**Calculation of CO2 Flow Rate**

1. Calculate the volume of your euthanasia chamber

Height x Length x Width (in Centimeters)

1. Calculate the volume of CO2 that needs to be delivered per minute. Displacement rate needs to be between 30 and 70% of the total volume of the container per minute.

Volume of chamber x 0.3 =30% flow rate per minute

Volume of chamber x 0.7=70% flow rate per minute

1. Convert flow rate to liters

1 Cubic cm (cm3)= 0.001 Liter

Example: Thoren Square Ventilated Cage

1. 30.73 cm x 30.73 cm x 14.22 cm = 13428.41 cm3
2. 13428.41 cm3 x 0.30= 4028.52 cm3 (30% displacement rate)

13428.41 cm3 x0.70= 9399.89 cm3 (70% displacement rate)

1. 4028.52 cm3 x.001= 4.03 L/Minute of CO2 for 30% displacement

9399.89 cm3 x.001= 9.39 L/Minute of CO2 for 70% displacement

Flow rate needs to be set to 4.03-9.39 L/Minute

Conversions:

1 inch=2.54 cm

in3 = 16.39 cm3

cm3 = 0.001 Liters

\*\*\* If you use a Matheson Flowmeter you will need to use the appropriate Matheson conversion chart to determine the correct scale reading for the desired flow rates. Please contact the ARF manager or Attending Veterinarian with questions.\*\*\*