

## Direct

## The World's Most Advanced Hand Held Spirometer

Developed specifically for the professional, the next generation MicroLoop employs Micro Medical's acclaimed precision Gold Standard Digital Volume Transducer which is especially suited to measuring the very low flow rates seen in patients with COPD.

The MicroLoop features a high definition color touch screen that can display either a Volume/Time curve, a complete Flow/Volume loop or a child incentive graphical display.

The MicroLoop can measure up to 41 spirometry parameters and has a database storage capacity for over 2,000 patients.

The MicroLoop has a desktop docking station that makes battery charging, connection to a PC for data upload and printing the results to an external printer quick and simple. The MicroLoop will also connect directly to an external printer or PC via a USB connection.

Spida 5 PC Software is included and provides expanded data storage capabilities and trend analysis.

The versatile MicroLoop spirometer offers a comprehensive range of advanced features normally only seen on expensive pulmonary labs and is shipped complete with all necessary accessories in a sturdy carrying case.

### Micro Direct, Inc.

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### Features

- Gold Standard Transducer
- Touch Screen Color Display
- Fast On-Screen Text Entry Enabling Comments
- Child Incentive Display "Bubble Gum Kid"
- Fully Customizable Printout Format
- Desktop Docking Station For Battery Charging and PC/Printer Connection
- Direct Connect to External Hewlett Packard Printers
- 41 Test Parameters
- 2000 Patient Test Memory
- Pre/Post Bronchodilator Comparison
- Choice of Predicted Values and Languages
- Diagnostic Interpretation and Estimated Lung Age
- On-screen Test Quality Prompts
- Spida 5 PC Software Included
- 3-Year Parts and Labor Warranty
- Order Catalog #ML3535-S

## Specifications

### Spirometry

- Measurements: (forced) VC, FEV<sub>0.75</sub>, FEV<sub>1</sub>, FEV<sub>3</sub>, FEV<sub>6</sub>, FVC, PEF, FEV<sub>0.75</sub>/VC, FEV<sub>0.75</sub>/FVC, FEV<sub>1</sub>/VC, FEV<sub>1</sub>/FVC, FEV<sub>3</sub>/VC, FEV<sub>3</sub>/FVC, FEV<sub>0.75</sub>/FEV<sub>6</sub>, FEV<sub>1</sub>/FEV<sub>6</sub>, FEF<sub>75</sub>, FEF<sub>50</sub>, FEF<sub>25</sub>, FEF<sub>25-75</sub>, FEF<sub>50</sub>/VC, FEF<sub>25-75</sub>/FVC, FIV<sub>1</sub>, FIVC, PIF, FIV<sub>1</sub>/FIVC, FIF<sub>25</sub>, FIF<sub>50</sub>, FIF<sub>75</sub>, FEF<sub>50</sub>/FIF<sub>50</sub>, FEF<sub>50</sub>/FVC, MET<sub>25-75</sub>, FET, MVV (ind),
- Measurements: (relaxed) EVC, IVC, IC, VT (TV), Ti, Te, Ti/T<sub>tot</sub>, VT/Ti (TV/Ti), IRV, ERV, FR
- Tests per subject: 5 relaxed VC maneuvers and 8 forced maneuvers for each baseline and two post examinations.
- Predicted values: Selectable: Knudson, Crapo/Hsu, NHANES III, Polgar, Pereira, ECCS, Berglund, Austrian, Crockett, Gutierrez, Hedenstrom, Roca, Taiwan
- Transducer: Micro Medical Gold Standard Bi-Directional Digital Volume
- Resolution: 10 ml volume 0.03 l/s flow
- Accuracy: +/- 3% to ATS recommendations—Standardization of Spirometry ATS/ERS 2005 Update

### General

- Storage: 2000 patients with tests including Flow/Volume loops and Volume Time graphs.
- Printer Output: PCL Level 3 compatible Hewlett Packard printers  
(Contact customer service for a list of compatible printers)
- Power Supply: Input: 100-24V AC 50-60Hz  
Output: 12V 2.5A
- Battery Pack: Rechargeable Lithium Polymer 3.7v 1600mAH
- Dimensions: Unit: 4.5" x 3" x 1" - Transducer: 2" x 2.25" x 3.5"
- Weight: Excluding transducer Unit: 6.74 ounces - Docking Station 4.37 ounces
- Temperature: The instrument will operate in a uniform environment of 32 to 104 degrees Fahrenheit, out of direct sunlight
- Operating Humidity: 30% to 90% non-condensing
- Storage Temperature: -4 to 158 degrees Fahrenheit
- Storage Humidity: 10% to 90% Relative Humidity
- Connectivity: RS232 serial and USB 1.1



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