

INTRODUCTION

The following information is presented as an aid to those installing a steam appliance or constructing a steam room. Due to complex construction variables, climate variances and changes in the manufacturing specifications, this information represents suggestions only. It is recommended that you consult your architect, material manufacturer and/or specification engineer regarding your particular installation. Please see "Disclaimer" at the end of this guide.

OBJECTIVE: When planning a steam room project the objectives of **comfort and relaxation** should be kept in mind. A room properly designed and constructed should maintain a temperature range of 115° to 120°F (46° to 49°C), heat to this temperature in 15 to 20 minutes and have a comfortable and **relaxing seating arrangement**. If space permits, seating which allows the bather to recline or even to lay down greatly enhances the steam bath experience.

STEAM ROOM DESIGN CONSIDERATIONS:

1. A steam room, **unlike a sauna**, is a moist environment. Avoid using construction materials, which are subject to corrosion or decay.
2. All inside surfaces of the steam room must be completely sealed and covered with a waterproof finish such as tile. Sheet-rock surfaces are not recommended. However, fiberglass re-enforced cement Sheet-rock such as "Dura Rock" or "Wonder Board" may be used if properly sealed against moisture with a commercial waterproof paint. All joints or cracks including shower head, handle escutcheon and SteamSafe Steam Dispersion Device escutcheon should be **sealed with silicone**. Acrylic enclosures recommended for steam by the manufacturer also make excellent steam rooms.
3. Ceiling and seats inside the steam enclosure should be sloped to allow condensation to run off the interior surfaces and prevent dripping on the bather. A **ceiling slope** of 2" per foot (16,6cm per meter) should be adequate. In some installations, sloping the ceiling from the center may be required to minimize the ceiling height.
4. A **floor drain** should be provided for cleaning and allowing water drainage. A nonskid floor surface should be used for safety.
5. **Ceiling height** should be limited to 8' (2,4M). Heights in excess of 8' (2,4M) may result in hot or adequate temperatures near the ceiling but uncomfortably cool floor temperatures.
6. An area for **mounting the steam generator** must be selected to provide the following.
 - a. Allow access for servicing and provide sufficient space to remove elements should they ever need replacing.
 - b. Protect the steam generator from freezing, moisture and areas which might exceed 140°F (60°C). Do not mount the steam generator in the steam room or in an outdoor location.
 - c. The all-copper line from the steam generator to the steam room should not exceed 25ft (7,6M), should always slope toward the steam generator or head, should not form traps or valleys allowing condensation to accumulate and should be insulated to prevent heat loss and prevent burns from accidental contact.
 - d. The steam head should be located in accordance with the appliance installation instructions and minimize potential user contact.
 - e. When installing the steam generator, plumbing unions should be used to allow removal of appliance should service be required.
7. When selecting a construction material for lining the inside of your steam room, make sure to **contact the material manufacturer** to determine that the material is warranted for the hot, moist conditions of a steam room.
8. The steam room must be totally enclosed.
9. **Ceiling vents** in the steam room are not recommended. If used, they must form a vapor-tight seal and positive closing. Ducts must be waterproof.
10. **Skylights and exterior windows** are not recommended. If used, they must be double pane. Caution must be used to insure that the height and size of a window or skylight in a steam room does not prevent the room from maintaining comfortable temperatures in a reasonable length of time.

SELECTING THE PROPER STEAM GENERATOR

In order to achieve the objective of comfort and relaxation, the selection of the proper steam generator model and size are as critical as design of the steam room itself.

POWER (KW) SELECTION CONSIDERATIONS:

1. Cubic footage of steam room and surface area.
2. Steam room surface material mass, R factor and thermal conductivity.
3. Ceiling height relative to height of seating.
4. Are steam room walls exterior walls subject to large temperature fluctuations?
5. Actual line voltage and phase available: Steam generators are rated at 230V or 240V one phase or 208V or 400V-N three phase. Using a line voltage lower than the rated voltage will lower the steam output.
6. To avoid rewiring and provide the capability to "size-up" if it turns out a steam generator of insufficient size is installed, it is strongly recommended that the next larger or even second larger wire size be installed for the steam generator you select.

DISCLAIMER

This information represents recommendations only. Due to conditions of your installation, these suggestions may not be applicable. We can not warrant and should not be relied upon for information given concerning steam room materials or construction techniques.

STEAM ROOM CONSTRUCTION & GENERATOR SIZING GUIDE

INSTALLATION OVERVIEW AND SUGGESTED SIZING PROCEDURE

1. Calculate the cubic footage of the enclosure. Length x Width x Height (in feet) = Cubic feet.
Ignore deductions for benches or other intrusions as they represent surface area to heat.

L x W x H = _____

2. Add the following adjustments to the cubic footage calculated in #1 above to account for your specific design features.

- A. Acrylic or Cultured Marble Tile + 0% _____
- B. Ceramic Tile +20% _____
- C. For each glass or glass block wall or exterior wall exposed to freezing +10% _____
- D. Porcelain Tile or Natural Stones (Marble, Granite, Travertine or Slate) +100% _____

Total (1+2A+2B+2C+2D) _____

Available kW (approx)	240V 1 Phz AK/AT/AG Models		208V 3 Phz 3K/3T/3G Models at 208V
	at 240V	at 208V	
4	75 cu ft (2,1 cu M)	50 cu ft (1,4 cu M)	N/A
5	100 cu ft (2,8 cu M)	60 cu ft (1,7 cu M)	N/A
6	160 cu ft (4,5 cu M)	85 cu ft (2,4 cu M)	N/A
7	220 cu ft (6,2 cu M)	110 cu ft (3,1 cu M)	N/A
8	N/A	N/A	280 cu ft (7,8 cu M)
8.5	300 cu ft (8,5 cu M)	190 cu ft (5,4 cu M)	N/A
10	400 cu ft (11,3 cu M)	250 cu ft (7,1 cu M)	400 cu ft (11,3 cu M)
12	500 cu ft (14,2 cu M)	350 cu ft (9,9 cu M)	500 cu ft (14,2 cu M)
14	600 cu ft (17,0 cu M)	450 cu ft (12,7 cu M)	600 cu ft (17,0 cu M)

Available kW (approx.)	230V-N 1 Phz AK/AT/AG Models	400V-N 3 Phz 3K/3T/3AG Models
	4	2,1 cu M (75 cu ft)
5	2,8 cu M (100 cu ft)	N/A
6	4,5 cu M (160 cu ft)	N/A
7	6,2 cu M (220 cu ft)	N/A
8	7,6 cu M (270 cu ft)	7,6 cu M (270 cu ft)
10	9,6 cu M (340 cu ft)	9,6 cu M (340 cu ft)
12	14,2 cu M (500 cu ft)	14,2 cu M (500 cu ft)
14	17,0 cu M (600 cu ft)	17,0 cu M (600 cu ft)

