

Spirovision 3+

FVC
MVV
SVC/IVC
Respiratory Pattern
Pre/Post Comparison
Broncho-challenge Testing
Windows™ Software
Serial or USB Connection



Convert a standard computer into a powerful spirometer

SpiroVision-3+™ is a cost-effective device that converts a desktop or laptop computer into a complete spirometer. The SpiroVision-3+ system consists of two elements: an ergonomical handset that connects directly to a PC's serial or USB port, and the SpiroVision-3+ Software for Windows.

The small and lightweight SpiroVision-3+ handset is easy for all patients, young and old, to handle. It is powered through the computer's PS-2 port, eliminating the need for batteries or an external power source. SpiroVision-3+ can be used with the operator's choice of mouthpieces or bacterial filters, allowing them to control the cost and quality of disposables. The sensor is easily sterilized and meets the most current ATS standards for accuracy.

SpiroVision-3+ for Windows is easy to use and offers shortcut icons and pull-down menus for fast and intuitive operation. All maneuvers (FVC, SVC, and MVV) are displayed in real time, so

the operator can monitor tests as they are performed. During FVC, a split screen shows real time Flow/Volume loops and time/Volume curves, making it easier to recognize and correct testing errors. Computer generated quality control messages further help the technician ensure test quality.

The new "Bubbles" incentive gives patients a visual goal based on predicted results. This simple, user-friendly device helps patients get more involved in the test and yields optimal results.

Using ATS guidelines, SpiroVision-3+ identifies "best tests" and lets the operator accept or reject them. All efforts may be saved. Results are analyzed using a choice of predicted standards built into the software. New predicted sets can easily be added by the operator to keep SpiroVision-3+ current with industry changes.

In addition to demographic data and test results, patient records can include notes, medical history, employment and billing

information, and more. The software contains clearly labeled fields for easy data entry. The operator can customize additional fields for data specific to their application

Results are printed in color, an especially helpful feature when superimposing multiple graphs. Tests from different sessions can be compared by creating trend graphs using your choice of parameters.

SpiroVision-3+ is network compatible. Files can be shared by different stations, through the internet, and by other programs.

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SPIROVISION-3+™ SPIROMETER

- ▶ Full page reports with color graphs
- ▶ Stores unlimited number of patient files
- ▶ Records can be saved on diskette
- ▶ Graphs can be overlapped for comparison
- ▶ Trend graphs using data from different sessions
- ▶ Best test selection based on 1994 ATS standards
- ▶ Quality control messages confirm if a test meets ATS standards
- ▶ Records are personalized with patient information and operator comments
- ▶ Customizable fields for data specific to operator's needs
- ▶ Archive sharing
- ▶ Files can be transmitted electronically
- ▶ Compatible with Windows network protocols
- ▶ Data can be converted into EXCEL, ASCII, or LOTUS formats



Hardware Features

SpiroVision-3+ uses an innovative new digital turbine to deliver accurate inspiratory and expiratory measurements at low to high flow rates. The result is precision and reproducibility equal to or exceeding the latest ATS standards. The sensor is easy to disinfect and can be used with one-way, bidirectional or filtered mouthpieces

Flow range: 0.03-20 l/s
 Volume range: 12 liters
 Accuracy F/V: +/- 2%
 Resistance: <0.70 cm H₂O/l/s@ 12 l/s
 Transmission: Serial RS-232
 Power: Supplied by computer
 Dimensions: 5.9" x 2.1" x 1.8"
 15 x 4.5 x 2.1 cm
 Weight: 2.8 oz (77 g)
 Operating temp: 10° - 50°C
 Operating humidity: less than 90% RH

Standard Accessories



Part#	Description
SV3+	SpiroVision-3+ sensor handset
3P010	SV-3+ flowmeter
3P030	SpiroVision-3+ software
3P040	Adapter for sharing PS-2 port
3P050	Serial communication cable
3P060	Owner's manual
35070	100 mouthpieces
3P110	Carrying case
	Pediatric & filter adapters
	Sample noseclips & filters

Federal law (USA) restricts this device to sale by or on the order of a physician. Specifications subject to change.

"Bubbles" Incentive Display

This colorful graphic display encourages patient performance and effort, for optimal results.



Minimum Configuration

- Intel Pentium processor (or faster)
- Windows 95, 98, 2000, XP or NT4.0
- Min 16 MB RAM (128 MB recommended for NT 4.0, 2000 or XP)
- 3.5" floppy drive
- 6 MB available HD space
- VGA or SVGA monitor
- Mouse
- 1 free RS-232 port (USB port can be adapted)
- PS-2 port
- Any Windows compatible printer supporting 16 bit programming

Optional Accessories

Part#	Description
39250	3 liter calibration syringe
39295	Viral/ Bacterial filters
39270	One-way mouthpieces
35090	Pediatric mouthpieces
39290	Disposable noseclips

Also available with a desktop or laptop PC

EMC

EN 60601-1-2, EN 55011 Class B (emission), IEC 801-2 (1991 immunity ESD):4KV CD, 8KV AD, IEC 801-3 (1984, immunity fields EM): 3 V/m
 Notice: SpiroVision-3+ meets the EMC Directive 84/539/EEC and 89/336/EEC

Safety

CE IEC 601-1/EN 60 601-1

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Tests

FVC, F-V Loops, VC, IVC, MVV, Respiratory Pattern, Pre/Post comparisons, broncho-challenge tests.

Measured Parameters

The operator can choose to view and print any of more than 35 parameters, including :

FVC, Best FVC, FEV1, Best FEV1, PEF, Best PEF, FEV1/FVC, FEV6, FEV6/FVC, FEV1/FEV6, FEF25-75, FET100%, VEXT, FIVC, PIF, VC (SVC), IVC, MVV, FEV1/VC%, ERV, IRV, VE, Rf, ti, te, ti/t.tot, Vt/Ti, IC, MEF75, MEF50, MEF25.

Predicted Values

SpiroVision-3+ is programmed with Knudson, NHANES III(Hankinson), ITS, ECCS '83 (ERS93) and other predicted sets. In addition, the operator can add new sets or modify existing ones to keep SpiroVision-3+ current and up-to-date.

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