

OHD Spirometry Systems



OHD Occupational Health Dynamics

OHD/KOKO SPIROMETER SYSTEM FEATURES

ADVANCED, FULL FUNCTION, RESEARCH QUALITY

The KoKo is powered by the most comprehensive spirometry software available. Its customizable design allows the user to easily adapt the performance to the level of sophistication required.

1. The OHD/KoKo Spirometer exceeds all ATS (American Thoracic Society) 1994 "Standardization of spirometry," Many of the current spirometers on the market do not have a letter from the LDS Hospital that validates meeting the new ATS 1994 standards. The LDS laboratory is currently the industry standard for ATS validation testing. The 1994 ATS recommendations address several new issues of Spirometry, namely diagnostic versus monitoring spirometers, multiple flow calibration of pneumotach based systems, the use of infection control filters, and correction for BTPS: normal body temperature, ambient pressure saturated with watervapor. To address the validation under 1994 ATS recommendations, the LDS laboratory added testing procedures, specifically BTPS correction testing using heated humidified air for accuracy testing "because of potential problems associated with BTPS correction." The data for the OHD/KoKo spirometers by OHD exceed these recommendations.

2. The OHD/KoKo Spirometer utilizes a BRASS "Fleisch-Type" pneumotach, proven in the industry to provide unparalleled accuracy and durability~. The brass pneumotach gives better accuracy because of its unsurpassed ability to compensate for temperature and humidity changes. Most of the other Fleisch Type pneumotachs are made of plastic or of a disposable material, which are not as accurate as the brass type. The Puritan Bennett Renaissance uses a disposable pneumotach. If you calibrate only once a day using this system, you are not calibrating each pneumotach. This might be a problem in technically meeting ATS 1994 Standards. It also may not give you as accurate or reproducible results.

3. The OHD/KoKo Spirometer has multiple predicted sets built into the software, including the new Hankinson (NHANES III) predictives, which were published in 1999. This new set of Hankinson predictives will soon be the standard for most all occupational and industrial pulmonary function tests.

4. The OHD/KoKo Spirometer gives you side-by-side real-time Flow/Volume Loop and Volume/Time graphics during an actual test. Many of the current spirometers do not give any curves in real time but only when printed. We feel it is very important to be able to view "both" curves in real-time so that you get better results and better quality assurance. The stand-alone spirometers only give you the curve when you print or only the volume time curve on volume spirometers. The technician needs to view the curve during the actual test.



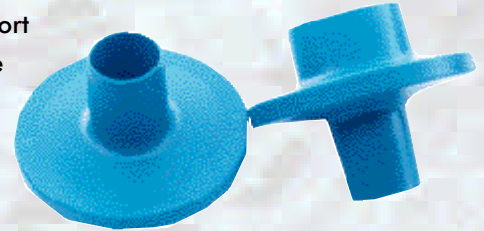
5. The OHD/KoKo Spirometer gives you multiple incentive graphics for patient/employee coaching. If you have an employee that is on the borderline for respiratory clearance, the incentive can oftentimes get the user over the minimums for respirator clearance. The visual incentive is related back to that person's predicted normals, in order that a better effort and therefore better results are achieved. We feel incentive graphics give you better results on testing. We have seen as much as a 10% better effort using incentives.

6. The OHD/KoKo Spirometer utilizes a high precision multi-flow calibration syringe. This increases accuracy, reproducibility, and ease of calibration. Our multiflow calibration syringe gives you the exact flow rates for each calibration speed, and all the calibration records are stored for future reference!

ACCESSORY FEATURES

PULMONARY FUNCTION FILTERS

- Filtration of bacteria and viruses
- Low resistance for accurate spirometry testing
- Low dead space as required for lung volume and DLCO testing
- Four standard port sizes and a wide selection of adapters allow the OHD Filter to be used with virtually any pulmonary function instrument
- Cost effective



MULTI FLOW CALIBRATION SYRINGE

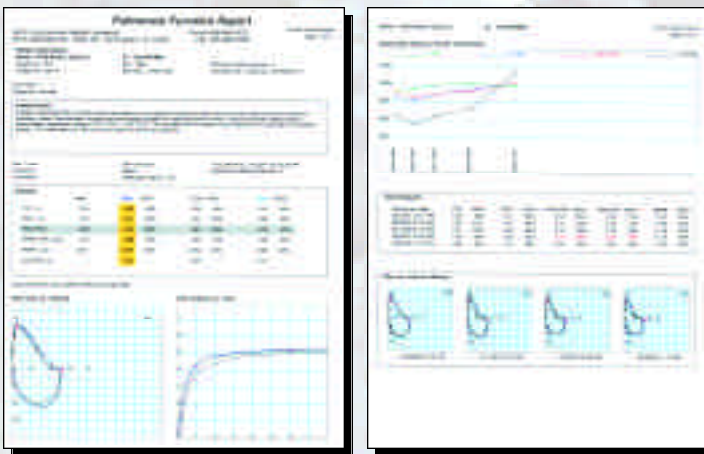
This new patented technology incorporates flow limiter valves that assist the user in achieving and maintaining several specific flow rates during volume calibration. These flow rates are selected by simply turning the dial at the end of the syringe to the desired setting.



FEATURES

- Includes all of the advanced features of the KoKo syringe
- Complies with 1994 ATS and NIOSH recommendations for multiple flow calibration linearity checking
- Dual locking collar to allow various volume settings without altering the certified 3-liter setting
- Flow limiter settings for .5, 1 and 3-liters per second
- Open setting for standard operation

7. The OHD/KoKo Spirometer has trend analysis of employee/patient results built into the software. The benefit to you is that you can immediately trend a persons FVC, FEV1, FEV1/FVC, PEFR (or any other PFT parameter). If an employees results are 120% of predicted and lower limits of normal are around 70% of predicted, you would not find problems with that employee's PFT for several years, unless you were doing a historical trend analysis. To do this, one would have to pull the charts and manually trend the data. We do this for you without having to pull the records. All you do is select our trend report, and immediately it gives you the historical trend.



8. The OHD/KoKo Spirometer has a fully customizable report format. This allows you to customize your reports if you desire. You can customize reports and their contents, predicted values, graphics format and size and automated interpretation. It is very easy to use.

9. The OHD/KoKo Spirometer is Windows based and also net-workable in Windows NT. This will allow you to store all previous tests for an employee, as well as calibration records. On stand alone spirometers you cannot save past tests, past calibration records, or even demographic data on the employee. Each time a person is tested the demographic data has to be re-keyed, which takes extra time. All previous tests and calibration records are easily accessed for viewing and/or printing.

10. The OHD/KoKo Spirometer has direct dial-up connectivity, which allows multiple offices to share patient data files. If your medical department needed to review the spirogram from another site, this feature might be valuable. Most other Spirometers do not offer this feature.

Specifications

OHD/KOKO SPIROMETER

Pneumotach Parameters	Brass Fleisch-type FVC, FEV.5, FEV.5/FVC, FEV1, FEV1/FVC, FEV1/FEV6, Vext%, FEV3,FEV3/FVC, FEV6, FEV6/FVC, PEFR, FEF.2-1.2, FEF25%, FEF50%, FEF75%, FEF25-75%, FEF75-85%, Veot, MET, Exp Time, Vext, FIVC, FIV.5, FIV.5/FVC, FIV1,FIV1/FIVC, FIV3, FIV3/FIVC, PIFR, FIF.2-1.2, FIF50/FEF50, FIF50%, FIF25-75%, MIT, Insp Time, MW L/min, MW L/sec, VT, RR, SVC, ERV, IC, SVC/FVC, 8 User definable ratios.
Predicteds	Crapo, Polgar, ITS, Knudson, ECCS, Hankinson (NHANES III) custom predicteds, and others
Incentive screens	Brick Wall, Three Little Pigs, Kites, Candles
Interpretation	Automated, preset comprehensive or abbreviated and manual entry
Graphics	V/T, F/T, FN, trend line or bar, challenge dose response, variable scaling, super imposed or offset overlay and reference test comparisons
Reports	Unlimited self-design, standard preset design includes Pre/Post, Disability, Challenge, Trending, Composite Best Test, etc.
Data sampling rate	128/sec
Volume scaling	10mm/L, user variable
Volume range	0-19.9L
Flow scaling	5mm/L/sec, user variable
Flow range	+16L/sec
Accuracy	+ 2%, automatic evaluation of test quality, reproducibility and rank
BTPS Correction	Expiratory and inspiratory, conforming to ATS 1994 standards
Standard compliance	1994 ATS, ECCS, OSHA, SSD, MDD (Independent validation report available)
Power source	Computer serial port, battery or AC power pack 110, 220, 240VAC, depending on model

Software	Available for Windows
Computer requirements	WINDOWS—Windows 95 or higher, Pentium or higher, minimum 120MHZ, minimum, 32MB RAM, minimum 60MB available space on hard drive, available com (serial) port
Dimensions	18 x 10 x 6cm
Weight	0.3kg
Intended use	Lung function measurement
Warranty	One year including parts and labor

CALIBRATION SYRINGE

Syringe body and shaft	Anodized aluminum
End caps and port	MultiFlow™—machined acetal plastic Syringe molded polycarbonate
Seal	Teflon® seal energized by a stainless steel, slant/coil spring
Tolerance	Better than + .5% or + 15ml
Volume	3-liters adjustable in .10L increments with a locking collar and allen wrench (supplied)
Calibration interval	Recommended annually
Operating environment	Recommended 20-30°C
Dimensions	56 x 12cm
Weight	3kg
Intended use	Volume calibration of PFT equipment

PULMONARY FUNCTION FILTERS

Filtration efficiency	Bacteria filtration—99.99%, Viral filtration—99.9%
Resistance	.4-.7 cm H2O/L/sec. depending on test methodology
Dead space	Approximately 50cc
Material	Polystyrene housing 3M Filtrete™ medium



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