

Sauna Design Guide



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Custom-Cut Sauna Design Options:

Helo Commercial Custom-Cut sauna packages are designed to meet your specifications and your designs. From a small rectangular room with two tiers of benching to our luxurious Lumilaude and Sunburst bench designs, if you can frame, wire, and insulate the shell of the sauna, we can design a package to be installed inside the enclosure. Most often, the sauna is installed by skilled contractors, to include carpenters and electricians, though some homeowners enjoy the challenge of a weekend project.

The area where the sauna will be installed must be framed (including a wood nailing surface to fasten the tongue and groove boards to), insulated (with R-11 batt insulation in the walls and ceiling), and wired or be prepared for wiring with conduit. Finish boards are generally installed horizontally in rooms where the length and depth of the room is less than 8 feet, though the boards can be installed vertically, if preferred. In rooms longer than 8 feet or with odd shaped or curved walls, the tongue and groove (T&G) is applied vertically to minimize butt joints and to provide a more beautiful finished product. When applying T&G vertically, furring strips should be applied horizontally at 24" on center to provide a nailing surface (1/2" plywood may also be used). In some areas, especially in public dwellings, one course of type "X" gypsum board may be required by local codes as a fire retardant. Helo Commercial does not require gypsum board, and it is recommended to include a nailing surface, as drywall often deteriorates in temperatures exceeding 150° F. The rough ceiling height of the sauna should be 7' 0" to keep the heat close to the sauna bathers. The maximum height allowed to maintain UL listing is 8'.

With wood studs, plumb and level walls should be erected with dry 2x4 studs at 16" on center (o.c). Ceiling joists should be 2x4 studs (or 2x6 when the span exceeds ten feet), and the joist direction should be chosen with a Helo Commercial representative to ensure the best use of materials and the most beautiful installation.

With metal studs, plumb and level walls should be erected with 3-5/8" galvanized metal studs at 16" o.c. Ceiling joists should be 4", 6", or 8" galvanized members according to the span. The joist direction should be selected with a Helo Commercial representative to ensure the best use of materials and the most beautiful installation. All metal studs **MUST** have a wood nailing surface to which the T&G can be fastened.

For wood doors, the rough opening (R.O.) for the door should be 2" wider and 2" taller than the door itself (generally 26"x 82" R.O). For all glass doors, the R.O. for the door should be 3-1/2" wider and 2" taller than the door (generally 27-1/2"x82" R.O.). Standard doors include a ball catch for closure. Consult with your Helo Commercial representative to determine which door will best suit your needs.

Panel-Built Sauna Design Options:

From traditional designs of panel-built saunas to the more luxurious designs including upgraded interiors and addition of glass, Helo Commercial Panel-Built saunas help transform an open space into a fully functional sauna in a matter of hours, without the need for special tools or skills. Wall and ceiling panels, benches, guard rails, and duckboard flooring are pre-assembled. Controls, wiring, and electrical boxes can be pre-installed in the panels for hookup by a qualified electrician after the room is assembled. Panel built saunas are freestanding, and they can be disassembled and move from one location to another.

Depending on the style of panel-built room, custom sizes are available. The flexible design of our more basic panel-built rooms allow for custom dimensions and layouts. They can even be designed for large commercial installations by upgrading to the commercial package. Most of the Prestige Series panel-built rooms have set sizes and layouts.

The interior of every panel built sauna is lined with T&G. Many designs include a generous use of glass to provide an open airy feeling. The exterior material of the panel-built rooms vary by model. Though certain exteriors are standard design for rooms (for example T&G), other options may be available to better coordinate with your decor.

Because the panel-built saunas are freestanding, the only preparation required is a level, water proof floor, clearance for assembly and use of the 7' 0" tall unit, and access to a proper electrical source (most residential saunas will require a 240 volt 1 phase electrical supply / commercial will often require 208 volt 3 phase).

Though panel-built rooms are excellent choices for many installations, you may need to consider a custom-cut sauna if there are constraints on space to construct the sauna or if there are odd shaped walls or cutouts to be included. For these situations, please consult with your Helo Commercial representative.



Sauna Operation and Maintenance:

Sauna operation will vary by sauna heater and control. Please consult the Owner's Manual provided with your unit for specific instructions on operating the control.

The following instructions are applicable to the SC series of controls.

1. Determine what control you have. All controls include a heat indicator light and light switch.

A. An SC-9 has a thermostat and a 60-minute timer with a 9-hour delay timer. (Rarely used in commercial situation due to confusion with 9-hour preset by bathers.)

B. An SC-60 has a thermostat and a 60-minute timer (no delay timer).

C. An SC-Club has a thermostat and an On/Off switch (requires an attendant).

2. Turn the thermostat knob to a desired setting. Please note, the controls and heaters are designed for a range of room sizes, so there is not a specific temperature associated with each number setting. You will need to determine your preferred setting through experience.

3. If you have an SC-60 (one hour timer), turn the timer dial to the maximum setting. If you have an SC-9, to turn the sauna on without delay, turn the dial PAST the "On" position, then slowly turn the dial back (counter-clockwise) until you hear a click. The sauna heater is now on and ready to heat. If you wish to use the delay timer, set the dial on the desired number of hours for delayed start. Please remember, your sauna will take 30-45 minutes to heat, so if you want to use the sauna in 3 hours, set the dial between the "2" and "3" to allow for the heat-up time.

4. When the sauna heater is heating, the amber "Sauna Heating" light will glow. When the room achieves the "set temperature" (usually between 150° and 180°F), the amber light will turn off. For the remaining duration of the timer, the sauna heater will cycle on and off to maintain the set temperature.

Please note: A typical session in a sauna is 10-15 minutes. Multiple sessions may be taken, but please allow a cooling period between sessions. The cooling session should include drinking water and either a shower or a swim in a pool or lake.

Using the Bucket and Ladle

A bucket and ladle are considered essential components for most sauna bathers. The long-handled ladle is used to gently sprinkle several ounces of water on the properly heated rocks. Care must be taken to keep hands and faces away from the steam's updraft. If bathing with others, be considerate of their preferences as well. Before sprinkling water over the rocks, make sure the rocks are fully heated. Ladling water prematurely does not benefit the bather, and it may damage the heater and electrical components.

In community, commercial, and institutional settings, a bucket and ladle are sometimes not provided. The facility may choose to restrict the use of water to maintain a stable environment in the sauna for group use and to avoid misuse by unknowledgeable bathers. If the water is used improperly, the heater could be damaged and other bathers may become uncomfortable. Without water, the sauna generally has to be 20 to 30 degrees warmer to give similar levels of satisfaction to the bather. Thus, offering clean tap water is recommended along with a bucket and ladle.

Sauna Maintenance

The sauna, like a bathroom, should be kept clean and odor free.

Towels or mats should always be used on benches and the floor, otherwise perspiration will penetrate the soft wood.

Air out the sauna by keeping the door and vents open when the sauna is not in use. Saunas that are in daily use should be washed down at least once a week to keep them clean and the air fresh (commercial venues should be cleaned daily). Duckboard should be removed from the sauna, the sauna floor mopped and dried in a conventional manner, and the duckboard thoroughly scrubbed and dried before returning to the sauna room. The sauna heater should be wiped down occasionally with a damp cloth to remove lint and dust. The rocks should be removed once a year for cleaning and small or crumbled rocks should be replaced.

To clean and remove perspiration stains, use soap or detergent in warm water, best applied with a scrub brush. Badly soiled surfaces may require sanding. Sand paper wrapped around a wooden block works well. If you prefer Helo Commercial offers a sauna cleaning product called "Sauna Clean TM."

Benches and supporting structures must be inspected annually for potential deterioration due to age, dry rot, or abuse. Any boards with signs of deterioration should be replaced immediately to avoid possible injury.

ADA Requirements and Sauna Safety

Saunas can be a very important part of therapy and rehabilitation, but the nature of a sauna room can make access to the room a challenge. Because the sauna room will achieve temperatures ranging from 150° to 190°F, any metal or plastic in the room can become dangerously hot. Considering wheelchairs, walkers, crutches and other mobility aids are constructed of these materials, it is recommended that a bather be assisted into the room, assisted with comfortably sitting on the bench, and then have the assistant remove the mobility aid. When the bather is ready to leave, the assistant should retrieve the mobility aid and help the bather leave the room.

For ADA compliance, a sauna room should meet the following requirements:

1. The sauna door must provide a 32” clear opening. This is usually achieved through use of a 36” door and may not have a threshold.
2. The sauna door must swing out and should have a 10” bottom kick-plate.
3. The low sauna bench must be between 20” and 24” deep and a minimum of 42” wide and must be between 17” and 19” AFF. A backrest must be provided at this bench for support. This can be achieved by skirting the area between the low and high bench.
4. A 60” turnaround should be provided. Given the size of many sauna rooms, this may be the most difficult requirement to meet. Removable benches may infringe upon this 60” space, if the benches are easily removed. Because the wheelchair, walker, or crutches should be removed from the room to protect all bathers from the heated metal and plastic parts of these items, some jurisdictions are lenient on this requirement.

When designing a room requiring full ADA compliance, please consult your Helo Commercial representative early in the design stage to ensure the room is large enough to accommodate all requirements. It is not uncommon for a room to be designed that allows for a 60” turnaround and for two tiers of 20-24” benches, but no space was left for the sauna heater, which is essential. When the heater is added to the room, the design no longer meets requirements. By contacting your Helo Commercial representative, these design issues may be avoided.

Sauna Use and Safety Guidelines

For your enjoyment and safety, follow these procedures:

- Before taking a sauna, remove all clothing and jewelry (jewelry may become very hot at sauna temperatures). Shower with soap before use, and wear a towel loosely, where required or appropriate. Drink plenty of water before and after the sauna bath.
- Shower with cool water after every 5 to 15 minutes in the sauna. This allows the body to cool, the pores to close, and the body to be refreshed. Do not remain in the sauna beyond your individual capacity, which may vary from time to time. Allow enough time to relax completely and rest between cycles. Never remain in a sauna longer than it is comfortable.
- After the sauna, rinse with cool water to close the pores of the skin. Do not dress until your body has properly cooled. If you dress too soon after the sauna, you will begin to perspire in your clothes.
- Keep all plastic, metal, and glass objects out of the sauna, as they can become too hot to touch. If you do intend to drink water while using the sauna, keep the water container on the lower level.
- Do not use the sauna immediately after a full meal or rigorous exercise, as your body's blood flow is adjusted by these activities. Give your body a few minutes to adjust to a normal state before entering the sauna because the sauna will increase your body's circulation.
- Do not smoke, exercise, or drink alcohol in the sauna room. Do not use the sauna while under the influence of drugs or alcohol.
- Pregnant women and people with heart disease, diabetes, or either high or low blood pressure are advised to consult a physician before entering a sauna.
- Unsupervised use by children or people requiring assistance may be hazardous.
- Do not place or hang any objects above the sauna heater or on the heater guard rail. Do not use the sauna room for drying clothes, towels, bathing suits, or other items.

Technical Information and Sample Drawings

Custom-Cut and Panel-Built Specifications

The specifications provided are intended to be reproduced and used directly in construction documents. These specifications represent standard applications for both Custom-Cut and Panel-Built Sauna rooms. To avoid confusion when specifying, remove reference to whichever application is not being utilized.

Some sections may need to be edited for a specific project, such as removing all heaters except the model you intend to use for your design. Other sections requiring modification may include: controls, accessories, and doors.

Electrical Diagrams

Electrical diagrams are provided in the heater and control installation instructions; however, a general heater electrical chart is included to help specify the appropriate heater. For specific questions regarding a heater or control, contact your Helo Commercial representative or you can speak to the factory at 1-800-225-7519.

Sample Custom-Cut Plans

The Custom Cut plans included are representations of standard sizes, with a couple of custom designs to show the design flexibility. Almost any size or shape can be designed.

Typically, saunas with width and depth dimensions less than 8 feet will have the T&G boards mounted horizontally. For dimensions greater than 8 feet, most applications will mount the T&G boards vertically, to avoid butt joints and seams.

Sample Panel-Built Plans

The Panel-Built plans show traditional sauna designs. Though there remains some flexibility in Panel-Built rooms, there are more design restrictions than there are for Custom-Cut saunas.

Helo Commercial Sauna Specifications

GENERAL: Sauna room(s) shall be manufactured by Helo Commercial, 575 East Cokato St. Cokato, MN 55321. The following specifications include design parameters for Helo Commercial panel built saunas, as well as for Helo Commercial Custom-Cut material packages.

WORK TO BE DONE BY OTHERS: All work set forth below will be included under other sections for the specifications: **For all Helo Commercial sauna types:**

1. Finish painting and/or staining of exterior surfaces.
2. Subfloor and/or foundation work.
3. All electrical work from supply, including connections to control, heater, and light.

For Helo Commercial Custom-Cut saunas:

4. Installation of stud walls (or furring strips) and ceiling joists.
5. Installation of insulation between wall studs and ceiling joists.

CODE REQUIREMENTS: All materials, components and work shall conform to all applicable local, state, and federal building and safety codes, ordinances, and regulations.

TYPE CONSTRUCTION: HELO COMMERCIAL CUSTOM-CUT MATERIAL PACKAGES (for installation on previously framed walls)

Wall framing shall be on 16" centers. Standard framed wall shall have 2"x4" studs, bottom base plate treated, and ceiling lowered to 84" I.D. from floor to framing. Existing masonry walls shall have furring strips on 16" centers; metal studs shall have furring strips - for nailing of T&G wall boards.

Walls and ceiling shall be insulated with R-11 rated fiberglass insulation, with foil vapor barrier (foil provided by Helo Commercial).

When ordering sauna material package, shall be Helo Commercial model CC ____ . Provide interior dimensions of the framed space, indicate direction of ceiling joists, and swing of door.

Walls and ceiling interior materials shall be 1"x4" (nominal) V-joint, kiln dried to 12% or less, T&G clear Western Red Cedar. Boards to be blind nailed using 5p galvanized nails, or comparable galvanized staples. Wallboards applied horizontally unless specified otherwise.

TYPE CONSTRUCTION: HELO COMMERCIAL PANEL-BUILT SAUNA PACKAGES (free-standing, modular units). No framed walls are required for Helo Commercial Panel-Built packages. Install on any level, waterproof floor.

Wall and ceiling panels shall be framed of 2"x2" framing, insulated with fiberglass batts, vapor barrier of Type C Reynolds Building Foil. Panel interior and exterior shall be lined with 1"x4" (nominal), V-joint, kiln dried, clear Western Red Cedar. Optional: panel exterior can be 1/4" smooth Luan Plywood on walls to be hidden or walls to be covered with drywall, tile, or wallpaper.

TYPE CONSTRUCTION: ALL TYPES - CUSTOM-CUT AND PANEL-BUILT BENCHES: Shall be preassembled by Helo Commercial. Standard top bench width equals 24" in saunas 5' deep or greater. Bench tops of kiln-dried, clear Western Red Cedar, 1"x4" nominal with 5/8" spacing. Internal framing of 2"x4" SPF (or 2"x4" cedar). Bench tops fastened from bottom with stainless steel screws. Bench supports of 2"x4" SPF or 2"x4" Western Red Cedar. Commercial Sauna Benches: Internal framing 2"x6" on benches over 6', and H-leg bench supports on benches 8' and longer.

BACKRESTS: S4S clear Cedar

INTERIOR AND EXTERIOR TRIM: Corner and cove molding of clear, kiln-dried Cedar. Panel-Built saunas also include fascia of same material.

HEATER GUARD RAIL: Shall be constructed of clear Cedar to surround heater. Dimensions shall match UL requirements for proper spacing between heater and guard rail.

DOOR: Shall be Helo Commercial Model AG standard all-glass door, with 1/4" bronze tinted/tempered glass, mounted on 1-1/2" thick clear, vertical grain Meronti or Mahogany door jamb. AG doors are available in five sizes. Standard door for Custom-Cut sauna rooms is AG 24/80 (24"x80"); standard door for panel-built rooms is AG 24/72 (24"x72"). Other sizes of AG doors include 20", 30" and 36" wide. Alternative doors are Helo Commercial Model DF (clear, all vertical grain Douglas Fir rails with sealed, double pane, tempered glass 15"x64" window, pre-hung on Mahogany jamb - available in 20", 24", 30" and 36" widths), or Helo Commercial Model CC (custom-made, handcrafted, triple-layer Western Red Cedar door with sealed, double-pane, tempered glass 12"x60" or 16"x60" window, pre-hung on mahogany jamb).

HANDICAP ACCESSIBLE COMMERCIAL SAUNA DOORS AVAILABLE: All-glass doors (AG) or Douglas Fir doors (DF) are available in 36" widths. For Helo Commercial Custom-Cut saunas, handicap door is 36"x80".

SAUNA HEATER: Shall be Helo Commercial Model, sized according to the size room as indicated on the Heater Electrical Chart. Heater shall be UL or ETL listed. Shall include olivine igneous rocks. Optional floor stand adaptable with SO-S/BE models.

CONTROLS: Shall be Helo Commercial Model _____, UL or ETL listed, and matched with heater according to the Heater Electrical Chart.

FLOOR: Floor shall be of cement, ceramic tile, or similar waterproof type (no carpeting). Removable duckboard of Cedar is provided for walk area in front of benches. Dri-Dek is available as an alternate and is preferred in commercial settings.

LIGHT: Shall be wall-mounted, UL listed, vapor-proof Progress P5511 or Hubbell B2s-Var. Frosted white globe with satin finish, neoprene gasket, brushed aluminum base. Ceiling mounted and low voltage lighting available.

ACCESSORIES: All sauna packages include standard accessories of thermometer, wood bucket, wood ladle, headrests, backrests, duckboards. A wide range of additional accessories are available.

WARRANTY: All Helo Commercial sauna rooms, sauna heaters, and controls have a five-year limited warranty (one year for commercial saunas) against defects in material and workmanship. For further information regarding the Helo Commercial warranty, please contact Helo Commercial.

DESIGN ASSISTANCE: Helo Commercial's design staff will gladly offer any assistance you may require when designing or specifying sauna rooms and heaters, steam baths, and steam generators. Free CAD design service available.

HANDICAP ACCESSIBILITY: Most of Helo Commercial's panel-built and custom-cut saunas can be made handicap accessible. Contact Helo Commercial for assistance.

Helo Commercial reserves the right to change specifications and design without notice.

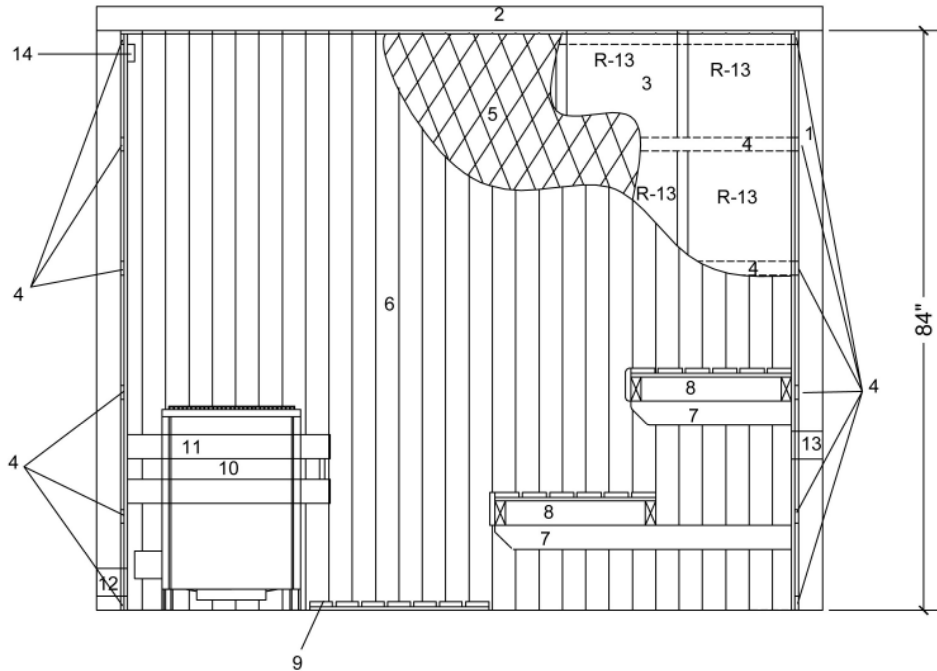
Helo Commercial® Sauna Heater Sizing Chart

Heater Model #	Min Cu Ft Sauna Room	Max Cu Ft Sauna Room	Watts	Voltage	Phase	Amps	Wire Size	Control Model #	Heater Shipping Weight
Junior 21	45	100	2,100	120	1	17.5	See	SaunaLogic	38
Junior 21	45	100	2,100	240	1	8.8	owners	SaunaLogic	38
Junior 30	70	150	3,000	120	1	25	manual	SaunaLogic	41
Junior 30	70	150	3,000	240	1	12.5	wiring	SaunaLogic	41
Viki 45	100	210	4,500	240	1	18.8	instructions	SaunaLogic	35
Viki 60	175	310	6,000	240	1	25	V	SaunaLogic	36
Viki 80	250	425	8,000	240	1	33.3	V	SaunaLogic	37
SO-45-S	100	210	4,500	240	1	18.8	V	Built-In	35
SO-60-S	175	310	6,000	240	1	25	V	Built-In	36
SO-80-S	250	425	8,000	240	1	33.3	V	Built-In	37
SO-80-S13	250	425	8,000	208	3	22.2	V	Built-In	37
SO-45-SC	100	210	4,500	240	1	18.8	V	SC-60, SC-9	35
SO-60-SC	175	310	6,000	240	1	25	V		36
SO-80-SC	250	425	8,000	240	1	33.3	V		37
SO-80-SC/3	250	425	8,000	208	3	22.2	V	SC Club	37
SO-45-D	100	210	4,500	240	1	18.8	V	Digi I, Digi II Digi VII	35
SO-60-D	175	310	6,000	240	1	25	V		36
SO-80-D	250	425	8,000	240	1	33.3	V		37
SO-80-D/3	250	425	8,000	208	3	22.2	V	Digi I, Digi II Digi VII	37
Steamy 60	175	310	6,000	240	1	25	V	Steamy	48
Steamy 80	250	425	8,000	240	1	33.3	V		49
Pikkutonnttu 46	100	210	4,500	240	1	18.8	V	Digi I, Digi II Digi VII	73
Pikkutonnttu 60	175	350	6,500	240	1	28.1	V		73
Pikkutonnttu 90	310	500	9,000	240	1	38.5	V		73
Pikkutonnttu 9013	310	500	9,000	208	3	25.6	V		73
Saunatonnttu 46	175	310	4,600	240	1	19.2	V	Built-In	120
Saunatonnttu 60	250	425	6,000	240	1	25	V	Built-In	120
Pro 105	390	600	10,500	240	1	Refer to Installation Manuals for Wiring Information	SC-60, SC-9, SC Club, Digi I, Digi II or Digi VII Digi	68	
Pro 120	510	740	12,000	240	1			70	
Pro 144	630	950	14,400	240	1			75	
Pro 10513	390	600	10,500	208	3			68	
Pro 12013	510	740	12,000	208	3			70	
Pro 14413	630	950	14,400	208	3			75	
Octa 105	390	600	10,500	240	1	Refer to Installation Manuals for Wiring Information	SC-60, SC-9, SC Club, Digi I, Digi II or Digi VII	68	
Octa 120	510	740	12,000	240	1			70	
Octa 144	630	950	14,400	240	1			75	
Octa 10513	390	600	10,500	208	3			68	
Octa 12013	510	740	12,000	208	3			70	
Octa 14413	630	950	14,400	208	3			75	

Custom-Cut Elevations

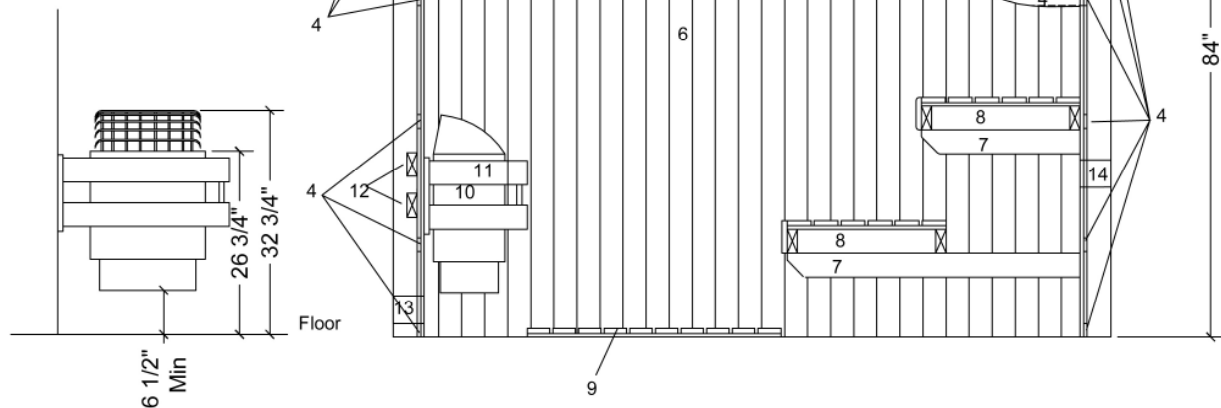
Floor Mounted Elevation – Rooms between 425 and 950 cubic feet (7x8x7 to 11x12x7)

- 1 Framing (Metal or wood studs)
- 2 Joists (dimension dependent on run)
- 3 Insulation (R13 Walls/R19 Ceiling)
- 4 Furring Strips
- 5 Foil Vapor Barrier
- 6 T&G
- 7 Bench Supports
- 8 Benches
- 9 Duckboard Flooring
- 10 Floor Mounted Heater
- 11 Heater Guard Rail
- 12 Air Intake Vent
- 13 Air Exhaust Vent
- 14 Heater Temp Sensor

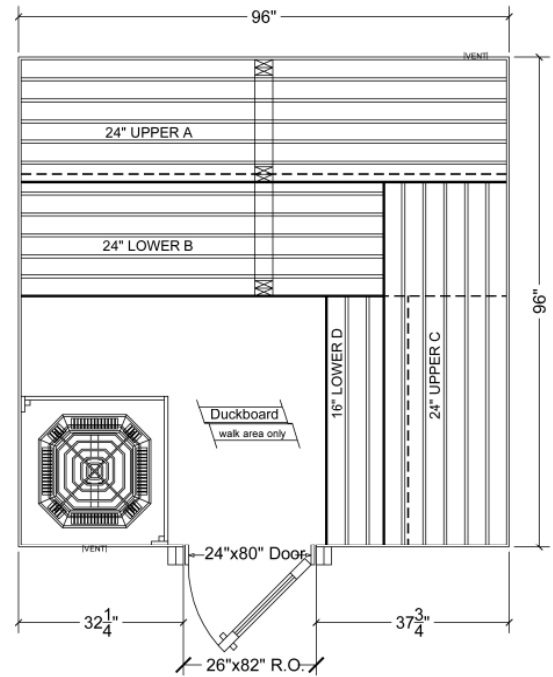
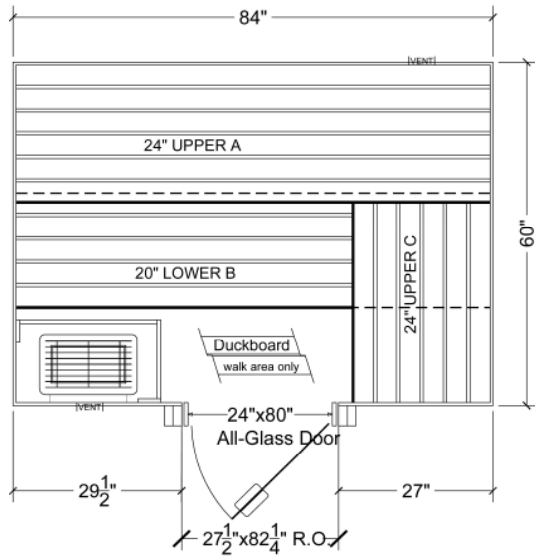
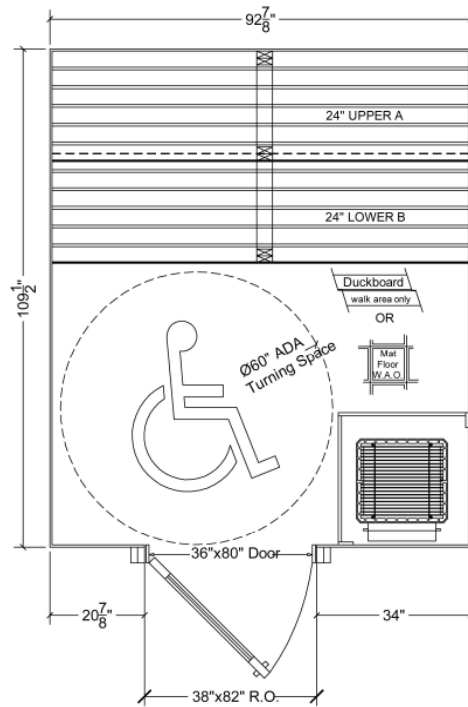
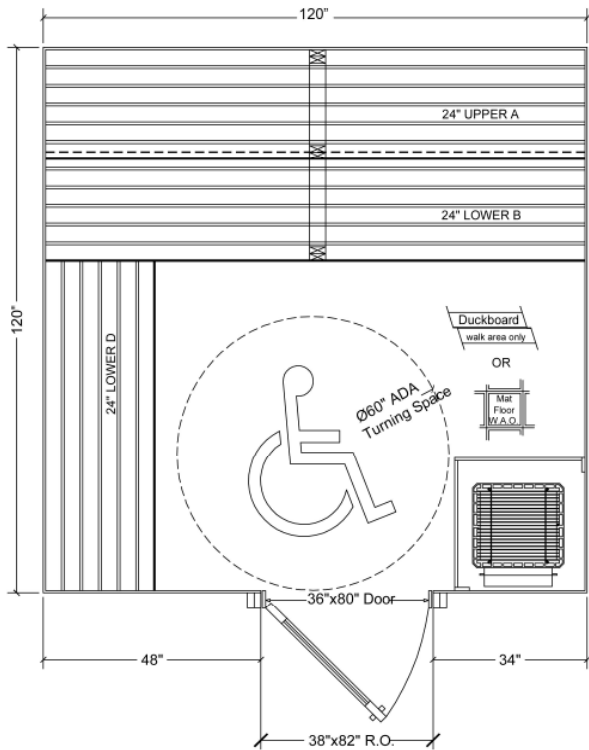


Wall Mounted Elevation – Rooms up to 425 cubic feet (7x8x7)

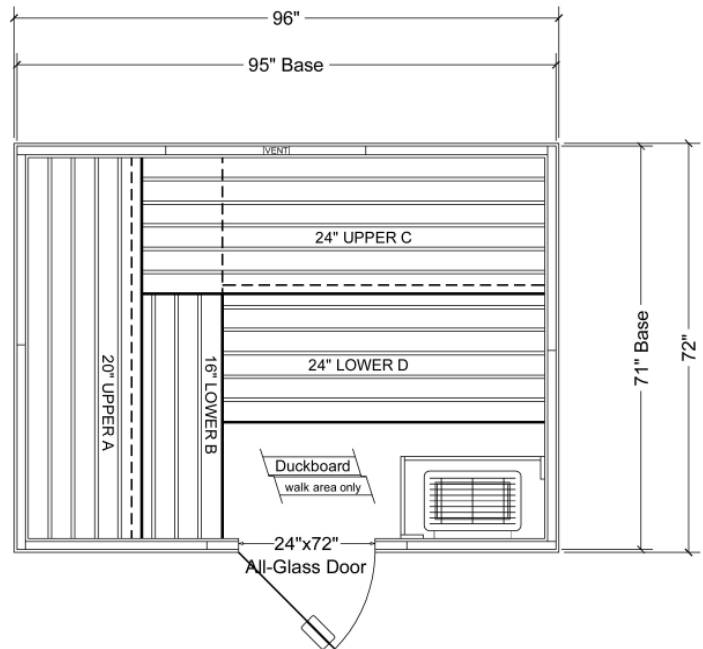
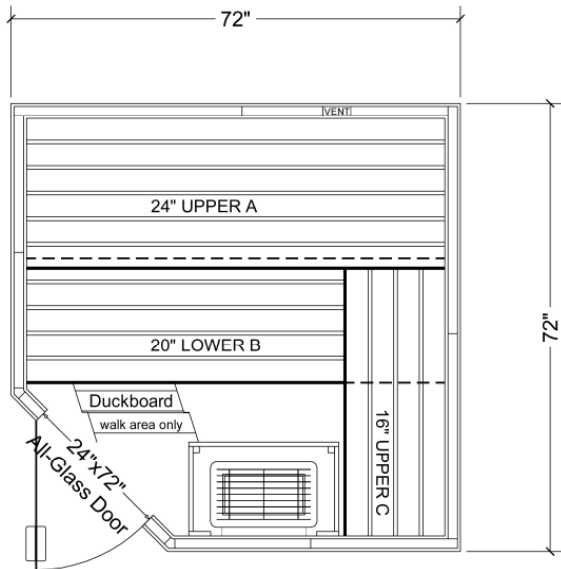
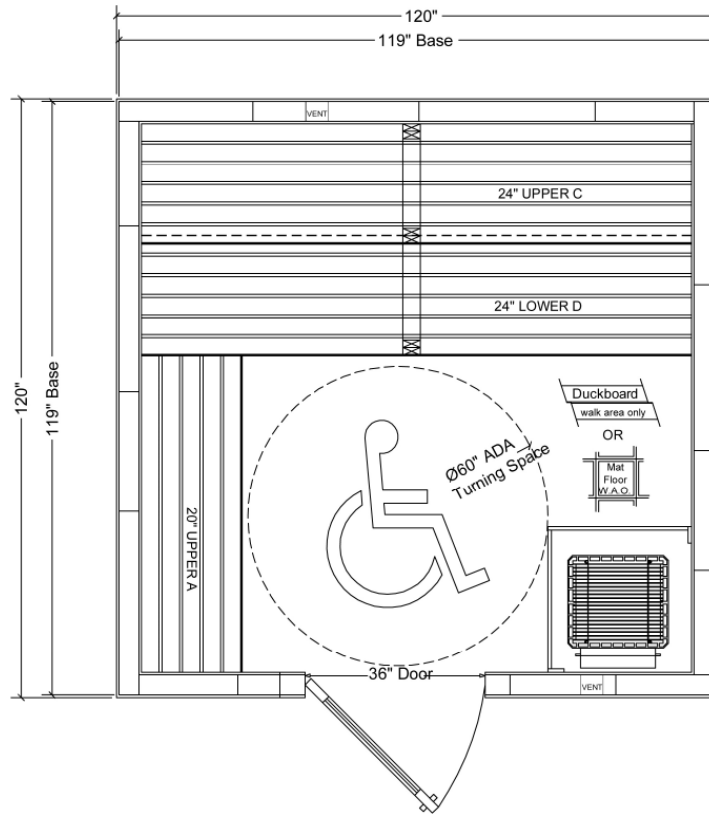
- 1 Framing (Metal or wood studs)
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- 5 Foil Vapor Barrier
- 6 T&G
- 7 Bench Supports
- 8 Benches
- 9 Duckboard Flooring
- 10 Wall Mounted Heater
- 11 Heater Guard Rail
- 12 Blocking for mounting heater
- 13 Air Intake Vent
- 14 Air Exhaust Vent
- 15 Heater Temp Sensor



Custom-Cut Sample Layouts



Panel-Built Sauna Sample Layouts



helo

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