



SURFACE AIR CONSUMPTION CALCULATION

What is a SAC rate? A SAC rate is the volume of gas consumed in one minute at the surface. A SAC rate gives you a baseline which helps you plan for how much gas you will need on particular dive. To figure out your SAC rate follow the steps below.

Note: your SAC rate may change depending upon any number of factors, we suggest you figure out your SAC rate for each and every dive you do... this way you can get the most accurate idea of what your SAC will be. Always use a conservative SAC rate for planning. When using SAC rates for planning always take into account factors such as equipment used, water temperature, and mental state.

INFORMATION REQUIRED

Rated Pressure: Cylinder Size:
 Starting Pressure: Ending Pressure:
 Bottom Time: Average Depth:

Step One: Determining Cubic Footage

1a) This will solve for how much cubic footage you had prior to the dive

$$\left(\text{INPUT: CYLV} \times \text{INPUT: PR\#2} \right) / \text{INPUT: PR\#1} = \text{CF\#1}$$

1b) This will solve for how much cubic footage you had after the dive

$$\left(\text{INPUT: CYLV} \times \text{INPUT: PR\#3} \right) / \text{INPUT: PR\#1} = \text{CF\#2}$$

1c) This will solve for how much cubic footage you used during the dive

$$\text{INPUT: CF\#1} - \text{INPUT: CF\#2} = \text{TCF}$$

Step Two: Determining Cubic Footage Used at Average Depth

2a) This will solve for your average depth expressed as atmospheres

$$\left(\text{INPUT: AVGD} / 33 \right) + 1 = \text{ATMA}$$

Step Three: Determining Cubic Footage Used at Surface

3a) This will solve for what volume of gas you would've consumed on the surface

$$\left(\text{INPUT: TCF} / \text{INPUT: ATMA} \right) = \text{SVC}$$

Step Four: Determining Surface Air Consumption Rate

4a) This is the final calculation for figuring out your SAC Rate.

$$\left(\text{INPUT: SVC} / \text{INPUT: TBT} \right) = \text{SAC RATE}$$