Accurate and Automated Device Testing

Simulate almost any breathing profile, from neonatal to adult patients, while at the same time automating your device testing with the ASL 5000 Breathing Simulator. The ASL 5000 can help you save time and achieve greater consistency in your testing.

Because of its exceptional accuracy, versatility, and data analysis capabilities, the ASL 5000 has established itself as an essential instrument for respiratory product development and quality control worldwide.

Use the ASL 5000 Breathing Simulator to
- Cycle a ventilator through a test sequence during development or production
- Perform long-term troubleshooting tests with trending of breath parameters
- Integrate ventilator performance results directly into data reporting for agency submissions
- Evaluate advanced respiratory modes, such as proportional assist ventilation
- Examine performance parameters and ventilator-patient interaction
- Test all types of drug delivery devices including nebulizers, inhalers (MDIs and DPIs), and spacers

Use the ASL 5000 alone or integrate with IngMar Medical’s RespiPatient® or Laerdal’s SimMan® 3G and SimMan Essential.
Exceptional Accuracy
• Resistance +/-10%
• Compliance +/-5%
• Flow +/-2%
• Volume uncertainty ranges
  up to 10mL greater of +10% of reading or 1mL
  up to 100 mL greater of +2.5% of reading or 2.5 mL
  up to 1000 mL greater of +2% of reading or 20 mL

Quality
• IngMar Medical is ISO 9001:2015 certified and
  our calibration lab is ISO/IEC 17025:2005 accredited
• The ASL 5000 meets or exceeds ISO requirements
  for test lungs used for volume testing

Test Automation Interface (TAI)
• Control the ASL 5000 software from within an
  external automated environment (i.e. LabVIEW, C, C++, etc.)
• Run multiple ASL 5000 systems on the same CPU

Ventilator-grade Spontaneous Breathing
• Ventilator recognizes breaths produced by the
  ASL 5000 as if it were a real patient
• Use with any ventilator and all modes of ventilation
  including PAV, APRV, SIMV, HFOV
• Simulate neonatal through adult patients with one
  device (tidal volume 2 mL to 2.7 L)
• Introduce PEEP including values > 20 cmH₂O
  without triggering unrealistic ventilator alarms

Minutely Adjustable Lung Mechanics to
Simulate Virtually Any Patient Condition
• Compliance: 0.5 to 250 mL/cmH₂O
• Resistance: 3 to 500 cmH₂O/L/s
• Spontaneous breath rate: 3 to 150 breaths/min

Sophisticated Respiratory Mechanics
• Two compartment lung models
• Non-linear compliance curves
• Inspiratory vs. expiratory resistance
• Forced exhalation

Patient Model Library with 36 Conditions
Includes apnea, chronic bronchitis, emphysema,
neonatal obstruction, asthma, COPD and ARDS.

Enhanced Data Analysis
• Access 100+ breath-by-breath parameters and
  export to analysis tools such as Microsoft Excel
• Conduct detailed analysis of ventilator events with
  512Hz data sampling rate

Options
For specialized applications such as use with
humidified gas and aerosol drugs, and increased
accuracy within the neonatal range.

Related Products
RespiSim® System
Software interface is designed for medical educators
and includes curriculum modules as well as a
manikin simulator.

ASL 5000 Lung Solution for SimMan®
Developed in collaboration with Laerdal, this solution
allows you to integrate the ASL 5000 with SimMan 3G
and SimMan Essential.