



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

Compressed Gas Selection Guide

This guide is provided to assist the user with basic direction on how to select compressed gas products for analytical and other applications. Please start at number 1 and proceed through each step-in succession, skipping none.

1. Deciding upon “Pure” gases and “Mixtures”
 - Is the desired gas the only gas that will be in the cylinder? Aka: pure gas.
 - If a pure gas, are any minor contaminant gases of concern to your process or analysis?
 - If contaminants are of concern what are they and in what concentrations? Your operator's manual usually will specify these contaminants if they are of concern.
 - In pure gases the type and concentrations of contaminants will dictate the grade of gas needed.
 - Will the desired gas be a combination of 2 or more pure gases? Aka: mixtures.
 - If a mixture, which pure gases will make up the mixture and in what concentrations?
 - Are any contaminant gases of concern? In what concentrations?
 - Will you need written assurance of mixture and analytical accuracy?
2. Deciding upon a cylinder size.
 - Generally, but not always pure gases will be delivered in steel cylinders
 - The most common steel cylinders are 200 cubic foot (56” tall) and 300 cubic foot (60” tall).
 - Other sizes both smaller and larger are available.
 - Most mixtures but not always will be delivered in aluminum cylinders.
 - The most common are 150 cubic foot (53” tall) and 33 cubic foot (21” tall)
 - Other sizes both smaller and larger are available.
3. Deciding upon a regulator or flow meter.
 - The CGA or the actual connection of the regulator to the cylinder will be determined by the pure gas or mixture within the cylinder, it's concentrations, flammability and /or reactivity, if present.
 - It is best to consult directly with your gas supplier on regulator or flow meter selection before placing an order for a regulator or flow meter.
4. How can I request a cylinder return without replenishment?
 - To return an ARC3 Gases cylinder, go to ePro in ConnectCarolina and select Arc3 Gases which will take you to their website,
 - Search for “Empty,” select the quantity and add it to your shopping cart,
 - Provide your full pick up address including building, room number, and barcode in the header comments section (not in the line comments),
 - Check the “Send to Vendor” box to have your comments sent to the vendor.