CCS-200
Spirometer

BENSON MEDICAL INSTRUMENTS

Computer Controlled Spirometer

The only spirometer specifically designed for occupational health.

Introducing the CCS-200 Computer Controlled Spirometer

The CCS-200 spirometer produces accurate and repeatable spirograms for use in NIOSH-compliant programs. The single-use disposable mouthpiece mounts easily and securely in the handle, and is removed after testing with the press of a button.

Included operating software for Windows® leads the operator through the testing process by determining repeatability, grading the maneuvers, and detecting artifacts and errors. The CCS-200 uses state-of-the-art ultrasonic sensors to ensure accuracy with every maneuver as well as over the lifetime of the instrument. The included database software provides instant recall of past spirograms for reporting and trend analysis.

- Displays flow/volume and volume/time graphs
- Determines FVC, FEV1, FEV1/FVC, and other indices
- Automated calibration check using 3-liter syringe with 1/2-, 3-, and 6-second flows
- Includes interpretation and numerous predicted sets
- Uses same database as Benson Medical audiometers
- Used mouthpiece is removed without contact
- One-year warranty

✓ Meets or exceeds ATS/ERS 2005 and NIOSH standards

✓ Suitable for use for OSHA spirograms and SSA disability

✓ Integrates with Benson Medical 'mini' audiometers

✓ Mouthpiece installs with a 'click,' releases with a button press.

✓ Exceptionally easy daily calibration

✓ BTPS adjustment

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Spirometer Operation

The state-of-the-art CCS-200 Spirometer uses advanced ultrasonic flow-sensing technology to perform accurate spirograms. Intelligent sensing eliminates the need to hold the spirometer still before maneuvers. The CCS-200 automatically compares the subject's spirogram results to the selected predicted normal set, and provides immediate interpretation.

- ✓ Calculates FVC, FEV1, FEV1/FVC, FEV6, FEV1/FEV6, PEF, FEF25-75%, FEF75-85%, FEF200-1200
- ✓ NHANES III and Knudson 1976 predicted sets (more in optional Plus Package)
- ✓ ATS 1991 Interpretation
- ✓ Verifies readiness with pre-test interview questionnaire
- ✓ Advanced, on-screen Flow-Volume and Volume-Time graphs with zoom, pan, and offset
- ✓ Daily Calibration routines lead you through three flow rates and print results automatically
- ✓ Determines repeatability, usability, acceptability, and spirogram completion
- ✓ Pre- and post-bronchodilator testing
- ✓ BTPS correction
- ✓ Switchable, pre-configured configurations for tests compatible with the following standards: ATS/ERS 2005, ATS 1994, OSHA Cotton Dust, SSA disability, NIOSH, or NLHEP
- ✓ Custom spirogram configurations with programmable artifact detection, end of test, repeatability, and usability parameters

Subject Data Collection

- ✓ No limit to number of subjects and spirograms
- ✓ Race, age, sex, height, and weight fields
- ✓ Use of computer keyboard eliminates frustration of using small push buttons to enter data
- ✓ Extensive user-defined data fields and generous comment fields for each record

Standards Compliance

The CCS-200 Spirometer meets the latest ATS/ERS and NIOSH requirements and is suitable for use in OSHA-compliant programs for spirometry surveillance, respirator clearance, and SSA disability determination.

- ✓ Available 3-L calibration syringe and adapter for required calibration checks

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CCS-200 Reports

The CCS-200 quickly produces full-page reports that are easily read and made into PDF files for use with EMR software. See the optional Plus Package section, below, for additional reports.

Subject Spirogram – Concise
Subject Spirogram – Summary
Subject Spirogram – Trend
Daily Calibration Certificate

"Plus" Database Management

Choose the Plus Package for additional analysis and reporting, support for unlimited companies, and data management.

- ✓ Network database access (connects to Microsoft® SQL Server® 2008 R2 and 2012)
- ✓ Unlimited number of companies
- ✓ Adds Knudsen 1983, Crapo, and Morris predicted sets, and NLHEP and Morris 1976 interpretation
- ✓ Customizable pulmonary function history questionnaire in 21 languages
- ✓ Report Builder lets you define your own report by selecting from dozens of pre-defined sections
- ✓ Expanded report query ability and Query Wizard
- ✓ Cloud data interface for select third-party databases
- ✓ Customizable subject ID length and characters
- ✓ Programmable import/export routines
- ✓ Powerful Extract/Merge tools synchronize data between locations
- ✓ May use Microsoft® SQL Server® and Windows® authentication to help fulfill HIPAA security requirements
- ✓ Customizable data column selection and ordering for on-screen display

Additional Reports (samples available)

Subject Spirogram *
Subject Spirogram SSA *
Subject Spirogram Pre-Bronchodilator *
Subject Spirogram Post-Bronchodilator *
Subject Spirogram SSA Pre-Bronchodilator
Subject Spirogram SSA Post-Bronchodilator
Subject Spirogram PFT Summary
Subject Spirogram PFT Summary Bronchodilator
Subject Spirogram Interviews
Subject Spirogram Trend FVC
Subject Spirogram Trend FEV1
Subject Spirogram Trend Percent Predicted
Subject Spirogram FEV1/FCV Ratio
Subject Spirogram Percent Predicted and FEV1/FCV Ratio
Subject Spirogram History
Subject Spirogram History Questionnaire
Company Spirometry List
Company Spirometry Test Schedule List
Company Spirometry Exception List
Company Spirometry PFT Category List
Company Spirometry Test Result List
Company Spirometry Summary
Company Spirometry Summary – Subject Details
Company Spirometry Summary – Respirator Use
All Company List

System Requirements:
Windows® 10, 8.1, or 7 SP1 (32- or 64-bit), 1.4 GHz or higher processor, 1 GB RAM minimum (2 GB for 64-bit, 4GB recommended), 8 GB free HDD. PC must meet IEC 60950. One free USB port. Plus Package: additional USB Port.

* indicates available in concise or detailed format

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