



TECHNICAL SPECIFICATION FOR MEDICAL EQUIPMENT

Equipment: Electrical Dental Unit and Chair (Quantity-02)

OBJECTIVE

A dental chair is a special chair used in a dental practice to support a patient during a dental procedure. Dental chairs usually have several features, such as adjustable headrests and footrests, a seat that can be raised or lowered, and a chair-back that can be reclined.

Main units:

1. Dental Chair
2. Dental Xray Unit
3. Dental Xray Digitizer
4. Compressor
5. Dry suction

SPECIFICATIONS

BASIC DENTAL CHAIR- STANDARD EQUIPMENT AND FEATURE

DOCTOR SIDE

- Trifold Dental Chair Doctor tray table with 5 or more instrument holder (cart type), pull-type Ergonomic saddle type operator's chair; upholstered with top-grade leather
- Digital control panel; Integrated for all functions of the chair including intra-oral camera.
- High speed air turbine circuit with fiber optic 4H tubing (2) units with adaptor (2 pieces) for 2 to 3 holes including with 2 handpieces with ceramic bearing (autoclavable).
- Low speed air motor circuit with 4H Tubing (1) unit with one (1) autoclavable air motor handpiece with removable adaptor.
- Doctor side 3-way syringe system with tubing (1 unit)

- Doctor side multi-functional keypad switch
- Multiple preset positioning and zero positioning

ASSISTANT SIDE

- Assistant chair top-grade leather upholstery
- Assistant Instrument, 3 holders
- High power suction system with syringe
- Saliva ejector system capable of connecting disposable ejector tips.
- 3-way syringe system
- Assistant side multi-functional keypad switch and control panel
- Emergency stop system including chair system.

SPITTOON UNIT BODY

- Hygienic ceramic spittoon with water basin
- Sensor-type cup filler
- Flushing and draining system supported by solenoid valves
- Manual water control knobs for water drain On-off switches for basin water and cup filler
- It should have rotatable water system with removable spittoon.

LED OPERATING LIGHT

- On-Off by automatic positioning
- Operating light On-Off by sensor (hand movement sensor)
- It should have integrated latest foot operated LED light (30000 - 50000 Lux).
- It should have LED light cure unit with minimum intensity 1200 mW/cm².

FOOT CONTROLLER

- Foot pedal for handpieces and levers for chairs movements
- Switch for water supply for handpieces
- Switch for light On-Off
- Emergency stop pedal

ARMREST

- Left and Right (L/R) Armrest (right side, adjustable for patient's entry)
- Arm of unit should be pneumatically locked.

JUNCTION/CONTROL BOX

Main electric, air and water switches Adjustable to local line voltage

CHAIR DRIVING SYSTEM

Hydraulic system

VACUUM SYSTEM

- Medical grade, Oil free, Noise free at least 1 HP Compressor.
- The compressor should be fitted with
 1. Built in thermo cut off to save motor during excess of heat
 2. Auto head air release valve
 3. Automatic cut off
 4. Safety release valve
 5. Drain Valve
- The inner surface of the compressor tank (at least 35 L) is coated with Epoxy to prevent rusting.
- Motor vacuum system recommended over Air vacuum system.

GENERAL REQUIREMENT

- It should have two high speed Air rotor terminals with two rotor hand pieces and accessories and one terminal for fiber optic. One for air motor/micro motor having straight and contra angle hand pieces and other for air rotor terminal with two air rotor hand pieces with two spare cartridges.
- All hand pieces / terminals should be kept on Autoclavable pads. Minimum 10 spare autoclavable pads should be supplied.
- All air tubing of the delivery system can be disinfected internally after every dental procedure.

- It should have one in built piezo ultrasonic scaler (max frequency should be 36 KHZ)
Removable auxiliary tray (autoclavable) shall be supplied – 10 sets.
- It should have Medium Vacuum Suction and high suction (Motorized Suction).
- It should have Dry Suction unit with high sucking power with pressure adjusting valve
- Should have following multiple programmers
- At least two programmable working positions.
- Spitting and last working position with light ON and OFF automatically.
- Return to Zero position with light OFF automatically.
- It should have emergency stop control with luminous indication.
- Programmable bowl water and cup filler water.
- It should have LED based X-ray viewer (For I.P.G/O.P. G films).
- It should have multi-functional foot control base.
- It should be provided with two stools with adjustable backrest tilt including an adjustable ring for foot rest
- Oil free medical grade compressor of 1 HP (fully imported)

ADDITIONAL SPECIFICATIONS:

- Micromotor circuit & tubing
- Built-in type ultrasonic scaler (piezo type) scaler tips for various sizes (12 pieces)
- Built-in type light cure unit. (standard)
- Built-in type Intraoral camera
- Dental film viewer (Negatoscope) that accommodate Periapical, Cephalometric and Panoramic films.
- Flat screen smart monitor, 15” to 18”
- Water warmer
- Motor suction wet or dry system Capability for 90 deg.
- Upright positioning of the back rest
- Removable Converter or Adapter from 4 holes to 2 holes if needed
- Durable – corrosion resistant parts and easy to disinfect with one (1) unit Air Compressor, 1 HP capacity

SPECIFICATION FOR DENTAL X-RAY

- Operation should be conventional as well as automatic, wall Mounted type.
- Completely micro controller based digital timer assuring the accuracy of the exposure time selected.
- Ease of operation as all the functions can be selected from the remote control as well as timer.
- Feather touch keypad and length of exposure cable should be 5 to 6 meters.
- Digital timer with the accuracy of 0.01 Sec (0.01 Sec to 4.00 Sec).
- Patient selection Switches (Thin, Normal and Obese)
- An excellent output of 65 kV to 70 kV, 7mAs to 10 mAs
- Audible and Visual indication of “X-Ray On” (Radiation indications).
- Should provide compatible voltage stabilizer (Built in).
- Excellent, Mechanical maneuverability, long reach scissor arm.

SPECIFICATION FOR RVG

- SUPER CMOS/CCD Technology
- Sensor Size No.1 (universal)/ Size No.0 (pediatrics)/Size No.0 (optional).
- No. of Pixels 16 lp/mm – 24lp/mm (true solution).
- Pixel size is 18.5 x 18.5 micron.
- Should provide compatible software with Image capture, enhancement and manipulation tools.
- Wireless sensors or Sensor cable length should be 3 meters and reinforced for durability and reliability
- Computer system with all necessary accessories required for RVG

QUALITY STANDARD

- Manufacturing should be compliant with ISO 13485, and ISO 9001:2008/2015
- Should be compliant with European CE Class IIA or US FDA
- Equipment must meet electrical safety specifications of IEC 61010-1.

ADDITIONAL REQUIREMENTS:

- All equipment should specify qualifications for design, installation, operation and performance.
- Validation and calibration reports should have traceability to applicable international standards
- A minimum warranty period of five years is mandatory (a standard 2-year warranty and an extended 3-year warranty).
- The brand, rating, model, description, specifications, price quantity of each item should be furnished separately.
- Necessary catalogues, technical write up in English, should be attached with the offer both in hard and electronic copies.
- Performance, efficiency, other factors as applicable should be furnished.
- Demonstration and continued comprehensive training for user/biomedical staff and support services till expertise with the system.
- The parts and service guaranteed availability of parts and services for ten (10) years.
- Clear documentation of installation procedures and user training protocols is required.
- Successful bidders must be prepared to commit to a comprehensive maintenance contract, ensuring ongoing service support for the supplied dental equipment.



TECHNICAL SPECIFICATION FOR MEDICAL EQUIPMENT

Equipment: Dental soft tissue diode laser (Quantity-01)

OBJECTIVE

Dental professionals who use lasers perform more procedures, in less time, with better results than those using traditional methods. Their patients also benefit from faster treatment with less overall discomfort.

SPECIFICATIONS

1. The below mentioned dental applications should be available in the quoted model:

- Oral Soft Tissue Applications
- Soft Tissue Surgery
- Periodontal, Hygiene
- Excisional and incisional biopsies
- Exposure of unerupted teeth
- Frenectomy
- Gingival troughing
- Gingivectomy
- Gingival incision and excision
- Hemostasis
- Implant recovery
- Abscess incision and drainage
- Laser periodontics
- Laser soft tissue curettage
- Oral papillectomies

- Pulpotomy
- Reduction of gingival hypertrophy
- Soft tissue crown lengthening
- Sulcular debridement
- Canker sore treatment, Vestibuloplasty, Whitening/Bleaching
- Laser pocket therapy & pain relief therapy

2. Laser classification: Class IV

3. Wavelength: 950nm +/- 10 nm and Laser medium- InGaAsP Semiconductor diode

4. Should have Remote Interlock or Higher Interruption.

5. Pulse Interval should be: - 0.01ms - 20ms

6. Pulse Duration should be: - 0.01ms - 20ms

7. Fiber Tip Diameter should be: - 300 micrometer or more

8. Tip sterilization method should be disposable tip.

9. It should have Nominal Ocular Hazard Distance of 4.77 meters.

10. Should have 8-22 degrees per side angle beam divergence.

11. Power Mode: Continuous, Pulse Modulation, Single Pulse.

12. Maximum Output Power should be of 10 W.

13. Should have display touch screen and additional option of foot operated control and remote lock.

14. It should be operable at 100v-240v and 50/60 frequency.

15. Should have aiming beam of maximum 1mWatt, 625Nm or more, class-II.

16. Should provide Autoclave-able fiber tips of 250-300 microns.

17. Should provide Fiber cable length of 3 meter or more.

18. Should have facility of emergency stop button control.

Accessories

- a. Safety Glasses/ Laser Protecting Goggles- 2 Nos.
- b. Eye Protection Filter/ Patient opaque eye shield- 2 Nos.
- c. Fiber cords- 2 Nos.

Quality Standard

- Manufacturing should be compliant with ISO 13485, and ISO 9001:2008/2015
- Should be compliant with European CE Class IIA or US FDA
- Equipment must meet electrical safety specifications of IEC 61010-1.
- The quoted model should be certified IEC 60825-1, Particular requirements for the safety of laser products.

Additional requirements:

- All equipment should specify qualifications for design, installation, operation and performance.
- Validation and calibration reports should have traceability to applicable international standards
- Warranty for 3 years and CMC/AMC for five years with spare parts availability.
- The brand, rating, model, description, specifications, price quantity of each item should be furnished separately.
- Necessary catalogues, technical write up in English, should be attached with the offer both in hard and electronic copies.
- Performance, efficiency, other factors as applicable should be furnished.
- Demonstration and continued comprehensive training for user/biomedical staff and support services till expertise with the system.