



# Gas Blending Worksheet

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## STEP ONE

### WANT

Cylinder Working Pressure **A** psig  $\xrightarrow{\text{multipl}}$  Desired FO<sub>2</sub> **B** %  $\xrightarrow{\text{equals}}$  Calculated PPO<sub>2</sub> **C** psig  
(A x B)

### HAVE

Current Cylinder Pressure **D** psig  $\xrightarrow{\text{multipl}}$  Present FO<sub>2</sub> **E** %  $\xrightarrow{\text{equals}}$  Calculated PPO<sub>2</sub> **F** psig  
(D x E)

### NEED

Total Gases To Add **G** psig (A - D)  
Final PPO<sub>2</sub> **H** psig (C - F)

**G** represents the total gases you need to add to the tank, this includes your Air, Oxygen and Pre-Mix Blends.

**H** represents the total psig of Oxygen that needs to be added. If **H** is a negative number than you must Bleed-Off - GO TO STEP 6

## STEP TWO

### ADJUSTING THE FO<sub>2</sub>

Final PPO<sub>2</sub> **H** psig  $\xrightarrow{\text{divide by}}$  Total Gases To Add **G** psig  $\xrightarrow{\text{equals}}$  The FO<sub>2</sub> To Add **J** %  
(H ÷ G)

- ↪ If **J** is less than 21% than proceed directly to STEP 6.
- ↪ If **J** is between 21% and 40% ...
  - ↪ And you have Pre-Mixed Bank of EAN40 than proceed to STEP 5.
  - ↪ And you are limited to Partial Pressure filling than proceed to STEP 3.
  - ↪ And you have a Continuous Flow System you may fill the tank to **A** psig with **J** %.
- ↪ If **J** is more than 40% AND you have a Pre-Mixed Bank of EAN40 or a Continuous Flow System than proceed to STEP 4.
- ↪ If none of the above apply than proceed to STEP 3.

## STEP THREE

### FILLING WITH PARTIAL PRESSURE & TOPPING WITH AIR

**J** % Filling Formula Amount of O<sub>2</sub> to add  
**G** psig  $\rightarrow \frac{\text{J} - .21}{.79} \times \text{G} = \text{K}$  psig

Fill the cylinder with **K** psig of Pure USP Approved Oxygen at 70 psi/min. Next top with oxygen-clean Air to **A** psig. REMEMBER that **K** represents the pressure of Oxygen to add on top of what you already HAVE!

## STEP FOUR

### FILLING WITH PARTIAL PRESSURE & TOPPING WITH EAN40

**J** % Filling Formula Amount of O<sub>2</sub> to add  
**G** psig  $\rightarrow \frac{\text{J} - .40}{.60} \times \text{G} = \text{K}$  psig

Fill the cylinder with **K** psig of Pure USP Approved Oxygen at 70 psi/min. Next top with oxygen-clean EAN40 mix to **A** psig from a Continuous Flow System or Pre-Mixed Banks. REMEMBER that **K** represents the pressure of Oxygen to add on top of what you already HAVE!

## STEP FIVE

### FILLING CYLINDERS WITH A PRE-MIX BANK of EAN40

**H** psig Pre-Mix Blend Formula Amount of EAN40 to add  
**G** psig  $\rightarrow \frac{\text{H} - (.21 (\text{G}))}{.19} = \text{L}$  psig

Fill the cylinder with **L** psig of EAN40 and than top with oxygen-clean Air to **A** psig. REMEMBER that **L** represents the pressure of EAN40 to add on top of what you already HAVE!

## STEP SIX

### Draining Cylinders

**B** % **E** % Bleed-Off Formula Amount we drain the tank to  
**A** psig  $\rightarrow \frac{\text{A} \times (\text{B} - .21)}{\text{E} - .21} = \text{M}$  psig  
Drain the cylinder to **M** psig and top to **A** psig with Air