

Pulmonary function test machine

The unit should be light weight, exclusively designed to carry out examination of pulmonary system and to measure & display lung function parameters, operable on USB port power , not requiring large installation space (compact).

It should come with an incentive display for cooperation free, lung testing.

It should be designed for the following measurement protocols Spirometry with pre/post comparison, Flow/Vol and Vol/Time loops/curves and Trend Loops. Individual interpretation assistance.

MVV Patient Co-operation Display It should measure following options without using additional gas analyzer Capno-Volumetry measurement Emphysema diagnostic Determination of anatomical and functional dead spaces.

The system should incorporate a light weight, Ultrasonic sensor (non-heated) free from any kind of frictional inefficiencies which is absolutely insensitive to moisture.

It should not require any warm-up time and calibration with following measurement ranges :-

Flow Measurement Range : 0 to +/- 16 Ltrs/sec with accuracy better than +/- 3% or 100 ml/sec .

Volume measurement Range : 0 to 10 ltrs with resolution of 10 ml

Corrections Flow Volume : EGKS or ATS

Inspiratory Gas qty : BTPS (ambient module)

The machine should measure the following Parameters:

SVC , VC ex, V C max, IRV, ERV, VT, IC, Frequency, MVV, ti, te, ti/te, FVC, FEV1, FEV 0.5, FEV 1/ VC max, FEV 1/ FVC ex, MEF25, MEF 25-75, PEF, PIF, MVV and pre-post comparisons.

Should measure CO2 max %, Vm25-50, Vm50-75 etc.

The unit should be supplied with 50 no of disposable breathing tubes.

The unit should be supplied complete with hardware and software including a PC as per below given specifications from a respected brand like IBM, Compaq or HP.

a) CPU – Pentium IV Core 2 DUO Processor.

b) RAM – 1 GB, At least 160 GB HDD

c) At least 14" TFT Color Monitor

d) DVD R/W Drive, Keyboard, Mouse

e) Serial / Parallel interface PCI SLOT

f) Windows XP

g) Inkjet Printer.

h) Suitable UPS for the computer system The manufacturer should be an EN ISO accredited company and the product should be duly CE marked to MDD 0124 for medical devices.

Non-invasive mechanical Ventilator

Non-invasive ventilation/ bipap with LCD display of parameters with following features

- IPAP range 6-30 cms
- EPAP range 4-20 cms
- Respiratory rate can be set to 4-40 bpm
- Spontaneous / CPAP/ spontaneous with time/ timed
- Connectors for ET tube available for direct connection
- Should have CPAP, PSV ST, PCV, PACV modes
- Should have facility to set target tidal volume
- Inspiratory time should be possible to set allowing critical patients to breathe out.

The rise time from EPAP to IPAP can be set and varied. The system should be supplied with operator's manual, ultra mirage mask (full mask), hose pipe and power cable

Fiber optic Bronchoscope

Specifications:

Fiberoptic Bronchoscope:

Should have following specifications:

1. Lighter and possess high-definition image quality with camera on the tip.
2. Fully immersible in disinfectant solution.
3. Scope should have image enhancement function.
4. Two or more no. of remote-control switches on control body.
5. Compatible with leakage testing device Manual/Automatic.

Field of view	:	120 degree or more
Direction of view	:	0-degree, forward viewing
Depth of field	:	3 to 50 mm or better
Distal end outer diameter	:	5.9 mm or less
Insertion tube outer diameter	:	5.9 mm or less
Tip Bending rage	:	Up 180 deg & more, Down 130 deg & more
Working length	:	600 mm or more
Channel inner diameter	:	2.8 mm or more

Fiberoptic Bronchoscope Full HD Video Processor Module:

1. Equipped with high resolution HDTV Imaging capacity.
2. Should be compatible with Analog and Digital output with 1920X1080P output.
3. Minimum 2 HDTV image output (HD-SDI/DVI/HDTV) for HD image transfer.
4. Integrated/Separate, light weight and ergonomically designed.
5. Suitable for BLI/FICE/ NBI/ISCAN-OE, Optical enhancement technology to provide high Contrast Images while observing microvascular and micro surface patterns of the mucosal layer.
6. Should have advanced LCI (Linked Color imaging) /RDI & TXI – Advance Image Enhancement Endoscopy facility or equivalent.
7. Should have Special light function for detection of surface patterns and vessels and slight color difference should be visualized with natural tone using Red Component.
8. System should support Close focus up to 1.5 mm to get enhanced image for diagnosis.
9. System should have Edge & Structure enhancement.
10. No white balance compulsion would be added advantage.
11. Recording of both still & moving images

12. Portable Memory & USB Slot for image recording with 4 GB internal memory and external USB (8GB) Automatic IRIS control & automatic white balance.
13. Automatic IRIS control & automatic white balance
14. Should be compatible with Pead bronchoscope (4mm OD or less), Latest EBUS scopes, for future upgradation.
15. Electronic Zoom up to 2X or more.
16. Equipped with memory back up for settings & Lithium battery.

Fiberoptic Bronchoscope Light Source:

1. Long life Multi LED light source (3 or more LED bulb) with minimum lamp life of 6000 hours, & light intensity equivalent to Xenon 300 watt/300-watt xenon with extra 5 xenon bulbs.
2. Backlit front panel indicators.
3. Equipped with automatic light adjustment forced air cooling, regulated air feeding pump and fan with low noise.
4. Compatible for waterproof one touch connector
5. Compact & light weight design weight up to 15 Kg.
6. Integrated/Separate, light weight and ergonomically designed.

Fiberoptic Bronchoscope Medical Grade Monitor

26" or more medical grade monitor compatible with the above quoted system.

Fiberoptic Bronchoscope system should be supplied with below mentioned items -

- Compatible trolley to mount the system
- HD Reporting and Reporting Software
- Computer system with i5 processor, 8GB RAM & 1 TB HDD or higher
- Laser color printer.
- Biopsy Forceps (2 No.)
- Mouth Guard (2No.)

Terms and conditions:

- The system must have standard comprehensive warranty of 5 years and should quote CMC for next 5 years.
- Should be European CE/US FDA certified/BIS/CDSCO/Indian Standards.
- CMC offered for the quoted equipment should not be more than 5% of the quoted model with not more than 5% escalation per year after completion of CMC period.
- CMC offered for the quoted equipment must be on OEM letterhead for further years. CMC offered on distributors / vendor letterhead will not be considered
- Installation process should be performed by OEM trained service engineer/ service representative on OEM's letter head/ service report, with a mandatory provision of providing preventive service visits of OEM trained service engineer/ service representative quarterly per year till completion of warranty period (i.e. 20 visits for first five years) and further quarterly visit (04 visits/ year) till the completion of CMC period.

- The installation process must be completed by the OEM/ Service provider within 30 days of supply.
- The accessories/ consumables utilized during the period of installation process should be taken care FOC by OEM/ Service provider.
- The equipment complies with the requirement of the Medical Device Directive of class I equipment and Electromagnetic compatibility; all supporting documents must be provided.
- Equipment should have brand name / model number embossed/ etched on the equipment.

In case of technical snag/ failure/ breakdown, the response time for Inspection should be within 72 Hour and repair within 10 days, otherwise provide a service machine until the period of recovery of breakdown of the unit. Failing which will attract penal action as per the decision of the INSTITUTE (Uptime guarantee of 95%).

Rigid Bronchoscope

1. The tracheal and bronchoscope tubes should be made of high quality stainless steel.
2. The assembly should include a HD (High Definition) / High quality (3 chip CCD video) camera head fully compatible with the viewing telescope.
3. The video processor provided should be compatible with the camera head and provide a high resolution output to medical grade flat screen high definition/resolution 20 inch or greater sized video monitor.
4. There tracheoscope and bronchoscope tubes should be without a distal fiber optic light carrier.

5. The trachea bronchoscope tubes should be of use with proximally insertable telescopes.
6. The bronchoscopes should be durable and should be able to be cleaned with commonly used sterilizing solutions without affecting the surface of the scope.
7. All the accessories should be compatible with the sheath
8. The complete system should be covered under warranty as per the AIIMS Jodhpur rules .
9. A dedicated imported trolley for carrying the entire system and recording equipment should be provided
10. The equipment should be USFDA or European CE approved
11. A recording system to be provided which should have facility for recoding and storage of media in both image and video format and allow transfer on removable storage (either CD or USB flash drive)
12. All metallic instruments and accessories should be autoclavable
13. Operating voltage - Power 220 V 50 Hz AC .
14. The system should include all the other possible accessories, UPS, power cables, fiber optic cables connectors etc. to make the unit fully functional.
15. The system should be provided with a laptop PC (Windows 7 OS, 750 GB Hard disc drive, 8 GB RAM, Core i-7 processor)

16. Price of all the accessories as mentioned should be included within the quoted price

17. Rate list of all possible spares, accessories and consumables should be provided as part of the financial bid by the company.

Technical Specification of Equipment:

1. Zero degree straight forward viewing telescope with integrated fiberoptic light transmission, diameter 4.5 mm ,working length of 50 cm length- 1 No.

2. Zero degree straight forward viewing telescope with integrated fiberoptic light transmission, diameter 2.8 mm, working length of 44 cm - 1 No.

3. Tracheoscope tube size 6.5 mm, length at least 30 cm- 1 No.

4. Tracheoscope tube size 12 mm, length at least 30 cm -1 No.

5. Tracheoscope tube size 14 mm, length at least 30 cm for application of stents -1 No.

6. Bronchoscope tube size 6.5 mm, length at least 40 cm - 1 No.

7. Bronchoscope tube size 11 mm for application of stents, length at least 40 cm-1 No.

8. Bronchoscope tube size 12 mm, length at least 40 cm-1 No.

9. Bronchoscope tube size 14 mm, length at least 40 cm for application of stents – 1 No.

10. Optical forceps, alligator -1 No.

11. Optical forceps, cupped jaws for biopsy-2 Nos.

12. Optical forceps, universal-1 No.

13. Optical forceps for removal of coins and flat foreign body-1 No.

14. Manual forceps alligator, diameter 2.5 mm at least 50 cm length-2 Nos.
15. Manual forceps round cupped jaws for biopsy, diameter 2.5 mm at least 50 cm length-1 No.
16. Manual forceps universal, diameter 2.5 mm at least 50 cm length-1 No.
17. Manual forceps for peanuts and soft foreign bodies at least 50 cm length-1 No.
18. Foreign body basket with handle > 50 cm length- 1 No.
19. Sponge holder forceps-1 No.
20. Cotton applicator forceps -1 No.
21. Insulated coagulation tube with connector for unipolar coagulation 1 No.
22. TONN Stent applicator system for deployment of silicon stents of diameter 14- 20 mm and 11- 13 mm consisting of Folding System, Clamping Rod, Loading Rod, Introducer Tube length 42 cm, with 2-ring handle and Pusher-1 Set (Red 1 and Green 1)
23. Dedicated forceps for opening and deployment of silicon stents- 1 No.
24. One set of boogies.
25. Silicone stent (3 each) : Tracheal stent with wall thickness 1.5 mm, Thin tracheal stent with wall thickness 1.0 mm, Bronchial stent with wall thickness 1.0 mm, Carina stent with wall thickness 1.0 mm, Total carina stent with wall thickness 1.0/1.3 mm

26. Controlled Radial Expansion Balloon dilator (Wire Guided) size of 6-8 mm, 8-10mm, 10-12mm, 12-14mm-2 each.
27. Each Balloon Inflation System for CRE Balloon-1 Set
28. Should be accompanied with all accessories essential for the functioning of the equipment including:
29. Prismatic Light Deflector - 5 pieces
30. Rubber telescope guide - 20 pieces
31. Glass window plug - 10 pieces
32. Movable adaptor with sealing cap - 5 pieces
33. Injection cannula for positive pressure ventilation - 5 pieces
34. Adaptor for respirator - 10 pieces
35. Instrument guide - 10 pieces
36. Rubber tipped suction catheter (4 mm) of at least 50 cm length with adaptor-10.
37. Adjustable head rest for positioning of patients head during the procedure -1
38. Flexible suction catheters - at least 100
39. Cleaning brushes - 5
40. Equipment carrying case (for the tubes and forceps) – 1
41. Anti fog solution -30 ml - 15 bottles

42. High resolution 3 chip video camera CCU and head - 1 No. [3x1/2" CCD image sensor chip, Resolution : 750 lines - 800 lines horizontal. Picture element = 752 (h) x 582(v) pixels per chip, Min. sensitivity : 3 lux (f=1.4), AGC: + 18 db, signal to noise ratio > 60 db., Camera should have integrated parfocal zoom lens, F=25-50mm, It should have DV output and image processing module and it should have image freeze function, Programmable control buttons on camera head for controlling, Gain , white balance shutter speed, video printer and recorder, Keyboard input . for data entry through built in character, Generator, Camera should be compatible with FBAS, S-VHS and RGB, Manual or automatic exposure control (1/50 sec. —1/10000), Should have automatic white balance with storage functions, For two white balance values, Unit should be certified to IEC 601-1, CE according to MDD.]

43. LED (175-300 W) light source with cable compatible with the unit -1 No. 44. High resolution medical grade flat screen 20-inch monitor for the system -1No.

Peak flowmeters

- Unsuitable substance Products that attack ABS (Acrylonitrile butadiene styrene)
- Material ABS (Acrylonitrile butadiene styrene) Plastic Flow Meter with cardboard mouthpieces
- Temperature resistance (°C) -10 to +50°C
- Storage temperature (°C) 0 to +50°C
- Relative humidity (%) 10 – 95%
- Measurement range 50 – 800L/min
- Accuracy Above +/- 10 L/min or +/- 10% of the measurement
- Reproducibility Above +/- 5 L/min or +/- 5% of the measurement
- Leakage resistance 0.00384 kPa/L/min – 720L/min kPa/l/min
- Standard zone 50-800 L/min BTPS

- Frequency response Difference between A/B profiles below 15 l/min/15%
- Meter for mechanically measuring PEF (Peak Expiratory Flow) Can measure the intensity of an asthma attack and reveal a respiratory deficiency. Adjustable zone marker (green - yellow - red).

Pleural Biopsy Needles

- Size: G 11x3
- Reusable
- Components made from medical stainless steel nickel plated brass
- A 3 part instrument use full for pleural biopsy
- Luer lock compatible
- It should be standard TGMP/ISO/ISI/CE/FDA