the face nails near the edge, and the ceiling T&G will cover these face nails. Then blind nailing through the tongue into the horizontal blocking to keep the T&G flush to the wall. Pneumatic nailer is recommended to speed up the install, but a hammer and nail set can be used as well.

Position next board in place and nail like the first board, repeating process down the wall. Ensure the boards are sitting snug and flush on the previous board to keep them level. It is recommended every 3-5 boards to check that the boards are staying level. Once you reach the end of the wall, measure the gap between the last board and the corner. Rip the last board on the table saw; it is recommended to have a roughly 1/2" gap to corner for ease of installation. T&G for the next wall will cover any gap that may result.



Following the same process as the first wall, continue installing the remaining walls. Again, these T&G boards will be slightly short for ease of installation. Any gaps that appear in the corners will be covered by corner trim.

When installing the T&G on the wall with the door, when you get to the R.O. you will need to notch this board. We recommend notching the board $\frac{1}{4}$ " to $\frac{1}{2}$ " bigger than the R.O. so there is no interference when you install the door. Any gap will be covered by R.O. trim. Use shorter boards across the top of the door, and then notch the board for the other side of the R.O.



Refer to the notes above for ceiling installation, ceiling installation is the same for vertical and horizontal T&G installation.

Air Outlet Vent:

Find the sliding vent cover and install over 6" hole cut during T&G installed. Carefully screw into wall using predrilled holes. The hole will need cut through the wall into the adjoining space to adequately vent the sauna. The outside vent cover is not provided, so you can chose based on your personal interior design/furnishings. Hole to be cut in adjoining room wall per the size of chosen vent. Using flashing or similar, join the hole in sauna room with hole in adjoining room to properly vent sauna. Also as previously stated above, the outlet vent can alternatively be ducted into a drop ceiling above if you so choose.



Benches:

From the floor, measure up 35" for the upper bench supports; this mark will be for the top edge of the 2X4 support. The upper bench support will be placed against the back wall it is extending away from. If your kit has a bottom bench, from the floor measure up 17", this again will be the top edge of the 2X4 support. Now measure 16" from the wall the bench is extending away from, this will be the back edge of the 2X4 support. When measuring the 16" from the back wall, ensure bench will not interfere with the door or other features before fastening. Also, if your bench is narrower than the standard 24" bench(es), this dimension will also be less. Adjust support as required to avoid any interferes. Before fastening the supports, ensure each support is level. Predrill 4 holes and fasten supports to wall using SS screws. If your T&G is vertical, ensure that the predrilled holes do not land at a T&G joint. Note: If your sauna has a higher than recommended ceiling height, it is acceptable to raise the heights of the benches 1-2". Also, if your sauna room is small and only has one bench, its permissible to slightly lower bench height for ease of use.



If your benches have a long span and your kit comes with vertical braces, follow the steps to install the vertical braces. This also pertains to benches that may not have a wall to fasten one end to. If your benches do not require vertical braces, skip forward to installing the benches.

Carefully set the lower bench onto the wall braces. Measure the distance from the floor up to the middle 2X4 bench brace. Cut to size one of the provided vertical braces and dry fit to ensure the correct size before fastening. This brace can be screwed in with the bench sitting in place, or you can flip the bench over for an easier installation.





Repeat this process for the front vertical brace on the lower bench. Once the lower bench is done, repeat for the upper bench. Instead of measuring to the floor, measure from the top of the lower bench to the 2X4 brace for the front brace. For the rear brace, one is provided to follow the same process as for the lower bench (measuring floor up). You may also screw through the rear 2X4 brace into the wall, this will provide the support and vertical brace would not be required.

Predrill 4 holes into the 2X2 of the bench to connect the bench to the wall support. Ensure the holes do not him the screws in the wall support. Place benches onto supports and fasten benches into supports on each end.



For upper benches, drill holes through the 2X4 that's against the wall every 12"-16" and fasten to the wall.

If your sauna has "L" shaped corner benches, the longer bench will be fastened to wall braces as above. The shorter bench will have one fastened to a wall brace and the other will be fastened to the front of the longer bench. Set the shorter "L" bench on the wall brace to balance it, and then pull tight to the front of the longer bench. Fasten them together with screws similarly to fastening it to the wall brace as shown above. Then fasten the other end to the wall brace.

Ceiling Trim:

Ceiling trim is provided long to be cut to length on site. Measure the length of the wall where trim is to be installed and cut to length. A butt joint is the easiest method for installation, but you can almost miter the corners. Install ceiling trim using galvanized finishing nails.

Corner Trim:

Corner trim is provided long to be cut to length on site. For corners without benches, measure from floor to ceiling and cut to length. For corners with benches, measure from ceiling to bench and from under bench to floor. Cut and install corner trim. Install corner trim using galvanized finishing nails.

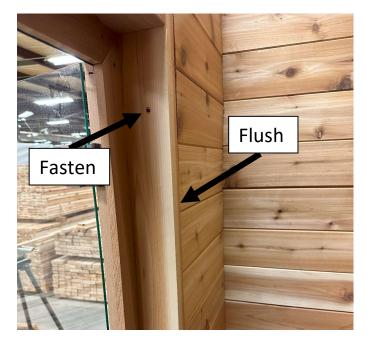
Backrest:

Center the back rest on the wall and position at a height so it is comfortable for you. We recommend approximately 16-18" from the top of the bench to the top of the back rest. Ensure the back rest is level and attach to the wall using predrilled holes.



Door Installation:

The pre-hung door was built with the hinge built to the side per customer request, and the sauna door is required to be out-swinging. Remove any support pieces at the threshold, as the installed door has no threshold. Place the door in the rough opening, with the "interior" edge flush with the T&G wall. Ensure the door is level and plumb, shim as required to plumb the door. Fasten through the 2X6 frame on the interior side of the door into the double 2X's for the rough opening. Continue fastening frame to 2X's all the way around.



Remove any support pieces that may be on the front/rear of 2X6's to stabilize the door in shipping. Customer can choose to leave fastener holes, fill fastener holes with putty, or cover with trim. If using trim, find the length of the trim required to cover the screws holes from door installation. Cut and install using galvanized finishing nails.

Find the rough opening trim and cut to length to cover the intersection of the T&G and the 2X6 door frame. It is easiest to do butt joint, but you can also do a miter cut if you prefer. Fasten to the 2X6 frame on the interior of the sauna. Trim was also supplied to cover the exterior rough opening of the door, but you can also cover with trim to match the outside room.

Door Handles:

Install door handles with wood to the interior and metal to the exterior. Open door handle package and lay out the pieces of the door handle.



Install both wood spacers into wooden handle. Insert screw into wooden handle through the spacer and place metal spacer and plastic spacer over screw. Insert screw through the top hole in the glass from the inside, so the wooden handle is inside the unit.





Now place the plastic spacer and metal spacer over the screw. Mate the metal handle to the screw on the outside of the unit, and partially tighten screw. Swing handle to the side to access screw. Repeat process from above by applying metal spacer and plastic spacer over screw.



Push screw through bottom hole in the glass, and swing the metal handle out to apply both spacers. Partially tighten bottom screw; make sure handle is straight from top to bottom and finish tightening screws to complete installation.



Heater:

A DANGER

• Turn off power to heater at breaker before beginning installation or performing maintenance on the heater. Failure to turn off the power will lead to electrocution and even death.

A CAUTION

- Improper installation of heater or heater mounting bracket could cause the heater to fall leading to burns and other injuries.
- Before placing or adjusting stones, ensure heater is back to room temperature. Failure to do so may cause burns.

Please consult your heater manual for all heater installation information.

<u>Lighting:</u>

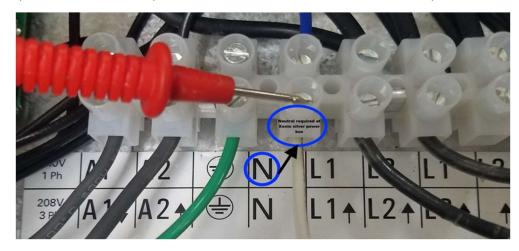
Under-bench lights can be connected in a variety of ways. They can be connected to the Xenio controller via dedicated GFCI outlet, plugged into an existing GFCI outlet inside the sauna, or a GFCI outlet wired to switch outside of the sauna. To connect to the Xenio via dedicated GFCI outlet, follow the steps below. To use with an existing GFCI outlet, or switch wired to GFCI outlet, consult your electrician for hook-up.

Xenio-Lighting Hookup:



• Turn off power to Xenio control box at breaker before beginning installation or performing maintenance on the control box. Failure to turn off the power will lead to electrocution and even death.

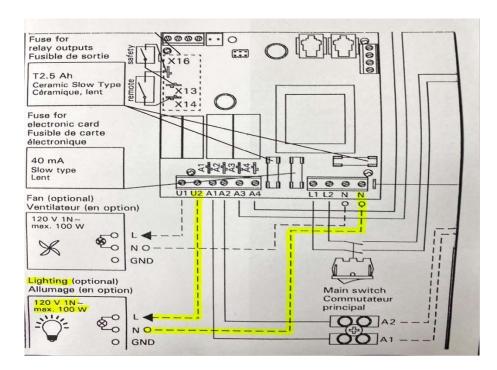
Hook up main power to the Xenio CX power box terminal. Add the neutral wire to the power box terminal.



To set up the under-bench lighting, on the circuit board using a minimum 18 gauge wire, apply wires to U2 and N terminals. Loosen set screw, place wire in terminal, and retighten set screw. These wires will supply 120 VAC @ 100 Watt Max; DO NOT EXCEED 100 WATTS. If lighting beyond what is supplied in kit is desired, a second outlet can be installed and hooked up to a switch outside the sauna.



Output wires from U2 and N will run to a dedicated 120V outlet to operate the sauna lighting. Wiring diagrams can be found in the Xenio CX manual and under the top cover of the power box, but here is one for reference.



The lights can be mounted anywhere underneath a bench. Fasten the mounting brackets and then snap the light bar into the brackets. This is an example showing the lights attached and plugged into an outlet.

