

# SpiroVision 3+



## Convert a standard computer into a powerful spirometer

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

The small and lightweight SpiroVision-3+ handset is easy to hold - for patients young and old. It is powered by the computer, eliminating the need for batteries or an external power source. SpiroVision-3+ can be used with a choice of mouthpieces or bacterial filters, giving the operator control over the cost and quality of disposables. The sensor is easy to disinfect and meets the latest ATS standards for accuracy.

SpiroVision-3+ for Windows is simple 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 while 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 motivates patients to perform better, yielding more accurate results.

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

In addition to demographic data and test results, patient records may include notes,

medical history, occupational information, diagnosis codes and more. Users can add fields for data specific to unique applications.

Results are in color, which is especially helpful when superimposing multiple graphs. Trend graphs allow comparison of tests over a period of time using a choice of parameters.

SpiroVision-3+ can be networked through the Windows operating system. Files may also be shared by email or saved on removable media. Data can be stored in Excel, Lotus or ASCII (txt) formats for use by spreadsheets and other programs.

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# SPIROVISION-3+™ SPIROMETER

- ▶ Full page reports with color graphs
- ▶ Graphs can be overlapped for comparison
- ▶ Stores unlimited number of patient files
- ▶ Automatic or user-selected best test
- ▶ Records can be saved on removable media
- ▶ Trend graphs using data from different sessions
- ▶ Quality control messages confirm if a test meets industry standards
- ▶ Records are personalized with patient information and operator comments
- ▶ Customizable fields can be assigned to data specific to operator's needs
- ▶ Archive sharing
- ▶ Files can be transmitted electronically
- ▶ Compatible with Windows network protocols
- ▶ Files 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. This provides reproducible, precision results equal to or exceeding the latest ATS standards.

The sensor is easy to disinfect and can be used with one-way, bi-directional or filtered mouthpieces

Flow range: 0.08-20 l/s  
 Volume range: 12 liters  
 Accuracy F/V: +/- 2%  
 Resistance: <0.60 cm H<sub>2</sub>O/l/s @ 14l/s  
 Transmission: USB  
 Power: Supplied by computer  
 Dimensions: 5.9" x 2.1" x 1.6"  
 15 x 4.5 x 4.1 cm  
 Weight: 2.8 oz (77 g)  
 Operating temp: 0° - 50°C  
 Operating humidity: less than 90% RH

## Standard Accessories



Part#	Description
SV3+usb	SpiroVision-3+ sensor handset
3P010	SV-3+ Flowmeter (insert)
3P030	SpiroVision-3+ software (CD)
3P050U	USB communication cable
3P060	Owner's manual
3P110	Carrying case
	Disposable mouthpieces (20 adult and 20 pediatric)
	Pediatric & filter adapters
	Sample filters & noseclips

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 incentive display encourages patient performance and effort for optimal results.



## Minimum Configuration

- Intel Pentium II processor (or faster)
- Windows 7, VISTA, XP (32-bit)
- Minimum 64 MB RAM
- CD drive
- 20 MB available HD space
- VGA, SVGA or XGA monitor
- Mouse
- USB port (must supply atleast 5V)
- Most Windows compatible printers

## Optional Accessories

Part#	Description
39250	3 liter calibration syringe
39295	Viral/Bacterial filters (50)
39298	Viral/Bacterial filters (250)
39270	One-way mouthpieces (100)
35070	Adult mouthpieces (100)
35080	Adult mouthpieces (1000)
35090	Pediatric mouthpieces (100)
39290	Disposable noseclips (100)

Desktop and laptop computers also available.

## 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 over 35 parameters, including :

FVC, FEV1, 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, \*Best FVC, \*Best FEV1, \*Best PEF.

## Predicted Values

SpiroVision-3+ is programmed with the NHANES III(Hankinson), Knudson 83, ITS, Knudson/Morris/Bass, Gutierrez, Pneumobil, Pereira, LAM, 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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