



PULMONARY FUNCTION TESTING

Quality Healthcare Products



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CPFS/D USB™ Spirometer

When you need full-function spirometry and space is at a premium, the CPFS/D USB™ spirometer is a most fitting solution. This small, portable system may look unassuming, but it's packed with technological advances and features to meet all of your testing and data management needs. All current ATS guidelines for quality and reproducibility are met with the CPFS/D USB. The spirometer is compatible with desktop, laptop and Windows® tablet computers for maximum flexibility. It has incentive

graphs for spirometry, which are ideal for pediatric populations. And like all MGC Diagnostics pulmonary function testing products, the CPFS/D USB spirometer can use your choice of the new AscentTM or our classic BreezeSuiteTM cardiopulmonary diagnostic software and the same preVent® flow sensor—so you can always be assured of accurate, reliable data comparisons from test to test. The CPFS/D spirometer is the perfect replacement for the now discontinued KOKO spirometer.

- Test Performed Pre/post FVC, SVC, MVV and BP Challenge
- Predicted Normals
- Database
- Interpretation

- Trend Reports
- Database Query
- Bronchial Provocation
- Network Capable





Micro 5000 PFS

The Ideal Choice of Accurate, Validated Transducers for Desktop Spirometry.

Small, compact module

Expair II software suite

Low cost of operation, low maintenance

Bronchoprovocation & Special Resistance Testing:

- RINT: resistance measurement using interrupter technique, ideal for children
- NEP: this measurement (negative expiratory pressure) is an alternative method to detect expiratory flow limitation, which does not require performance of forced expiratory efforts on the part of the patient, or a body plethysmography test.

Respiratory Mechanics Testing:

- MIP/MEP: maximum inspiratory and expiratory pressure as an indicator of respiratory muscle strength
- SNIP: measurement of the maximal nasal inspiratory pressure using a nasal cannula. A non-invasive indicator of diaphragmatic muscle fatigue
- P01: inspiratory occlusion pressure at 0.1 seconds, for respiratory muscle drive evaluation, even with CO2 stimulation option
- Static and dynamic compliance and resistance: measured by intra-esophageal balloon catheters.

Can be combined with the following devices: ECG, FeNO+, FOT Resmon Pro, BodyBox, HypAir, SpiroAir, Ergocard Professional, Ergocard Clinical.





Micro 6000 Spirometry

The ideal choice for accurate, validated transducers for desktop spirometry. Micro 6000, the economical choice, for basic spirometry, clinical trials or just simple office spirometry, based on the well proven Lilly heated pneumotachograph. Forced Vital Capacity, Slow Vital Capacity, Maximum Voluntary Ventilation and Minute Tidal Ventilation including bronchochallenge testing software.

- Includes a built-in complete weather station with pressure, temperature, humidity sensors with direct automatic reading
- Small, compact module
- High precision, reliable, accurate, stable gold standard Lilly heated pneumotachograph with, no moving parts
- Low cost of operation, low maintenance
- Expair II software suite, with complete operator and patient guidance.



Lilly Heated Pneumotachograph Technology

Can be combined with the following devices: ECG, FeNO+, FOT Resmon Pro, BodyBox, HypAir, SpiroAir, Ergocard Professional, Ergocard Clinical.



GoSpiro® — The first spirometer specifically designed for connected health applications. Provides diagnostic quality test results, delivering spirometry data acceptable for clinical trials conducted at home or the clinic.

- Real-time flow and volume streaming data for on-screen visualization
- Full Flow-Volume loops with both inspiratory and expiratory data analysis
- Automated Slow Vital Capacity and subdivisions protocol
- Volume-based measurement provides for long term calibration stability
- Meets ATS/ERS/ISO waveform testing requirements

- Built-in quality control with measured and calculated error indices
- Bluetooth® enabled wireless communication
- Interfaces to computers, tablets, and smartphones and other data collection hubs
- Meets stringent ISO and FDA Home-Use standards





Platinum Elite™ Body Plethysmograph

Putting patients first should not mean sacrificing time, space or accuracy. With the Platinum Elite Series™ body plethysmographs, comfort and superior testing performance seamlessly combine to create the most space-efficient, state-of-the-art plethysmograph on the market. Customers love the Platinum Elite body plethysmograph because of its compact design, ease of use, and comprehensive diagnostic capabilities. Patients love the roomier interior space and generous foot room. The Platinum Elite body plethysmograph has an unlimited weight capacity and there is no need for a special body box for wheel chair patients.

- Safe, simple "turn and sit" entry with stable, no-twist seat
- Zero-clearance door provides better use of available lab space
- Largest usable patient space with smallest interior volume (no functional patient weight limit)





All Pulmonary Function Tests in 1 Device!

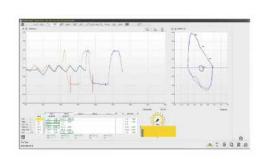
The Medisoft BodyBox PFS plethysmograph features unique preVent® flow sensor (PFS) technology. This system is the ideal device for accurate spirometry and lung volume measurements from children to adults.

- Complete clear glass enclosure for maximum patient comfort.
- Sturdy, easy-to-clean bench with a 250 kg (551 lbs) weight capacity for all patient sizes.
- Expair II testing software is a powerful tool to collect, display and review.

Featuring Prevent® Flow Sensor Technology

- No warm-up or recalibration needed between patients, can be verified with 3L cal syringe at any time to comply to standards
- Practical Snap-in setup, no moving parts or electronics.

The driving force of the system is Expair II, a powerfully intuitive, user-friendly and complete software package.







Ultima PF™ Pulmonary Function System

The Ultima Series[™] cardiorespiratory diagnostic systems offer maximum flexibility to configure both pulmonary function testing (PFT) and gas exchange testing. The Ultima PF[™] pulmonary function system offers complete pulmonary function testing for pediatric through adult patients.

- Powerful diagnostic tool for the clinician
- Compact and versatile pulmonary function platform
- Optional upgrades include complete exercise and nutritional assessment, providing future expansion of testing capabilities

Featuring

- Unique System Design
- Test Specific Quick Calibration
- Advanced Digital Electronics







The Ultima PFX® pulmonary metabolic/exercise testing system offers maximum flexibility to configure both pulmonary function testing and gas exchange systems with complete PF and metabolic assessment options for pediatric through adult patients.

Proprietary breath-by-breath metabolic analysis testing during both rest and exercise.

• Compact and versatile pulmonary function platform.

Featuring

- Unique System Design
- Test Specific Quick Calibration
- Advanced Digital Electronics





HypAir PFS Complete Pulmonary Function Testing

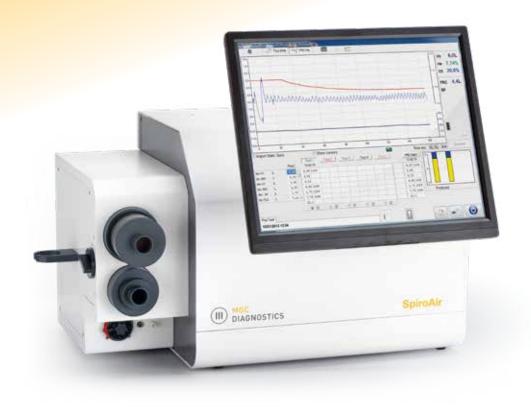
The highest standard in open-circuit spirometry, lung volumes, diffusion, respiratory mechanics and more. The ideal device for accurate spirometry, lung volumes and diffusion measurements, for children and adults.

- Compact system on trolley or table-top configuration
- Expair II software, with complete operator and patient guidance
- Start with any available option and upgrade over time
- · Low cost of operation, low maintenance









Complete, modular pulmonary function system, based on the most reliable, accurate transducer on the marketplace: dry rolling seal horizontal spirometer. The most accurate device for the most accurate spirometry, lung volumes and diffusion measurements, for children and adults.

The SPIROAIR base unit includes spirometry, closed circuit Helium dilution, Functional Residual Capacity (FRC) and lung sub-divisions with a CO2 scrubber and circulating fans. This is the gold standard method for lung volumes with a true volume displacement horizontal dry rolling seal 12 litres spirometer, user accessible, for easy maintenance and cleaning.

- Compact system on trolley or table-top configuration
- Expair software, with complete operator and patient guidance
- · Any option available to start with what is needed and upgrade over time
- High precision, reliable, stable gold standard Lilly heated pneumotachograph with, no moving parts.
- Low cost of operation, low maintenance.





Ultima™ CardiO2®/PFX Gas Exchange Analysis / Pulmonary Function System

The Ultima Series™ cardiorespiratory diagnostic systems offer maximum flexibility to perform both pulmonary function testing (PFT) and gas exchange testing. The Ultima™ CardiO2® /PFX system combines two superior technologies into one singularly powerful solution. The result is an all-in-one, easy-to-use metabolic stress testing system with pulmonary function capabilities.

- Fast responding oxygen and carbon dioxide sensors acquire data on a discreet breath-by-breath basis, providing continuous analysis and display of data.
- · Simplified testing and data interpretation.
- Optional wireless ECG and thermal printer.

Featuring

- Unique System Design
- Flow Sensors For Simplicity And Accuracy
- Test Specific Quick Calibration







Pairing two superior technologies is sure to yield a uniformly exceptional product. The Ultima™ CardiO2® gas exchange analysis system is a perfect example. It combines our leading gas-exchange technology with the premier Mortara® ECG. Fast-responding oxygen and carbon dioxide sensors acquire data on a discreet breath-by-breath basis, providing continuous analysis and display of data. A single software platform seamlessly controls both the gas-exchange and ECG components. The fully adjustable desktop allows for expansive personal workspace whether the technician is sitting or standing. The result is an all-in-one, easy-to-use, "gold standard" metabolic stress-testing system.

- Proprietary Breath-By-Breath Testing Method
- Ultima CardiO2 Powered By Mortara®
- Simplified Testing & Data Interpretation
- Easy-to-Use BreezeSuite™ Cardiorespiratory Diagnostic Software
- Optional BreezeConnect™ HL7 Interface Software





Ultima CPX™ Metabolic Stress Testing System

Let it be said that you can simplify your metabolic stress testing system without compromising accuracy. Then let the Ultima CPXTM metabolic stress testing system show you how. It provides true breath-by-breath metabolic analysis for complete assessment of a patient's functional capacity and cardiorespiratory system. Because it interfaces with external devices, it offers flexible monitoring and testing. Automatic gas calibration provides fast patient thoroughput, which your patients will appreciate. If you need additional testing capabilities, the Ultima CPX delivers with indirect Fick cardiac output and spirometry as well as an array of optional software. The fully adjustable desktop allows for maximum testing comfort for the technician and patient.

- Simplified Testing & Data Interpretation
- Breezesuite[™] Cardiorespiratory Diagnostic Software
- Optional BreezeConnect™ HL7 Interface Software







Accurate Exercise Testing - High Performance & Easy To Use

The ideal solution for your cardiopulmonary exercise (CPX) testing needs.

Two model, Ergocard CPX Clinical and Ergocard CPX Professional, to meet any requirements from any clinical and sports medicine applications and research.

- Featuring Prevent® Flow Sensor Technology
- The Expair II Software assists and guides the operator before, during and after the test

	Ergocard CPX Clinical	Professional
preVent® Pitot Tube		
Infrared CO2 sensor		•
Electrochemical O2 sensor		-
Laser O2 sensor	1 😸	
Full weather station		







Ultima™ CardiO2®/PFX Gas Exchange Analysis / Pulmonary Function System

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CCM Express Indirect Calorimeter

Clinicians and dietitians are very emphatic about their regard for the CCM Express® indirect calorimeter. Whether they are in hospitals or in private practice, they like how it delivers advanced technology in the most demanding ventilator environment, including bias flow, pressure support, and elevated or fluctuating fraction of inspired oxygen (FiO2). Patients breathing spontaneously benefit from the CCM Express indirect calorimeter's comfortable testing options, such as the face tent and preVent® face mask. The built-in computer with touchscreen operation, oxygen and carbon dioxide sensors, and breath-by-breath analysis make indirect calorimetry with the CCM Express indirect calorimeter rapid and simple—while providing highly accurate resting energy expenditure (REE) and substrate utilization data.

- Measurements can be obtained with breath-by-breath analysis or user-defined averaging.
- Gas sensors measure both oxygen and carbon dioxide.
- Ventilator patients can be tested on elevated (above 60%) or fluctuating FiO2
- System is unaffected by ventilator pressure support/pressure control and bias flow.
- Windowing function excludes non-steady-state data resulting from patient disturbances or test initiation.





Ultima CCM™ Indirect Calorimeter

The Ultima CCM™ indirect calorimeter uses advanced technology and gas analysis to measure subjects in even the most challenging ventilator environments. This includes bias flow, pressure support and elevated or fluctuating fraction of inspired oxygen (FiO2). Spontaneously breathing subjects can benefit as well, using one of the system's comfortable patient interfaces which include the preVent® face mask or face tent. The system uses its robust oxygen, carbon dioxide and breath-by-breath analysis to provide highly accurate resting energy expenditure (REE) and substrate utilization subject data to determine appropriate nutritional support. The fully adjustable desktop allows for expansive personal workspace whether the technician is sitting or standing.

- Measurements can be obtained with breath-by-breath analysis or user-defined averaging.
- · Gas sensors measure both oxygen and carbon dioxide.
- Ventilator patients can be tested on elevated (above 60%) or fluctuating FiO2
- System is unaffected by ventilator pressure support/pressure control and bias flow.
- Windowing function excludes non-steady-state data resulting from patient disturbances or test initiation.





In most clinical settings, the LiteAire® MDI holding chambers can reduce costs by replacing existing rigid plastic holding chambers or inefficient spacers with a paperboard alternative. This unique paperboard design allows the LiteAire® to be reused by a patient over multiple doses while meeting, and often exceeding, the performance of plastic holding chambers.

Delivering true value when used in:

- Emergency rooms- for patients requiring the use of a holding chamber for immediate treatment; ideal for isolation room conditions
- Inpatient/outpatient Pulmonary Function Testing Labs clean, disposable, ready to use and designed to accept most pressurized metered dose inhalers (MDIs)
- Short-Term Respiratory Infections A cost effective treatment method that meets the short-term needs of patients with acute respiratory conditions.

Benefits

- Dual Valved
- Labeled for One Week's Use
- Pop Up to Use
- Not Made with Natural Latex
- Portable / Stores Flat
- Single Patient Use
- Compatible with commonly prescribed MDI's





The PrimeAire® holding chamber is a clear solution for effective respiratory management. Holding chamber devices, like the PrimeAire, are commonly used with metered dose inhalers (MDIs) to deliver medication directly to the airways during inhalation.

Benefits

MDI holding chamber devices help to improve the direction and deposition of the medication being delivered by an MDI by:

- Extending the mouthpiece of the MDI
- Retaining the medication in the chamber
- Maintaining the particles in suspension







6 Minute Walk Test Tablet/Laptop

With the new BreezeSuite version 8.6, MGC Diagnostics has added the option for performing a 6MWT. This can be purchased as a stand alone product for those departments that are not yet MGC users.

The MGC Diagnostics 6MWT uses the Nonin bluetooth WristOx as it's oximeter and when connected to a Windows 10 tablet, can produce reports that can be easily printed to networked printers. The software prompts the user with a set script, recommended by the ATS/CTS, to give the patient feedback. The software keeps track of the distance travelled, SPO2, HR, dyspnea scale, leg fatigue, therapist notes and collection of data can be paused.

The 6MWT option will soon be available on the all new MGC Diagnostics Ascent Cardio-pulmonary software. Stay tuned.







Resmon™ Pro Forced Oscillation Technique

The forced oscillation technique (FOT) is a noninvasive method to measure the mechanical properties of the lung and airways during tidal breathing. In addition to measuring total impedance (resistance and reactance) the Resmon Pro can measure expiratory flow limitation which is a key index of respiratory obstruction. Restech developed patented technology to determine the breath-by-breath presence and severity of expiratory flow limitation (EFL) during quiet breathing. Using the Resmon Pro, a physician can detect the presence, severity and reversibility of EFL, and evaluate the degree of airflow obstruction and shortness-of-breath experienced by the patient.

Benefits

- Patented expiratory flow limitation technology (EFL) quantifies the degree of obstruction through changes in reactance during the breath cycle
- Low dead space circuit, conforms to ATS/ERS standards
- Provides useful supplementary information to spirometry on mechanical properties of the respiratory system that may not be readily available with standard pulmonary function tests
- Requires minimal subject cooperation which is a significant advantage with pediatric, elderly or critically ill
- Data is obtained during normal tidal breathing while standard PFT's require maximal or forced manuevers that are unfamiliar to patients
- Degree of heterogeneity of the airways obstruction, measured through the analysis of the frequency dependence of the resistance
- Spirometry maneuver can mask the effectiveness of a bronchodilator while the tidal breathing manuever of FOT can reveal the effectiveness of a bronchodilator



PreVent II Filter

Pulmonary filter by MGC Diagnostics, was originally designed specifically for the use on MGC Diagnostics PreVent flow sensor on the Pulmonary Function systems and spirometers. Features include an ergonomic oval mouthpiece that patients find comfortable and produces a better, more natural seal than round mouthpieces. The filter is made of a rigid plastic that is crush resistant.

Now available for direct connection to VMax PFT systems

- Part #MG536713-002 for a case of 100 for MGC PFT
- Part #MG536713-004 for a case of 100 for VMax PFT





The NeumoFilt Ergo Filter has been designed to allow the patient's teeth and lips to adapt comfortably to the mouthpiece to prevent air leakage. The Filtration media has proved a filtration efficiency level without precedents with a low resistance to air flow.

Technical Specifications

- BFE (a 30L/min.): 99,999980 %
- VFE (a 30L/min.): 99,999909 %
- BFE (a 55L/min.): 99,997649 % (5 minutes test)
- VFE (a 55L/min.): 99,998660 % (5 minutes test)
- BFE (a 750L/min.): 99,502439 % (5 minutes test)
- VFE (a 750L/min.): 99,987339 % (5 minutes test)

- Resistance to flow: 94,3 Pa/l/s a 14 l/s
- Maximum resistance recommended by the ATS: 150 Pa/l/s a 14 l/s
- Dead space: 70 ml
- · Patients: Children and adults
- BFE: Bacterial filtration efficency
- VFE: Virus filtration efficency

Product Information

- Part # 1121/100 for a case of 100 for VMax
- Part # 1224/100 for a case of 100 for MGC
- Part # 1225/100 for a case of 100 for Vitalograph and Morgan Pneumotrac spirometer.





How is the PARALLEL different: FITS ALL NOSE SIZES, EVEN EXTRA-WIDE and tiny paediatrics. The standard nose clip can only spread to about 3 cm, much smaller than many noses. The Parallel spreads to over 5.5 cm (an inch more) and can capture the noses you now hold with your hand. THE PARALLEL is the perfect nose clip for small children through the largest adult. STAYS ON, SLIP-PROOF and great for Cardiopulmonary stress testing. Standard disposable nose clips angle wide as you spread them. When placed on most noses, the excessive angle means the clip slips right off your patient's nose. THE PARALLEL opens in nearly a parallel motion which minimizes the angle of the spread. Less angle, no slipping.

Product Benefits

- Fits All Nose Sizes, Even Extra Wide
- Stays On, Slip-Proof
- Designed to Block Air Leaking from the Nose
- Provides Unobstructed Visibility to Screens & Equipment
- Pads Meet ISO 10993-1 Biocompatibility Requirements





Nose clips are recommended for spirometry and PFT tests in order to reduce the risk of introducing a technical error. AM System's rubber- and foam-padded nose clips help prevent patients from inhaling or exhaling through the nose during spirometry. In contrast to manual occlusion, the use of a nose clip can enhance patient comfort and allow the patient to focus on FVC, MVV, VC, IC and other spirometry maneuvers.

The nose clips are made of white thermoplastic, latex-free and CE marked. The tension in the nose clip body keeps it firmly in place while the rubber and foam pads are designed for maximum patient comfort. The nose clips are disposable and intended for single-patient use only.

Product Benefits

- CE Marked
- 100 nose clips per case
- Soft, grooved nose pads
- Gentle, no-slip grip

- Held in place by spring action
- Pads made of white thermoplastic
- Latex-free

Nose clip rubber. Part #166000 Bag of 100



Nose clip foam. Part #166500 Bag of 100



NeumoBit is a rubber mouthpiece designed specifically for use with the NeumoFilt Ergo Model. It is made from a high pleasant material. Its use provides a perfect anatomical adaptation facilitating the test to be performed and fits on the neumofilt filter in such a way that it does not increase deadspace.

Technical Specifications

- Weight 10 gr.
- Material: Elastomer

Certification

Class I product according to 93/42/
 EEC Medical Devices directive





Re-usable Mouthpieces

Re-usable Mouthpieces are designed for the patient's comfort, maximum flow rates, and a leak-proof fit. They are made from autoclavable blue thermoplastic rubber and are available to fit a variety of connector sizes.



Disposable Mouthpieces

Disposable Thermoplastic Mouthpieces are designed for the patient's comfort, maximum flow rates, lower dead space and a leak-proof fit. They are made from white thermoplastic rubber and are available to fit a variety of connector sizes.





Calibration Syringes

Each Calibration Syringe has a label indicating the model, serial number, date and calibrated volume. The calibrated mechanical stop in each Calibration Syringe provides an accurate and repeatable volume standard appropriate for spirometer calibration. The mechanical stop has its corresponding volume calibrated with a volumetric apparatus certified to meet the accuracy requirements of the National Bureau of Standards Circular 602. In addition, each syringe is 100% leak tested and traceable to NIST standards. A-M Systems aluminum calibration syringes are CE marked.

High Accuracy at a Low Cost:

The Calibration Syringes manufactured at A-M Systems offer users a low cost method for calibrating the volume measurements for pulmonary function analyzers. Analyzers need to be periodically checked against a known volume to ensure that they are in calibration. It is poor practice to rely on an internal calibration procedure without a known volume standard. Studies have shown that pulmonary function analyzers may give erroneous results (N Engl J Med. 1973 Dec 13;289(24):1283-8).

Are you purchasing a new calibration syringe every year just to meet the annual syringe calibration guidelines?

Novus Medical offers a syringe calibration service for a fraction of the cost of purchasing a new syringe every year. The service is an annual exchange program where Novus Medical Inc. will ship you a factory calibrated syringe before the calibration on your syringe is due, along with a return shipping label. Simply exchange your syringe and send yours back to us. We will send you a reminder in one year's time when the syringe needs to be calibrated again. Should your syirnge be damaged or leaking, the exchange service can also be utilized.



SERVICE & SUPPORT

Novus Medical's best in class Customer Service and Clinical Support, have received extensive training on the Infant Care products and are ready to answer any of your questions.

Technical support is provided by our highly qualified and knowledgeable Technicians

For more information or to order a sample:

www.novusmedical.ca | info@novusmedical.ca

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Infection Control



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866.926.9977 | info@novusmedical.ca | novusmedical.ca

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