

# Ultima Series™

Cardiorespiratory Diagnostic Systems



**MEDGRAPHICS™**  
Cardiorespiratory Diagnostics

# Ultima Series™

## Cardiorespiratory Diagnostic Systems

The Ultima Series offers maximum flexibility to configure both pulmonary function and gas exchange systems to meet your current and future diagnostic needs. The Ultima utilizes the latest technology and rapid response sensors for unparalleled performance and reliability. Powerful BreezeSuite™ software provides simple, one-button testing and the patented preVent® flow sensor provides exceptional accuracy with cost-effective infection control. The features and capabilities of the Ultima Series will satisfy the demands of the most exacting clinician.

### Flexible Configurations

- Ultima can be expanded or upgraded at any time to meet future testing requirements
- Choice of desktop or mobile configuration
- Complete Pulmonary Function testing
- Cardiorespiratory exercise and stress testing
- Nutritional/Metabolic assessment
- Ventilator testing in critical care



preVent Flow Sensor



preVent Flow Sensor  
with Filter

### Exclusive MEDGRAPHICS® preVent Flow Sensor

- The preVent can be sterilized, used with a filter or discarded to eliminate concerns about cross-contamination
- No moving parts or electronics make the preVent durable, easy to disinfect, and cost-effective
- Simple snap-in design requires no warm-up or recalibration between patients
- No complicated or special tubing required
- Meets or exceeds current ATS/ERS standards and specifications

### Easy to Use BreezeSuite Software

- Easy to learn, one button testing allows operator to focus on the patient
- Powerful Microsoft SQL database provides flexibility in accessing, manipulating and reporting data
- Report Designer enables users to configure custom and graphic reports
- Real time help screens guide the operator through the entire testing process
- Automated Quality Assurance program notifies operator to ensure results meet ATS/ERS criteria
- Data management solutions include system connectivity, physician review and electronic medical record interface capabilities



### Optional Data Management Solutions

- Available network capability to connect other cardiorespiratory systems
- Optional Electronic Medical Record interface using latest HL7 standards using either uni or bidirectional capability
- Systems can operate in either standalone or networked configurations
- Review stations allow physicians to view and interpret patient results from any location on the network



**Ultima CPX**  
Breath-by-breath  
cardiorespiratory  
and functional  
capacity testing



**Ultima CardIO<sub>2</sub>**  
Complete gas  
exchange analysis  
with integrated  
12 lead ECG



**Ultima PFX**  
Complete solution for  
exercise, nutrition and  
pulmonary function testing



**Ultima PF**  
Simple, compact, yet  
versatile pulmonary  
function testing



### Advanced Digital Electronics

- The Ultima control module continuously monitors and adjusts analyzers to simplify operation
- Automatic gas calibration saves testing time
- On-board indicator lights provide quick check of system performance
- Interface to external devices offers flexible testing configuration

# Specifications

## Patient Interface Adjustment

- Vertical Extension: 43 cm (17")
- Horizontal Extension: 35.5 cm (14")
- Radius: 180°

## Size (Base)

- Height: 36 cm (14")
- Width: 33 cm (13")
- Depth: 36 cm (14")
- Weight: 12 kgs (26.5 lbs)

## Ultima Module

- Height: 15cm (6")
- Width: 33 cm (13")
- Depth: 30 cm (11.5")
- Weight: 9.3 kgs (20.5 lbs)

## Power Requirements

- 100-240V/50-60Hz

## Flow Device

- Bidirectional Pitot Tube flow sensor
- Patent #: 5,038,773 & #5,119,825
- Range: +/- 18L/sec
- Accuracy: +/- 3% or 50ml, whichever is greater (meets or exceeds ATS/ERS clinical performance standards)
- Resolution: 8.64 ml/sec
- Deadspace: 39 ml

## Gas Sample

- Patent # 5,042,500
- Patented gas drying sample circuit
- Side stream sampling flow rate: 80-100ml/min
- Warm-up Time: Maximum of 30 minutes from cold start



All specifications subject to change without notice. Products may vary from those illustrated. Please contact your Medical Graphics representative for latest information, pricing and product availability.



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## Gas Requirements

- 100% Helium (10-28 psi) (PF, PFX Only)
- DLco mix (135 psi) (PF, PFX Only)
- 100% Oxygen (135 psi) (PF, PFX Only)
- Calibration Gas: 5% CO<sub>2</sub>, 12% O<sub>2</sub>, Bal N<sub>2</sub>
- Ref Gas: 0% CO<sub>2</sub>, 21% O<sub>2</sub>, Bal N<sub>2</sub>

## O<sub>2</sub> Analysis

- Patent #: 4,995,256
- Type: Zirconia
- Range: 0 - 100%
- Response: (10-90%) <80 msec
- Accuracy: +/- 0.03%

## CO<sub>2</sub> Analysis

- Type: NDIR
- Range: 0-15%
- Response: (10-90%) < 80 msec
- Accuracy: +/- 0.1%

## Standard Features

- Complete Spirometry
- FRC by Nitrogen Washout (PF Only)
- Diffusing Capacity (PF Only)
- Gas Exchange Testing (CPX, Cardio<sub>2</sub> Only)
- Respiratory Mechanics & Pressures (PF Only)
- Review Station Software
- Disability Reports
- Report Designer
- User-Defined Predicteds

## Options

- Pulmonary Consult Interpretation Software
- Exercise Consult Interpretation Software
- Bronchial Provocation
- Networking & Information Management
- Database Query
- ExFVL (Exercise Flow Volume Loops) (CPX, Cardio<sub>2</sub> Only)
- Indirect Calorimetry (CPX, Cardio<sub>2</sub> Only)
- Cycles/Treadmills