

Edelhoff Technologies Helmet Test Instrument (HTI) Module

Users Manual

P/N: 600-000-P
Model: HTI



User Manual

Helmet Test Instrument Module

Edelhoff Technologies USA

9361 Winkler Drive
Houston, Texas 77017

Tel.: 713-947-6469

Fax: 713-947-6488

E-Mail: support@edelhoff-technologies.com

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Preface

This manual is meant for those who operate or use the Edelhoff Technologies Helmet Test Instrument (HTI) and for those who perform minor maintenance and repairs. It is assumed that the instrument is maintained and repaired by competent maintenance personnel. All gauges and the flow meter should be calibrated annually. The flow meter must be returned to Edelhoff Technologies USA for calibration. The pressure gauge and Magnehelic gauge can be calibrated by a certified 3rd party calibration company.

1. Safety

a. Symbols

This manual includes a number of warnings for dangerous situations. These can be recognized by the following symbols:



Danger

This indicates a situation that is dangerous to life, or can cause severe injuries if not avoided.



Warning

This indicates a situation that can cause injuries to the user, or can cause severe damage to the equipment if not avoided.



Attention

This indicates a situation that can cause damage to the installation if not avoided.

b. General safety measures

The instrument should always be set up and used by personnel that have sufficient knowledge about working with air under high pressure.

Breathing air used with the unit should comply with CGA specification G-7-1, Type 1, Grade D or better..

The instrument has only been tested and approved for use at temperatures between 21°F to 140°F, -6°C to +60°C

c. Unit Safety

The unit is equipped with a pressure relief valve (set at 150 psi). This will protect the gauges and flow meter from damage.

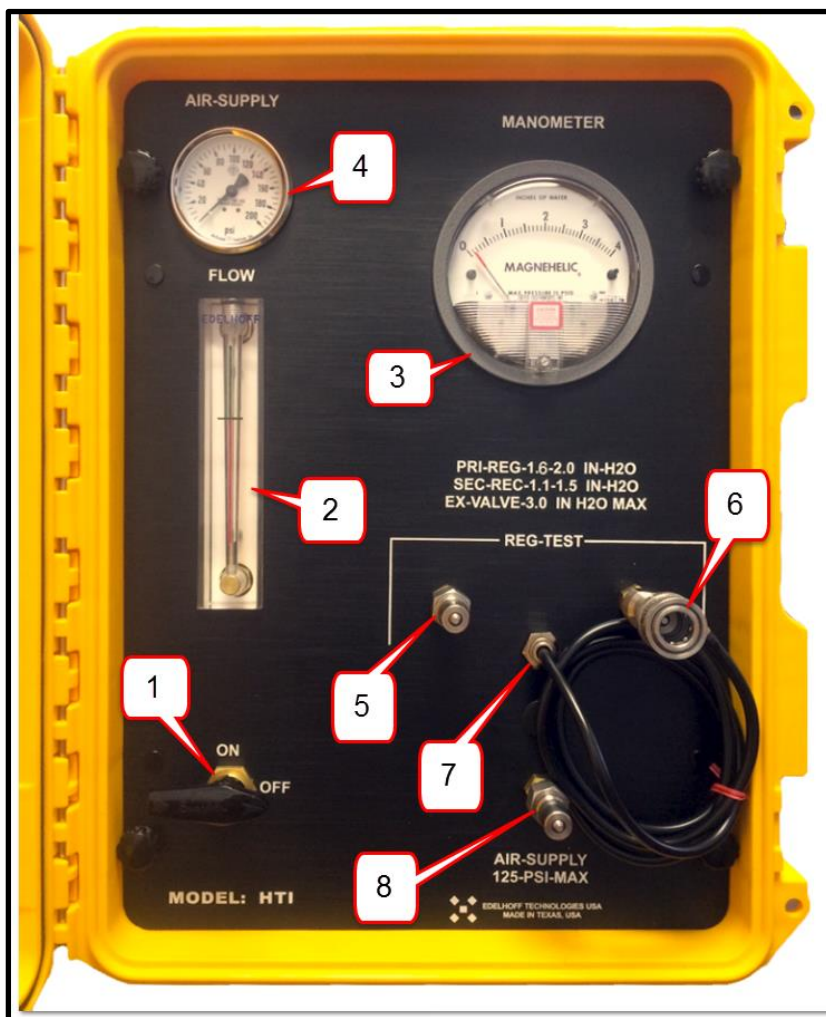
2. HTI description

a. General

The helmet test instrument allows the technician to test the static pressure of the primary and secondary helmet regulators to verify they meet minimum performance specifications. The unit will also verify helmet regulator flow to determine if the regulators are providing minimum required breathing air flow.

The HTI consists of an air pressure gauge and manometer and a flowmeter to measure helmet air flow. The unit is housed in a watertight rigid plastic case that can withstand most environmental conditions.

b. Descriptions



1. ON/OFF VALVE
2. FLOW METER
3. MANOMETER
4. AIR PRESSURE GAUGE
5. SECONDARY PIGTAIL CONNECTION
6. PRIMARY PIGTAIL CONNECTION
7. HELMET SENSING PORT CONNECTION
8. AIR SUPPLY CONNECTION

3. Using the HTI

a. Setting up the unit



Use only breathing air that complies with CGA speciation G-7-1, Type 1, Grade D or better.



Inspect all helmet hoses for signs of damage or wear. If evident, replace.

b. Connecting the air supply



- Connect the air supply hose to the HTI (125 psi max)
- Connect helmet pigtails to outlets in the “REG-TEST” area of the HTI.
- Primary pigtail connects to the socket on the HTI
- Secondary pigtail connects to the plug on the HTI.
- Connect sensing port tubing to the sensing port on the helmet.



Connect and test only one circuit at a time.

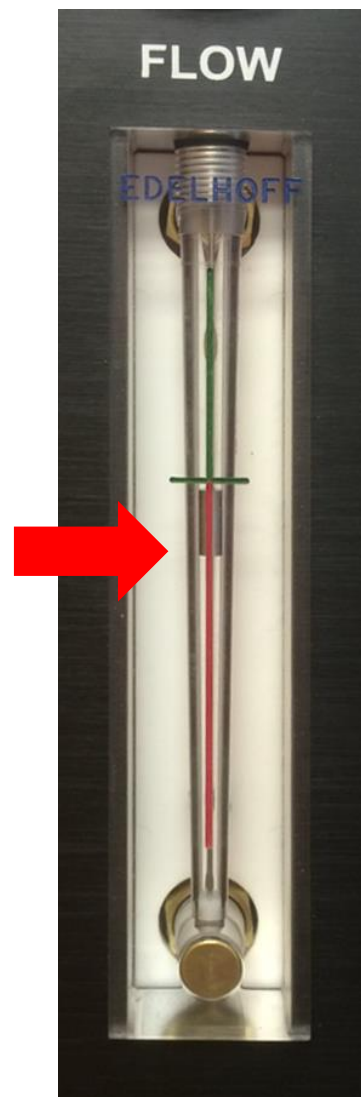
c. Testing a helmet (FLOW TEST)

- Turn on the test unit valve
- Check the flow of the device using the flow meter
 - If flow is above the GREEN line, it is acceptable
 - If flow is in the RED zone, the regulator or pigtail requires service.
 - Repeat for primary/secondary circuits.



Acceptable flow

**always read at the bottom of the "float"*
If bottom of "float" is above the flow line, flow is acceptable



Unacceptable flow

**always read at the bottom of the "float"*
If bottom of "float" is below the flow line, flow is not acceptable

d. Testing a helmet (EXHALATION VALVE)

- Remove sensing port screw from helmet and install sensing port barb fitting (*included with sensing port tube on unit*).
- Attach sensing port tube onto barb fitting (on helmet).
- Turn the test unit valve **ON**.
- Donn the helmet by putting face into face seal (*complete “locked in” helmet donning is not required for testing, only a good, negative-pressure seal*)
- Breathe normally for 3 to 5 respirations.
- Observe and document the pressure reading on the manometer.

Exhalation Valve Pressure Range Specifications	
Same for Primary or Secondary Regulators	2.5 to 3.0 inches of water (3.0 inches of water MAX)



e. Testing a helmet (STATIC PRESSURE TEST)

- After performing the exhalation valve test (helmet is still being worn):
- Hold breathe and read/document the primary regulator static pressure.
- Read pressure on manometer gauge.
 - If pressure is within specification, it is acceptable.
 - If pressure is out of specified range, the regulator pressure is not acceptable and needs to be adjusted or rebuilt (return to Edelhoff Technologies).
 - If pressure continues to rise, the system is leaking.
 - a. Investigate source of leak.
 - Repeat for primary/secondary circuits.
- Doff helmet.
- Turn the test unit valve **OFF**.

Pressure Range Specifications	
Primary Regulator	1.6 to 2.0 inches of water
Secondary Regulator	1.1 to 1.5 inches of water



Primary Regulator



Secondary Regulator

REVISION HISTORY

Rev.	Date	Modifications	Page	Prepared by:	Approved by:
A	June 2015	New document		P.Latona	R. Cantu C. Staples R. Vanderploeg