

# CCS-200

## Computer Controlled Spirometer



### The Only Spirometer Specifically Designed for Occupational Health

The CCS-200 spirometer produces accurate and repeatable spirometers for use in NIOSH-compliant programs, including the Coal Workers Health Surveillance Program (CWHSP). The single-use disposable mouthpiece mounts easily and securely in the handle and is removed after testing with the press of a button. Hands-free removal reduces hygiene risks.

Included operating software for Windows® leads the operator through the testing process by detecting artifacts and errors, grading the maneuvers, and determining repeatability. The CCS-200 uses ultrasonic sensors to ensure accuracy with every maneuver as well as over the lifetime of the instrument. The ultrasonic technology has no sensors or obstructions in the expiratory flow path. The included database software provides instant recall of past spirometers 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 compliant with ATS/ERS, OSHA Cotton Dust, and NIOSH-CWHSP
- Includes interpretation and numerous predicted sets
- Can share the same database with Benson Medical audiometers and earplug Fit Tester
- Used mouthpiece is removed without contact
- One-year warranty

- ✓ Meets or exceeds ATS/ERS 2005 and NIOSH standards
- ✓ Suitable for use for OSHA spirometers and SSA disability
- ✓ Meets NIOSH-CWHSP requirements for printed reports and data transfer
- ✓ Integrates with Benson Medical 'mini' audiometers and the CCF-200 Fit Test
- ✓ 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 ultrasonic flow-sensing technology to perform accurate spirometry. The CCS-200 automatically compares the subject's spirometry results to the selected predicted normal set, and proposes interpretation immediately.
- Calculates FVC, FEV1, FEV1/FVC, FEV6, FEV1/FEV6, PEF, FEF25-75%, FEF-75-85%, FEF200-1200
- NHANES III and Knudson 1976 predicted sets (more in optional Plus Package)
- Verifies patient/test-subject 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 required flow rates and print results automatically
- Determines repeatability, usability, acceptability and spirometry 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-CWHSP, or NLHEP
- Custom spirometry configurations with programmable artifact detection, end of test, repeatability, and usability parameters

## Subject Data Collection

- No limit to number of subjects and spirometry
- 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 ATS/ERS and NIOSH requirements and is suitable for use in OSHA-compliant programs for spirometry surveillance, respirator clearance, CWHSP and SSA disability determination.

## 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. Enhanced analytical data facilitates test interpretation.

### 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. Talk-over and voice instructions: SoundBlaster 16 or 100% compatible full-duplex sound card and microphone. One free USB port. Plus Package: additional USB Port.

## "Plus" Database Management

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

- Network database access (connect to Microsoft® SQL Server® 2008R2 AND 2012)
- Unlimited number of companies
- Adds Knudsen 1983, Crapo, and Morris predicted sets, and NLHEP and Morris 1976 interpretation
- Meets NIOSH-CWHSP requirements
- Customizable pulmonary function history questionnaire in 21 languages
- Report Builder lets you define your own report by selection 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
- "Merge Company" feature addresses issues that arise when multiple companies or testing sites are merged into one
- 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 Spirometry\*
- Subject Spirometry NIOSH-CWHSP
- Subject Spirometry SSA\*
- Subject Spirometry Pre-Bronchodilator\*
- Subject Spirometry Post-Bronchodilator\*
- Subject Spirometry SSA Pre-Bronchodilator
- Subject Spirometry SSA Post-Bronchodilator
- Subject Spirometry PFT Summary
- Subject Spirometry PFT Summary Bronchodilator
- Subject Spirometry Interview
- Subject Spirometry Trend FVC
- Subject Spirometry Trend FEV1
- Subject Spirometry Trend Percent Predicted
- Subject Spirometry FEV1/FCV Ratio
- Subject Spirometry History
- Subject Spirometry 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

