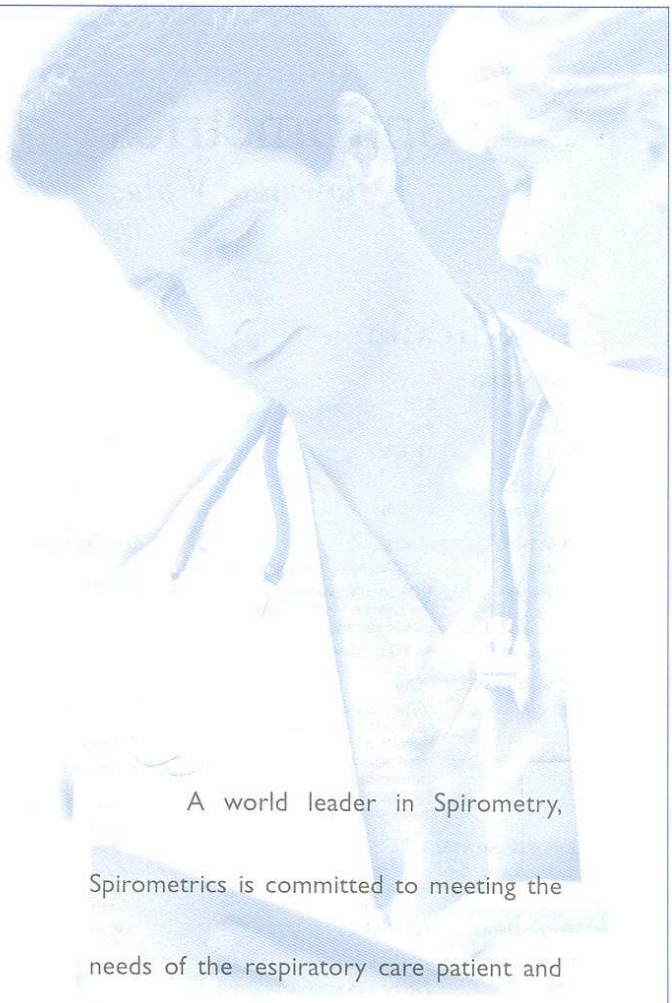
Spirometrics

flowmate V plus



Product Features

The Flowmate V Plus

Features real-time graphics, that simultaneously display the flow/volume loop and the volume/time curve allowing for immediate review of results.

Multi-Lingual Software

Flowmate V Plus software is available in 5 languages, English, Spanish, German, French and Italian.

System Hardware

The Flowmate V Plus comes with a built in disk drive for software upgrades. The system also includes a printer to record test results.

Contamination Control

Cross-contamination control via an external filter system.

Worldwide Warranty

We offer a full 12 month warranty of the Flowmate V Plus' components, parts and labor. An extended warranty program is also available.

A world leader in Spirometry, Spirometrics is committed to meeting the needs of the respiratory care patient and medical practitioner within the healthcare delivery network. As a market leader in Pulmonary Function Risk Assessment, Spirometrics offers a complete line of full function spirometers and accessories. Our products utilize technologically advanced hardware and software products, coupled with our cost effective methods of risk assessment, patient participation and protection.

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flowmate V plus

Specifications

DIMENSIONS

Height	5.5"
Depth	9.0"
Width	11.375"

WEIGHT

Net Weight	10.5 lbs.

POWER REQUIREMENTS

Voltage	100-240 VAC, 50-60Hz
Amperage	1.0A to 500 Milliamps (As supplied to the external power supply)
Wattage	45 Watts maximum

POWER CONNECTION

IEC standard three prong connector with ground. Permits wide variety of international primary power connector cord sets. Supplied with hospital grade plug USA and Canada.

ENVIRONMENTAL

Temperature Operating Range	50°F to 104°F (10°C to 40°C)
Maximum Storage Temperature	150°F (68°C)

USER INTERFACE

Display	256 by 128 graphic LCD display
Keypad	26 key membrane switch keypad with tactile feedback.

PATIENT DATA

ID Number	Up to 16 digits including periods (.), and slashes (/)
Age	1 to 99
Sex	Male, Female
Race	Caucasian, Black, Non-Caucasian, Hispanic, Asian
Height	Up to three digits, in inches or centimeters.
Weight	Up to three digits (optional entry) customizable as lbs. or kgs.
Smoke	0-60 cigarettes per day.

TEST MANEUVERS

FVC	Forced Vital Capacity
MVV	Maximum Voluntary Ventilation
VC	Vital Capacity (otherwise known as Slow VC)
Challenge	Methacholine Challenge

INDICES CALCULATED

FVC Maneuver	
FVC	Forced Vital Capacity
FEV1	1 second Forced Vital Capacity
FEV 3	*3 second Forced Vital Capacity
FEV1/FVC%	% FEV1 Ratio
FEF25-75	Mid Expiratory Flow Rate
FEF75-85	*Late Expiratory Flow Rate
FEF200-1200	*Forced Expiratory Flow Rate between 200ml and 1200ml
FEF50	*Forced Expiratory Flow Rate at 50% of FVC
PEF	Peak Expiratory Flow
FIVC	*Forced Inspiratory Vital Capacity
FIF50	*Forced Inspiratory Flow at 50% of FVC
FEF50/FIF50	*Ratio of FEF50 to FIF50
PIF	*Peak Inspiratory Flow
COPD	Risk Assessment
Lung Age	Lung Age Assessment based on FEV1

NOTE: FEV timing is based on back extrapolation
* these indices appear on the expanded reports

MVV Maneuver	
MVV Volume	Volume Expired per minute
MVV Rate	Breaths per minute
VC Maneuver	
VC	Vital Capacity
ATI	Air Trapping Index
Challenge	
FVC	Forced Vital Capacity
FEV1	1 second Forced Vital Capacity
PD20	Provocative Dose

FLOW SENSOR

Maximum Flow Rate	+/- 16 liters/second
Accuracy	+/- 3%
Resolution	12 bit signed A/D
Sampling Rate	150Hz
Back Pressure	1.1 cmH20/l/s@14L/S

BTPS calculated automatically based on user input for environmental conditions.

Temperature	50°F to 104°F (10°C to 40°C)
Barometric Pressure	20 to 35 inches of mercury 500 to 900 millimeters of mercury. Input values determines units automatically.

BEST TEST DETERMINATIONS
(pertains to FVC trials only)

FVC	Largest regardless of test
FEV1	Largest regardless of test
Ratio	Combination of Best FEV1/Best FVC
Flow Rates	Taken from the trace with the greatest sum of FVC and FEV1

Patient Effort	Requires clinician to evaluate acceptable or unacceptable patient effort. Discards tests the clinician deems as unacceptable.
Variability	Compares indices of current test with best test in memory. Displays and prints variability as % or as absolute difference (user selectable in customization). Variability greater than 5% or 0.2L (depending on user selection) for the FVC and/or the FEV1 is regarded as poor reproducibility.
Expiratory Time	If forced expiratory time is less than 6 seconds, a "TEST TOO SHORT" message will be displayed.
Extrapolated Volume	If extrapolated volume is greater than 5% of the FVC, a "SLOW START" message will be displayed.
Interpretations	Obstruction, Restriction, or Ventilatory disorder.

INPUT/OUTPUT COMMUNICATION PORTS

Graphic Output	Printouts according to ATS scale specifications when user selects option within customization.
Printer Options	Internal thermal printer using 112mm wide thermal paper. External printer with selectable print drivers within customization. Standard DB-25 Female IBM PC pin out to standard centronic connection.
Patient Storage	Internal minimum of 7 patients (variable depending on number of FVC tests performed and saved) External storage on 1.44 Mb formatted disk minimum 45 patients (variable depending on number of FVC tests performed and saved). FVC - 6 trials each patient MVV - 2 trials each patient VC - 6 trials each patient
Test Numbering	Numbers each patient trial that is accepted consecutively regardless of the type of test for recall later.

INSTRUMENT CALIBRATION

Syringe	Selectable from 1 to 9 liters at ATPS. Daily calibration is recommended on days testing is to be performed. Calibration reports print out automatically if printer is connected and is on-line.

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