

TRIMIX BLENDER COURSE

INTRODUCTION

This course enables the successful candidate to engage in the preparation of high quality scuba gases.

COURSE OBJECTIVES

The objective of this course is to train candidates in the proper procedures needed for the preparation and blending of high quality gases.

QUALIFICATION OF GRADUATES

Upon successful completion of this course candidates will be able to prepare high quality scuba gases.

WHO MAY TEACH

This course may be taught by any active ITDA advanced gas blending instructor.

STUDENT / INSTRUCTOR RATIO

1. CLASSROOM
Unlimited so long as adequate facility, supplies and additional time are provided to ensure comprehensive and complete training.

STUDENT PRE-REQUISITES

1. Minimum age 18
2. Minimum certification of Nitrox diver
3. Certification of ITDA Nitrox gas blender

REQUIRED COURSE MINIMUMS

1. Classroom hours - 6
2. Candidates must successfully blend and analyse a minimum of 5 cylinders of Nitrox and 3 cylinders of trimix

REQUIRED SUBJECT AREAS

The following topics must be covered during this course. The ITDA advanced gas blender manual is mandatory for use during this course but instructors may use any additional text or materials that they feel help present these topics.

1. THE RESPONSIBILITY OF THE GAS BLENDER
2. GASES OF DIVING
 - a) Oxygen
 - b) Nitrogen
 - c) Helium
 - d) Other gases
3. OXYGEN HANDLING
 - a) Oxygen hazards
 - b) Causes and prevention of oxygen fire
 - c) Oxygen system design
 - d) Local regulations for gas blending and handling
 - e) Oxygen compatible systems components
4. GAS PRODUCTION EQUIPMENT
 - a) Compressors
 - b) Cylinders
 - c) Filtration systems
 - d) Gauges

5. MIXING TECHNIQUES
 - a) General considerations
 - b) Continuous blending systems
 - c) Membrane separation systems
 - d) Pre-mix systems
 - e) Partial pressure blending
 - f) Mathematics of partial pressure
 - g) Mixing by weight (optional)
6. OXYGEN ANALYSIS
 - a) Procedures
 - b) Oxygen analysers
 - c) Cylinder handling and sign out

GRADUATION REQUIREMENTS

In order to complete this course, students must:

1. Satisfactorily complete the ITDA advanced gas blender written examination.
2. Demonstrate proficiency in blending and analysis of Nitrox and Trimix gases.

SUPPORT MATERIALS

1. ITDA Student registration
2. ITDA Advanced gas blender manual
3. ITDA overheads / Power point presentation