

No. IV-21011/19/2010-Prov-I
Government of India
Ministry of Home Affairs

26, Man Singh Road, Jaisalmer House,
New Delhi, 8.3.2011


To
The ADG (Medical), Central Paramilitary Force Medical Services,
ITBP, TIGRI,
PO Madangir,
New Delhi-110016

Subject:- Specifications for **Dental Chair(Advanced Dental Operatory/chair)** - approval thereof.

Sir,

The Specifications for the **Dental Chair(Advanced Dental Operatory/chair)** for CPMFs Hospitals have been approved by the Competent Authority in MHA and the same are enclosed for information and Record.

Yours faithfully,


(S.B.Nanda)
Under Secretary

OK

Encl. as above

ISSUED
P.B. No. 18/06
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QRs/TECHNICAL SPECIFICATIONS OF DENTAL CHAIR (ADVANCED DENTAL OPERATORY/CHAIR)

GENERAL DESCRIPTION

- *Chair mount Dental Unit Complete with all respects which should swivel Left to Right & vise-versa for Left or Right handed dentist.
- * Should be full physiologic body contoured, completely motorized hydraulically driven chair with absolute smooth non-jerky, soft-start and soft-stop movements.
- *The Dental chair should be programmable with at least four programs, of which two programs for patient entry, one for rinse and one for patient exit, for two dentists A&B. One of the four programs should be to set head low position in case of medical emergencies. Chair should have synchronized movement that when head rest goes down in supine or head low position the foot end of the chair board should raise. The chair should be programmable with a touch of a button.
- *Chair should have possibilities of swivel left and right from base unit.
- * Arm rests should be multi-functional & easily adjustable.
- * Multi-purpose, adjustable head rest for comfortable support of head, which should also be adjustable for paediatric & handicapped patients for exact adaption to the back of the head.
- * Touch pad control system should be multi-functional for chair & unit master On/Off, Halogen Light On/Off with variable intensity, Bowl Flush Tumbler Fill, Full chair function manual & programmable positioning.
- * It should have functions for light cure unit, Intra Oral Camera, Micro Motor with Endo function. All in-built
- * In built Anti-retraction valves and flush valve system for infection control.
- * Multifunction, easy to use foot-switch. It should provide all chair movements, adjustable and programmable position.
- * Integrated 17 inches LCD/ TFT monitor should be provided for RVG (brand should be mentioned).

OPERATING LIGHT

Should have an optically designed multi surface shadow less glass reflector having multi intensity Controls.

- * Light head should have variable axial movements
- * Should have Quartz halogen Xenon bulb with spare bulb and holder
- * Should have feathered-edge, balanced intensity light pattern.
- * Should have multi position intensity switch with high medium and composite setting.

SUCTION AND SYRINGES

Should have high and low volume-motorized suction system with separating tank and automatic self-cleaning separating tank to allow continuous draining and equipped with fine particles collector and amalgam separators.

- * Should have swivel vitreous China Bowl with adjustable cup fill and Bowl rinse timbers.
- * Should have clean water bottle system.
- * Should have autoclavable saliva ejectors auto clavable high
- * Volume evacuator and autoclavable. six way syringe.

CERAMIC SPITTOON & TUMBLER WITH WATER CONNECTION AND AUTO START

FOOT CONTROL.

Multifunctional, easy to use foot control. It should provide all chair movements, adjustable and programmable position

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DENTAL WORKING STOOL FOR DENTIST AS WELL AS FOR ASSISTANT

- * Should have cast-aluminum base with five castors
- * Should have adjustable lumber support
- * Integral hydraulic system for height adjustment

MODULAR OVERHEAD DELIVERY SYSTEM WITH WHIP DOWN ARMS (CONTINENTAL DELIVERY SYSTEM) ON PNEUMATIC BRAKE ARM.

- * Two terminals of fiber optic head Air rotor hand pieces:
- * One short head and one stand head air-rotor hand pieces with spray and non-retraction valve.
- * One micro motor (40,000 RPM) with fiber optic straight and contra hand pieces and one endo hand piece.
- * Ultrasonic Endo dontic hand piece: One complete set of ultrasonic endo dontic tips and files.
- * All hand - piece tubing should be of vinyl material.
- * Unit block should be of pneumatic.
- * No solenoid or kink valves.
- * All water line tubings should be made of good quality material. Tubing should have silver particle ionization to protect water line.

THE FOLLOWING ACCESSORIES WILL PART OF THE EQUIPMENT TO BE SUPPLIED.

LIGHT CURING UNIT LED-BASED WITH PROTECTIVE SHIELD

- * It should be attached with Chair Unit.
- * Noise less & without fan.
- * Should be able to cure to a depth of 3-6 mm.
- * Should have microprocessor with three modes: fast, pulse and ramping.
- * Should be without infra-red.
- * Light intensity should be able to generate optical power of minimum 1,000 mW/cm².
- * Wavelength range 420-480 nm.

PIEZO ELECTRIC SCALER

- * It should also be provided in over head delivery module.
- * It should have automatic protection control for maximum safety.
- * Ultrasound frequency ranging anywhere in between 27,000-38,000 Hz.
- * Should be provided with frequency tuning
- * Should have an intelligent control system of amplitude according to the resistance encountered by the tip and the setting mode selected.

INSTRUMENT TABLE

- * Stainless steel removable instrument trays (quantity – 2 nos).
- * Must have swing –arm with wide swivel.
- * Size not less than 20`x 8`.
- * With height adjustment and locking facility.

OIL FREE COMRESSOR

- * It should be compact and silent with internal anti- corrosive reservoir.
- * It should be One Cylinder made up of cast iron, oil free with dry air system.
- * It should have tank capacity of at least 20 Liters.
- * It should have auto cut-off switch.
- * Pressure range: anywhere in between 5 to 9 bar
- * Should have suction capacity of 100 to 120 Liters per minute at least.

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X-RAY VIEWER: For Viewing IOPA(Intra Oral Peri Apical Area)

RVG UNIT INCLUDING INTRA-ORAL X-RAY MACHINE, COMPUTER, USB CAM (HIGH RESOLUTION DIGITAL INTRA-ORAL CAMERA):
INTRA- ORAL X-RAY MACHINE, MICRO-PROCESSOR CONTROLLED, COMPATIBLE TO RVG

- * Tube current : 70 Kv
- * Focal spot: 0.8 mm.
- * Focus to skin distance : standard 20 cm.
- * Duty cycle: At least 1:32, i.e. waiting time between two exposures for cooling of X-Ray tube (10-20 sec at least).
- * Timer settings : Child / adult selection , upper and lower jaw selection, also bitewing and occlusion function.
- * Exposure times : range from 0.02 to 3.2 sec at least.
- * Low-Dose setting for digital receptor.
- * Facility of remote operation should be provided.
- * Automatic correction facility for mains fluctuations.
- * Hand switch timer with at least 3 mtr coiled cord.
- * Hygienic touch- buttons.
- * Radiation safety apron should be provided.
- * Double pantographic arm with vertical & horizontal smooth movements, floor mount, mobile on castors.
- * The system should comply with national quality certification / international standards for radiation safety including CE/BARC/AERB certified

DIGITAL INTRA-ORAL CAMERA SHOULD HAVE FOLLOWING SPECIFICATION

- * Should be portable, light weight, convenient and user friendly.
- * Should be card free & should have USB cable connectivity.
- * Should have focus free optics & fog free.

RVG SENSOR & SOFTWARE

- * Theoretical resolution : 20 lines per mm or more
- * Actual true resolution: 15 lines per mm or more
- * Gray shades that can be resolved 4000 minimum.
- * Number of pixels in sensor: 1.8 pixel minimum.
- * The product should be totally mobile and connected to PC through USB.
- * Sensor should have smooth surfaces with rounded corners & edges for patient comfort.
- * Should have image sharpness filters.
- * It should have interface features like direct integration with other devices like intra-oral camera, panoramic systems, scanners, etc.
- * Conversion / up gradation of the software should be available.
- * Length of sensor wire should be minimum 2 mtrs.
- * Sensor should be provided with software facility to enhance zoom, colorize, invert & rotate the image.
- * Sensor life >400,000 exposures.
- * Should have auto take features – no need to reset between exposure.
- * Should be DICOM compatible, user-friendly and powerful program that acquires processes and archives images.
- * Should have caries detection software.
- * should be supplied with sensor holder.

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- * COMPUTER with latest configuration (256GB HDD, 2 GB RAM, Intel core2 duo processor > 2.5GHz, with windows 7 OS).
- * 17" TFT screens (One mounted on chair and other on desk) and colour printer with appropriate cabinet for computer and printer (make /model of the computer / peripherals should be mentioned).

EDNDODONTIC MICRO MOTOR WITH BUILT IN APEX LOCATOR:

- * Electronically controlled, endodontic micro-motor with built in apex locator.
- * Should start automatically once file enters the canal & stop automatically once it reaches preset position near apex.
- * Should stop and reverse if the file clogs in canal.
- * Should negotiate curved canals.
- * Should have high, low & manual speed modes with auto-torque detection.
- * Autoclavable hand piece, mini contra-head for easy access & viewing.

GLASS BEAD STERILIZER (ISI CERTIFIED) FOR DISINFECTING ENDODONTIC FILES WITH APPROPRIATE RATINGS

DIGITAL- ELECTRONICALLY CONTROLLED STEAMFAST AUTOCLAVE TABLE TOP TYPE

- * Micro – processor controlled electronics.
- * Patented steam generation system.
- * Capacity 16-20 liters at least.
- * Customized vacuum drying.
- * Wide range of sterilization programmes.
- * Also should have an option of emergency sterilization program of at least 10 minutes lesser than this is desirable.
- * Integrated water filling & draining tanks.
- * Electronic –controlled locking system for additional safety.

STABLIZER

- * High quality, ISI certified, with appropriate ratings for above operatory.

HAND PIECE STERILISER

- * UV hand piece sterilizer system with automatic maintenance programme for cleaning and lubrication of all types of hand pieces.

DENTAL ULTRASONIC CLEANING UNIT BENCH TOP

- * Bench Top cleaner with electronic timer. Water resistant construction, stainless steel tank, with 2 to 3 liters capacity.

INSTRUMENT CABINETS

- * One Sterile UV light storage cabinet for autoclaved instruments.
- * One dental instrument stackable cabinet having wash basin, top made of artificial marble / granite, durable, easy to clean with at least 3-4 separate drawer compartments, with inner power supply socket to use small equipments.
- * One mobile stackable cabinet should also be provided.

SYSTEM CONFIGURATION ACCESSORIES, SPARES AND CONSUMABLES:

- * All consumables for installation / standardization of the system should be given free of cost.
- * Complete installation of the system including water input and drainage has to be installed.

STANDARDS AND SAFETY:



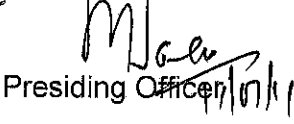
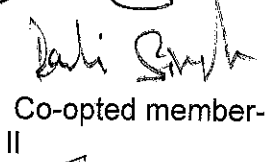
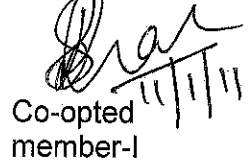
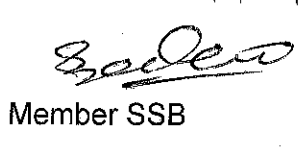
- * The accessories of the dental unit should carry appropriate certifications like FDA/CE/BIS/ISO/IEC/ISI, whichever applicable. Make and model of all accessories / attachments should be specified.

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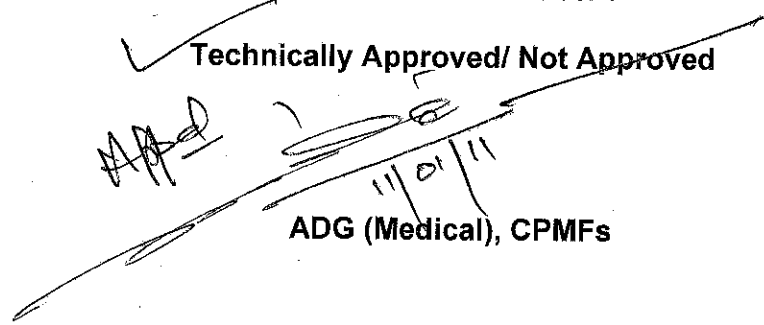
- * Manufacturer should have ISO certification for quality standards
- * Comprehensive warranty for two years and next 5 years CMC charges after warranty
- * Comprehensive training for technical staff and support services till familiarity with the system

DOCUMENTATION

- Certificate of calibration and inspection.
- User./Technical/maintenance manuals to be supplied in English.
- List of equipments available for providing calibration and routine preventive maintenance Support, as per manufacturer documentation in service/technical manual
- List of important spare parts and accessories with their part number and costing
- Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out..
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue, will not be considered.

Member ITBPF	 Member CRPF	 BSF Member	 Presiding Officer
	 Co-opted member-II	 Co-opted member-I	 Member SSB

✓ Technically Approved/ Not Approved


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