All cooling capacities shown below are based upon a standard installation. Maximum outside temperature is 95 degrees Fahrenheit (35 degrees Celsius) with a minimum interior cabin temperature of 72 degrees Fahrenheit (22 degrees Celsius). If you desire any other temperatures than these use the Quick-Calc program.

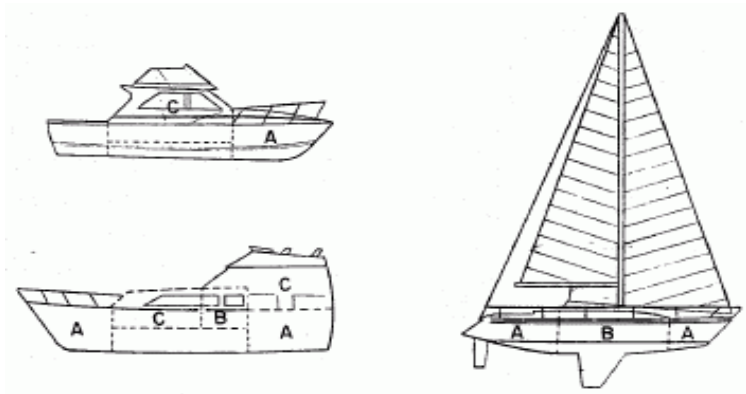
To determine the correct Self Contained Unit for your boat complete the following steps:

1 Determine the overall *Volume of Area* that you want to cool. To calculate the volume of the area, multiply the length of the room by the width and then by the height.

Example: If the room is 15 feet long, 10 feet wide and 7 feet high, the volume of the room is 1050 ft3 (15 x 10 x 7 = 1050 ft3). If a room is narrower at one end than the other, take the average of the room

Example: A stateroom is 16 feet wide at one end and 12 feet wide at the other end. The average width is 14 feet ([16 + 12] / 2).

2 Pick the *Area Type* that most closely matches one of the five areas shown in the charts below. The Pilothouse and Galley areas are listed separately because these are usually areas with unusually high heat loads. Shown below are examples on some common boat types.



3 On the chart below find the appropriate *Area Type* listed and then scan to the right until you find the Volume of Area range that would include the volume of your area. Click on the correct Volume of Area and the information for the correct self contained unit will appear.

Example: A Mid Deck (B) area that has a volume of 520 ft3. The correct unit capacity for this area is the 10,000 BTU/H unit. Clicking on the range 471 - 670 in the "Mid Deck" row will now display all of the information for the 10,000 BTU/H Self Contained Unit.

Example: A Pilothouse area that has a volume of 13.7 m3. The correct unit capacity for this area is the 12,000 BTU/H unit. Clicking on the range 12.0 - 14.2 in the "Pilothouse" row will now display all of the information for the 12,000 BTU/H Self Contained Unit.

Unit Capacity BTU/Hr

Area type	5,000	7,000	10,000	12,000	16,000	24,000
Lower Deck "A"	0-420	421-580	581-830	831-1000	1001-1330	1331-2000
Mid Deck "B"	0-330	331-470	471-670	671-800	801-1070	1071-1600

Upper Deck "C"	0-280	281-390	391-560	561-670	671-890	891-1330
Pilot House	0-210	211-290	291-420	421-500	501-670	671-1000
Galley	0-250	251-350	351-500	501-600	601-800	801-2000

Volume of area to be cooled- in cubic feet

Unit Capacity BTU/Hr

	5,000	7,000	10,000	12,000	16,000	24,000
Min return grill size inches cubed	64	72	100	120	144	225
Min supply grill size inches cubed	13	40	48	60	72	120
Required sea water flow GPH	100	140	200	240	320	480

4" Vent hose 12.6 in sq
5" Vent hose 19.7 in sq
6" Vent hose 28.4 in sq
8" Vent hose 50.6 in sq
10" Vent hose 79.0 in sq
12" Vent hose 113.8 in sq
14" Vent hose 154.9 in sq

The biggest **difference between supply** and **ret**
vents is the direction in which the air flows. In a
supply vent, the air flows out of the ductwork. I
return vent, the air flows into the ductwork.

Raw Water Pump

Inadequate raw water cooling is the number one fault with marine air conditioning. Choosing the right pump ar
is critical. Most raw water pumps are not self priming and must be mounted under the water line. One way to c
clear hose to the strainer, hold the hose high and see how far the water rises. Be aware the water levels may ch
boat on plane or a sail boat that heels. All hoses should be marine grade, reinforced and Coast Guard approved.
be bronze (NOT BRASS). All hoses should be double clamped with a high quality stainless hose clamp. Through h
bonded with an 8ga green marine wire.

Determine the required flow for the AC system you are installing. Next select a pump with about 30-50% more
Next determine how high the water must travel from the pump to the AC unit in Ft. If the AC unit is in the salon
have 10-15 Ft of head pressure.
Determine the total length of pipe or hose being used, add 1ft head pressure for every 10ft of hose.
Add 1ft head pressure for every 90 elbow in the system.
After you total the head pressure, download and compare to the pump curve chart for that pump.
Notice the drastic reduction from 60hZ to 50hZ.

Example: We are installing the pump in the engine room, the unit is in the salon overhead about **15ft** above the
We will need 20ft of hose or **2ft** of added head rise.
There are three 90 degree elbows needed for us to make the run for **3ft** added head pressure.
Total head rise is **20ft**.