

# SPIROVIT SP-1

## Simply Breathtaking

### Spirometry made simple and affordable!

The SPIROVIT SP-1 is a unique solution to simplify complex lung function testing. The high resolution patient incentive screen displays real-time flow/volume loops and detailed measurement matrices. The data can be either printed within seconds or transmitted to PC.

### Disposable Sensor SP-150

With SCHILLER's unique SP-150 disposable sensors, the risk of cross-contamination is reduced to its minimum. The small, lightweight sensors are low cost and completely disposable. Simply remove, discard and replace the sensor after each patient performance.

No need for sterilization, easy handling and saving time are maximum benefits for both patient and physician!

### Reusable Sensor SP-20

SCHILLER's SP-20 reusable sensors are small, lightweight and very easy to clean. The low cost filters provide the most economical method of performing pulmonary function testing.

### Features

- FVC, SVC, MVV, MV and pre/post medication tests with choice of predicted normals
- Simple operation
- Internal memory for up to 100 tests (optional)
- Built-in mains and battery operation
- Ready-to-file reports within seconds on 3.5" (90 mm) paper
- Comparison of predicted and actual values
- Automatic interpretation
- Data transmission via built-in RS-232 interface to PC-based data management program SEMA for longterm storage, retrieval and trending
- Everything in one box ... memory, battery, printer, patient incentive screen
- Affordable, fast, reliable, CE labelled



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# Answer fax

Yes, I am interested in the innovative products from SCHILLER.

Please send me more information about:

- 3/6/12-channel-ECG
- Long-term blood measurement
- Multitasking Systems
- Monitoring
- PC ECG
- Defibrillation
- Ergometry
- Data management
- Spirometry
- Telemedicine
- Ergospirometry
- ECG & Spiro Accessories
- Holter
- .....

Name: \_\_\_\_\_

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## Technical Data SP-1:

**Dimensions:** 290x210x69mm, app. 2.9kg; 11.4x8.3x2.7 in, app. 6.3lbs

**Power Supply Requirements:** 220-240V, nominal 230V, 50/60 Hz, or 100-115V, nominal 115V, 50/60 Hz; mains independent operation with built-in rechargeable battery and charger unit, LED indication for line or battery operation

**Battery Charging Time:** 15 hours from a completely discharged battery (< 3 hours to 60% capacity)

**Battery Capacity:** 6 hours of normal use

**Power Consumption:** max. 28VA

**Storage:** Memory for up to 100 tests

**Liquid Crystal Display:**

- Liquid crystal display for graphic and alphanumeric representation
- Resolution: 192x64 dots
- Contrast is manually variable via keyboard

**Chart Paper:**

Thermoreactive, Z-folded, width 90 mm/3.6 in, perforation each page

**Printing Process:** High-resolution thermal printhead, 8 dots/mm

**Paper Speed:** 25 mm/s

**Safety Standards:** MDD 93/42/EEC, Annex II; EN 60601-1: 1990; pr EN 1441: 1994; IEC 60601-1-2

**Safety Class:** BF according to IEC 60601-1

**Protection Class:**

- I according to IEC 60601-1, CSA 22.2 and UL 2601 (units with internal battery)
- IIa according to MDD 93/42/EEC (medical guideline)

**Conformity:** CE-0123 according 93/42/EEC

**Control Panel and Keyboard:** User-friendly Rubber Keys, LED indicators

**Environmental Conditions:**

- Temperature, operating: 10° to 40° C/50° to 104° F
- Temperature, storage: -10° to 50° C/14° to 122° F
- Relative Humidity: 25 to 95% (not condensed)
- Pressure, operating: 700-1060 hPa

**Standard Interfaces:** 1 x RS-232 serial interface

**SPIROVIT SP-1 Basic Unit:** Performs four inspiratory and expiratory pulmonary function tests with choice of predicted normals

**Accessories:**

- 1 pneumotach sensor (choice of SP-150 disposable or SP-20 reusable sensor)
- 1 noseclip
- 1 pack of disposable mouthpieces (for SP-150) or filters (for SP-20)
- 1 power cable
- 1 pack of paper
- 1 operating manual

**Hardware Options:** Transport case, calibration syringe (necessary)

**Software Options:**

- SEMA PC-Software for validation and archiving of test data on PC
- Memory for up to 100 tests

**Measured Values:**

**FVC:** FVC, FEV<sub>0.5</sub>, FEV<sub>1.0</sub>, FEV<sub>3.0</sub>, FEV<sub>0.5</sub>/FVC, FEV<sub>1.0</sub>/FVC, FEV<sub>3.0</sub>/FVC, FEF<sub>0.2-1.2</sub>, FEF<sub>25-75</sub>, FEF<sub>75-85</sub>, PEF, MEF<sub>75</sub>, MEF<sub>50</sub>, MEF<sub>25</sub>, FIVC, FIV<sub>1.0</sub>, FIV<sub>1.0</sub>/FVC, FIV<sub>1.0</sub>/FVC, PIF, MIF<sub>50</sub>

**SVC:** SVC, ERV, IRV, TV

**MV:** MV, RR, TV

**MVV:** MVV, RR, TV

**Prediction Equation:**

- **Adults:** ECCS, Crapo, Morris, Knudson, Knudson 76, Austria, Berglund, Finnish, Indian, Composite, Polgar
- **Children:** Quanier & Tammeling, Austria, India, Knudson, Knudson 76, Polgar
- **Comparison pre/post medication possible**
- **Extrapolated predicted values**

**Presentation:**

- Flow volume loop
- Flow time plot
- Measurement values table

**Standards Compliance:** ATS, ATS 94, OSHA, NIOSH

**SPIROVIT SP-150 Pneumotach Flowsensor for Pulmonary Function**

**Testing with Disposable Sensors:**

**Dimensions:** 118x36x28mm, app. 120g; 4.6x1.4x1.1 in., app. 0.26 lbs

**Measuring Method:** Pneumotachometer

**Measuring Ranges:**

- Flow: 0 to ±14 l/s
- Volume: 0 to ±15 l

**Measuring Accuracy:** According ATS 1994

**Flow Impedance:** <0.2 mbar \*s/l at 12 l/s

**SPIROVIT SP-20 Pneumotach Flowsensor for Pulmonary Function Testing with Reusable Sensor:**

**Dimensions:** 125x36x28mm, app. 160g; 4.9x1.4x1.1 in., app. 0.34lbs

**Measuring Method, Measuring Ranges, Measuring Accuracy, Flow Impedance same as SP-150**

Technical Data are subject to change without notice.



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