

TECHNICAL SPECIFICATION FOR MEDICAL EQUIPMENT

Equipment: PFT WITH DLCO

OBJECTIVE

A Pulmonary Function Test (PFT) with Diffusing Capacity of the Lung for Carbon Monoxide (DLCO) is a comprehensive respiratory diagnostic system designed to evaluate lung function by measuring lung volumes, airflow, and the lungs' ability to transfer oxygen into the bloodstream. It's essential for diagnosing, assessing, and monitoring obstructive and restrictive lung diseases, pulmonary fibrosis, Chronic Obstructive Pulmonary Disease (COPD), asthma, interstitial lung diseases, and other respiratory disorders.

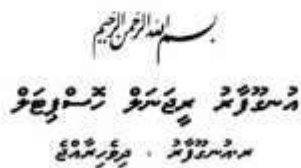
PFT WITH DLCO – TECHNICAL SPECIFICATIONS

1. General Information

Parameter	Specification
Device Type	Pulmonary Function Test (PFT) System with DLCO
Technology	Ultrasonic / Pneumotach Flow Sensor
Compliance	ATS/ERS 2019 Standards
Test Modes	Spirometry, DLCO, Lung Volumes

2. Spirometry Specifications

Parameter	Specification
Spirometry Tests	FVC, SVC, MVV, Pre/Post bronchodilator
Flow Measurement	Pneumotach / Ultrasonic / Turbine



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Flow Range	±16 L/s or better
Volume Range	≥10 L
Accuracy	±3% or better
Parameters Measured	FEV1, FVC, FEV1/FVC, PEF, FEF25–75
Real-time Display	Flow-volume & volume-time curves
Calibration	Automatic / 3L syringe compatible

3. DLCO Specifications

Parameter	Specification
Method	Single Breath DLCO
Gas Analyzer	CO and CH4/He
Measurement Range	0–50 mL/min/mmHg
Accuracy	±10%
Method	Single Breath DLCO
Gas Analyzer	CO and CH4/He

4. Lung Volume Measurement

Parameter	Specification
Method	Gas Dilution / Body Plethysmography
Parameters	TLC, RV, FRC
Accuracy	±3%





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Parameter	Specification
Method	Gas Dilution / Body Plethysmography
Parameters	TLC, RV, FRC

5. Gas Analyzer Specifications

Parameter	Specification
CO Analyzer	Infrared
Tracer Gas	Methane or Helium
Response Time	<150 ms

6. Software & Connectivity

Parameter	Specification
Software	PC-based PFT Software
Compatibility	Windows 10/11
Connectivity	USB / LAN / Bluetooth
EMR Integration	HL7 Supported

7. Display & User Interface

Parameter	Specification
Display	Color LCD / PC Monitor
Interface	Touchscreen / Keyboard
Real-Time Graphs	Flow-Volume, Volume-Time



8. Power Requirements

Parameter	Specification
Power Supply	100–240V AC
Frequency	50/60 Hz

9. Physical Specifications

Parameter	Specification
Weight	3–8 kg
Dimensions	Compact Desktop

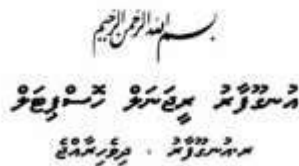
10. Safety & Standards

Parameter	Specification
Standards	IEC 60601-1
Infection Control	Disposable Mouthpieces, Filters

11. Accessories/Consumables

Parameter	Specification
Nose Clips	Disposable
Filters	Disposable Mouthpieces, Filters
DLCO Gas Cylinder	CO + tracer gas





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12. Electrical & safety

Parameter	Specification
Power Supply	220–240V AC, 50/60 Hz
Safety	Medical grade isolation
Standards	IEC medical safety compliance
Backup	UPS recommended 2 kVA

13. Hardware components

Parameter	Specification
Flow Sensor	Digital / ultrasonic
Breathing Circuit	Disposable Mouthpieces, Filters
Display	PC / Touchscreen
Printer	External / built-in
UPS	Needed 2 kVA UPS

Additional Tender Requirements

Parameter	Specification
Equipment Qualification	Design, installation, operation and performance qualifications required
Calibration	Reports must be traceable to international standards
Warranty	Minimum 3 years warranty





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Service Support	CMC / AMC for next five years with spare parts availability
Product Details	Brand, model, rating, description, specifications, price and quantity must be furnished
Documentation	Catalogues and technical write-ups in English (hard and electronic copies)
Performance Data	Performance and efficiency parameters must be provided
Training	Demonstration and comprehensive training for user and biomedical staff
Consumables	Include a detailed list of all consumables required for the operation and maintenance of the equipment, including individual unit prices
Optional Hardware	Include the rate of optional hardware if available

