

# Training/Test Lung—TTL®

## Single Adult Lung Simulator



*Innovations like this don't  
come out of thin air.*

Provides accurate simulation of a wide range of normal and diseased lung conditions for ventilator testing/calibration and respiratory therapy instruction.



Email [sales@michinst.com](mailto:sales@michinst.com) or visit  
[www.michiganinstruments.com/pv3](http://www.michiganinstruments.com/pv3)  
to learn more about the TTL/PneuView® test systems from  
Michigan Instruments.

# Single Adult TTL®

## What is the Single Adult TTL®?

- A portable analog lung system which accurately simulates human pulmonary function for training or testing ventilators under simulated load conditions.
- The lung visually demonstrates a variety of normal and pathological pulmonary conditions.
- The system provides an accurate measure of volumes, pressures and flow rates of medical equipment and replaces several measuring instruments at a fraction of their combined costs.
- It can accommodate several types of oxygen measuring sensors and other pressure sensing equipment.

## How does the TTL® work?

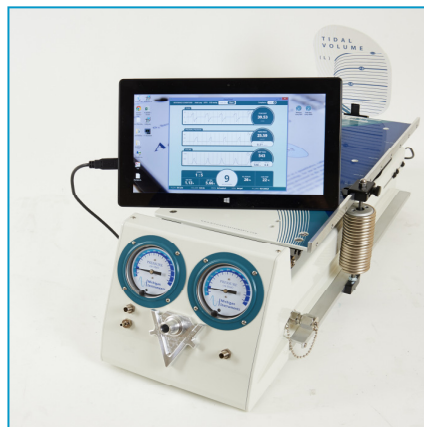
- The TTL® uses a single adult lung, with its own range of compliance settings to simulate the pulmonary system.
- The built-in PneuFlo® based resistances offer accurate simulation of airway resistance in exact accordance with ASTM standards. These resistances represent the parabolic flow characteristics of the human airway.
- The pressure corrected volume measurements match spirometer volumes measured on an actual patient with the same pulmonary compliance and airway resistance.

## PneuView®3 combines lung simulation with the versatility of a personal computer.

To enhance the demonstration of ventilation phenomena and allow the capture and review of data from the TTL®, we have developed the PneuView®3 Single Adult System. This system incorporates an interface that communicates with software on a personal computer. The PneuView®3 system combines the very finest in lung simulation with advanced data acquisition, presentation and storage.

### PneuView®3 Software

- Visually demonstrates, in real-time, the relationship between pressure, volume, and flow waveforms.
- Provides acquisition, storage, and review of data.
- Tracks ventilator performance trends for up to 1000 hours.
- Measures pressure, volume, flow and timing parameters.
- Is compatible with High Frequency Ventilation.
- Provides FiO<sub>2</sub> and ambient temperature



### PneuView®3 Software CALCULATIONS:

- Breath Rate
- Inspiratory Time
- Expiratory Time
- I:E Ratio
- Tidal Volume
- Minute Volume
- Baseline Pressure
- And many more

## Specifications:

Tidal Volume Capacity:	2.0 L
Residual Lung Volume:	986 mL
Size:	Approximately 25" x 10" x 13"
Weight:	25 lbs. (11.3 kg)

Lung Compliance (adjustable):
.01 to .10 L/cmH <sub>2</sub> O
Accuracy: +/- 3% (at calibration volumes)
Airway Resistance (adjustable):
Rp5, 20 or 50 cmH <sub>2</sub> O/L/sec
Accuracy: +/- 5% (at calibration flows)