

ASL 5000 Breathing Simulator



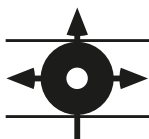
Accurate and Automated Device Testing

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



INGMAR MEDICAL
Respiratory Simulation Specialists



Medical Simulator
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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.



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