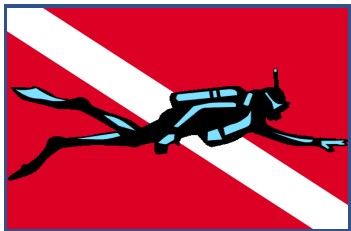


# Checking Your Gas

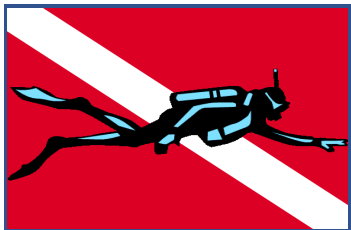
## (Nitrox Mix)



# Nitrox Measurement

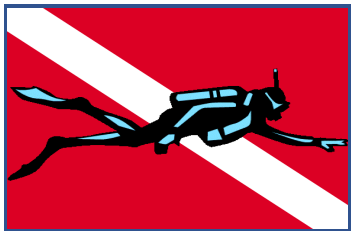


- Safe Nitrox operations call for the individual diver to personally check her/his tanks to validate the Nitrox level in their tanks.
- Some operations use “adjusted” procedures:
  - Operator Rep measures tanks and has the actual diver watch and diver signs the inspection log.
  - Operator Rep checks and marks tanks and diver signs log (???????).
- Whether you test the tanks yourself (Preferred) or observe someone else, most important Pre-Step is CALIBRATION!!



# Sample Oxygen Analyzers

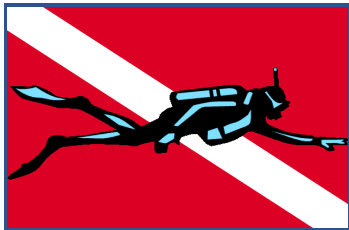




# Sample Oxygen Analyzers



Calibration Button(s)



# Heat/Humidity Adjustment



www.analox.net

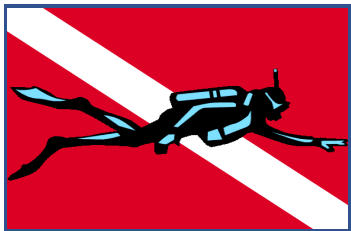
## ANALOX O<sub>2</sub>EII®

### Oxygen compensation chart for moisture in the atmosphere

ATMOSPHERE OXYGEN PERCENT IN RELATION TO TEMPERATURE AND RELATIVE HUMIDITY										
TEMP F	32	40	50	60	70	80	90	100	110	120
TEMP C	0	4	10	16	21	27	32	38	43	49
RELATIVE HUMIDITY	ATMOSPHERIC OXYGEN PERCENT									
10	20.9	20.9	20.9	20.9	20.8	20.8	20.8	20.8	20.7	20.7
20	20.9	20.9	20.8	20.8	20.8	20.8	20.7	20.6	20.5	20.4
30	20.9	20.8	20.8	20.8	20.7	20.7	20.6	20.5	20.4	20.2
40	20.8	20.8	20.8	20.7	20.7	20.6	20.5	20.4	20.2	19.9
50	20.8	20.8	20.8	20.7	20.6	20.5	20.4	20.2	20.0	19.7
60	20.8	20.8	20.7	20.7	20.6	20.5	20.3	20.1	19.8	19.5
70	20.8	20.8	20.7	20.6	20.5	20.4	20.2	19.9	19.6	19.2
80	20.8	20.8	20.7	20.6	20.5	20.3	20.1	19.8	19.5	19.0
90	20.8	20.7	20.7	20.6	20.4	20.3	20.0	19.7	19.3	18.7
100	20.8	20.7	20.6	20.5	20.4	20.2	19.9	19.5	19.1	18.5
H <sub>2</sub> O at 100% RH	0.6	0.8	1.2	1.8	2.5	3.4	4.7	6.5	8.6	11.5

If the temperature and RH axis meet in this part of the chart, calibrate to the chart O<sub>2</sub> level or with dry air to maintain 0.5% O<sub>2</sub> accuracy in NITROX.

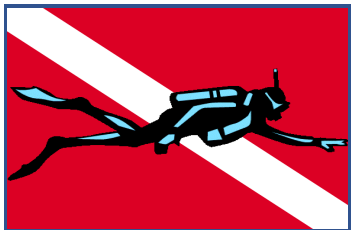
Copyright © 1996: Analox Limited, Stokesley. All Worldwide Rights Reserved.



# Sensor Calibration



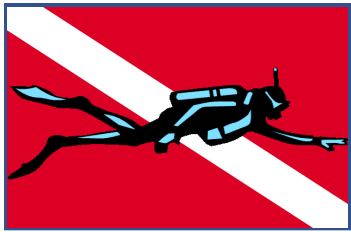
- Analyzer Readings are **WORTHLESS** if you have not calibrated the sensor before testing your tanks.
- CALIBRATION PROCEDURE (Most Systems):
  - Place sensor against a **KNOWN** air source.
    - **Air Tank or Some people wave open sensor tip in the air.**
  - Start a **SLOW** to **MODERATE** volume of air across the sensor until both the FLOW and Sensor READING stabilize.
    - **Recommend tilting sensor opening away from the air source until you have established a slow, steady flow.**
  - Press the “Calibrate” Button or Use the Calibration knob to set the correct O2 level.
    - **Actual Setting is usually around 20.9% Oxygen.**



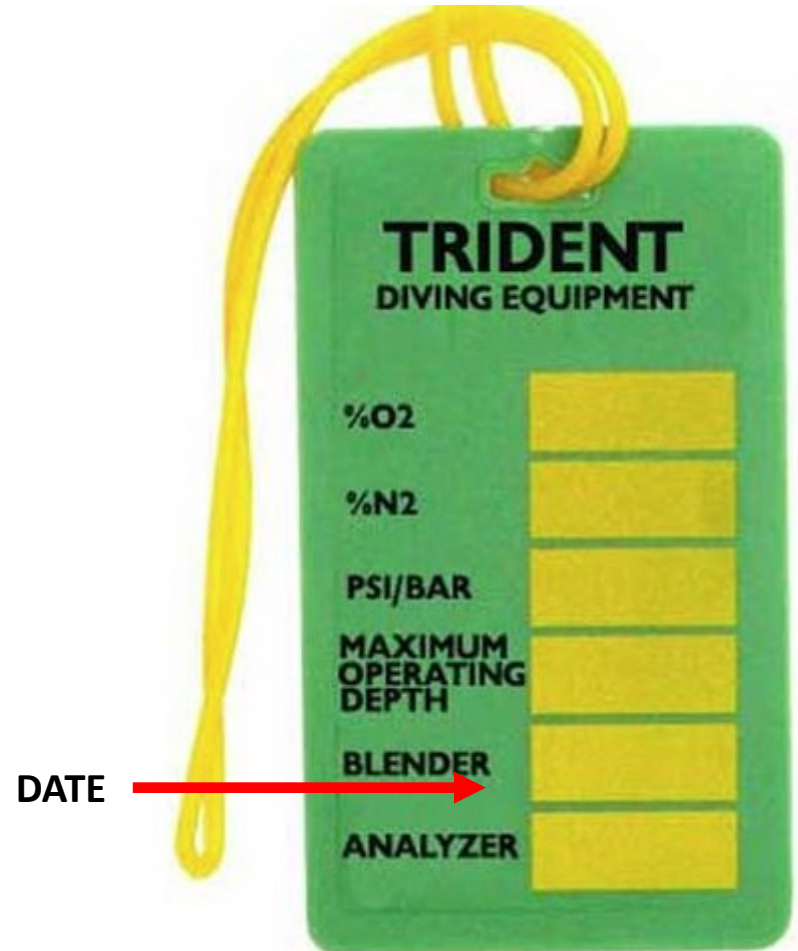
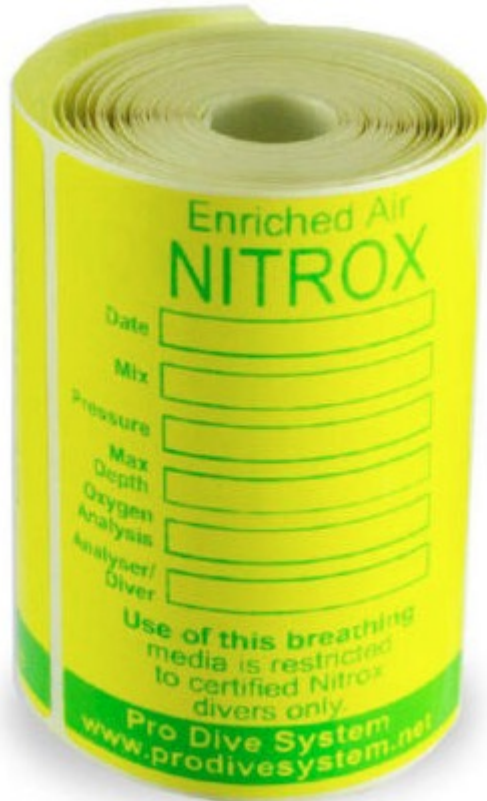
# Test Procedure



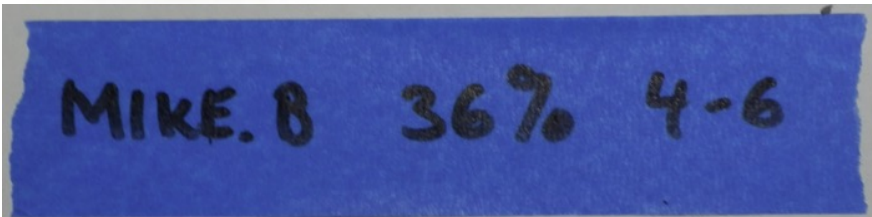
- Test Procedure:
  - Place sensor against the valve opening of tank to be tested.
  - Start a SLOW volume of air across the sensor until FLOW stabilizes.
    - Recommend tilting sensor opening away from the air source until you have established a slow, steady flow.
  - Read O2 level off the analyzer screen once the READING stabilizes.
- For multiple tank testing, watch the sensor screen to see if it is reverting to the calibrated level between tanks.
  - NOTE- With most systems with small openings, this a SLOW process.
  - For those with removable tips, you can remove and replace it to hurry the process.
  - May need to recalibrate if testing a large number of tanks.



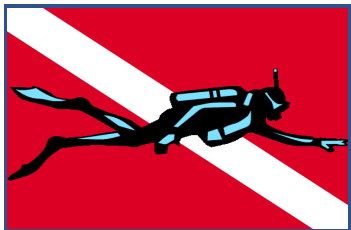
# Marking Nitrox Tanks



DATE



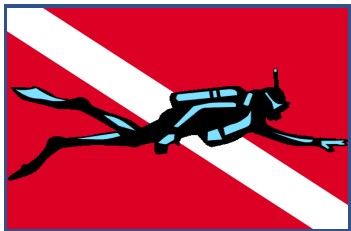




# Analyzer Cost and Maintenance

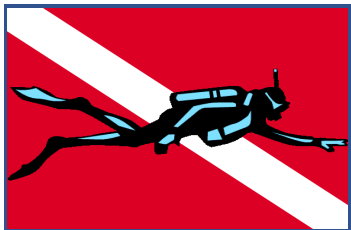


- **Average cost for an Oxygen Analyzer runs from \$265 - \$320. Some available for as low as \$199.**
- **Most vendors indicate that sensor life is “Around” 36 Months.**
- **Replacement Sensors Run ~\$130.**
- **Sensor life can be protected and possibly extended by minimizing exposure to air/humidity.**
  - **Cap over Sensor opening.**
  - **Stored in watertight or airtight container/location.**



# Discussion





# Discussion



## TAKE-AWAYS:

- **CALIBRATION – CALIBRATION – CALIBRATION**
- **Gentle – Steady Air Flow**
- **Protect and Maintain Your Analyzer**