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ސަފްޓްވާރެ: (IUL)ASMH-Procure/ASMH/2023/61

ޖަސީދު ޖެނެރަލް ސަކަރު ޤަޞިމް ޖަސީދު ޤަޞިމް ޖަސީދު ޤަޞިމް ޖަސީދު
ޤަޞިމް ޖަސީދު ޤަޞިމް ޖަސީދު ޤަޞިމް ޖަސީދު ޤަޞިމް ޖަސީދު



- 13.6. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 13.7. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 13.8. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 13.9. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 13.10. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.

14. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު

- 14.1. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 14.2. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.

15. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު

- 15.1. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.

16. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު

- ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 16.1. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 16.2. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 16.3. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 16.4. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.
- 16.5. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.

17. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު

- 17.1. ޖަލުގައި ހުންނަ ފަރާތްތަކުގެ ސަލާމަތު ބަލައި ނެގުމަށް ފޯމު ފުރިހަމަކުރުމަށް ފޮނުވާ ފޯމު.

Specifications for Dental Treatment Center

Ergonomics and Ease of use

- Fully electronic system with touch screen
- Programable quick positions of at least 2 patient treatment positions, Spitting position and exit/entry position.
- Memory function of r at least 2 doctor profiles.
- The tilting of the backrest must be with combined movement of the backrest and the seat, which prevents stretching and compression of the spine.
- Chair lift system for 185kg
- 2 arm rest, foldable right arm rest for easier patient access
- Double articulated head rest
- The system must be incorporated with a joystick type foot operated 4-way switch.
- Fully Electronic foot switch with no air and water hoses must have quick functions for at least 2 patient treatment positions, Spitting position and exit/entry position.
- Gap-free design of the surfaces to maximize the infection control in the shortest time possible

Endodontic Treatment Operation

- Integrated Torque control
 - o Speed and torque must be adjustable, and the motor must stop automatically when the set maximum torque is reached. By this way system must ensure greater safety and perfect workflow for endodontic treatment.
- Apex Locator
 - o Apex Locator function must be integrated into the touch screen to allow for permanent control of the working depth during endodontic treatment and a reduction of X-ray exposure.

Dentist Element

Dentist element with the following features

- 1st Position for 3-way Syringe
- 2nd Position for turbine
- 3rd Position for 2nd Turbine
- 4th Position for Electric motor
- 5th Position for Ultrasonic Scaler* – Must be detachable and autoclavable at 134 °C.
- 6th Position for Intra Oral Camera (Camera must be with Auto focus and HD Quality or Superior)
- All the handpieces including 3way syringe must be with light source.
- Dentist element must be very flexibly movable.
- Large work area for working trays or detachable tray.
- Ability to control water pressure/flow from the dentist element.

Assistant Element

- Assistant Element with the following
- Touch pad for quick positions, cup fill and cuspidor flush
- 1st Position with 3 way syringe
- 2nd Position with Curing light
- 3rd Position with High power Suction
- 4th Position with Saliva Ejector

Water Unit

Water unit must be with following features

- Removable cuspidor / Ceramic or glass – disinfectable at 90°C.
- Cup fill control from Dentist element and assistant element
- Automatic Separator (A separate dry suction unit must be supplied). All the fluids aspirated thought the suction system must go through the drain without going through the suction unit. Suction system must be easy to clean with easily removable residue reservoir autoclavable at 134 °C

- Fresh water bottle with manual switch over from city water line for controlled water quality or for the disinfection and sanitization.
- Automatic suction hose cleaning of saliva ejector and HVE tubing
- Purge function to automatically purge all instrument waterlines on the dentist and assistant side.

Operating Light

- Operating light with LEDs bright enough to provide 40,000 Lux of brightness with 7 brightness settings as well as 3 different color temperature levels from 4,600K – 6,200K
- Operating light must be with removable autoclavable handles (at 134 °C) to ensure infection control.
- Ergonomics
 - o Intelligent functionality with control options of contact-free sensor and user interface of the treatment center
 - o Easy movements with 3 movable joints to allow positioning of the operating light field to exact area of focus
- Optimal light field for perfect viewing conditions
 - o With a light field of 200 mm x 100 mm, operating light must provide perfect and uniform illumination of the entire oral cavity. There must be no shadowing and glare during treatment.
- Natural light for ideal working conditions
 - o The operating light must be with integrated multicolored LEDs to provide the perfect mixture of light. Both the gingiva and hard tooth substance must look exceptionally natural to provide greater treatment safety.
- Easy processing of filling material with one switch
 - o The composite mode of operating light must allow for a targeted reduction of blue light components to prevent premature hardening of light cured filling materials to ensure treatment at a relaxed pace and without time pressure.

Integrated Monitor and USB interface

- USB interface in the dentist or assistant element
- Network interface in the treatment center
- A medical grade monitor must be mounted in the Operating light support column to view the medical x-ray images and intraoral camera images.

Warranty and After sales service

- Minimum 12 months warranty must be provided for the equipment and accessories unless otherwise stated in this document.
- Equipment must be installed by the supplier on FOC basis.
- In-service user training must be provided.
- Trouble shooting service training must be provided for the technicians and engineers of the hospital.
- Connectivity to the available imaging systems to the monitor provided in the treatment center must be facilitated by the supplier.
- Care and cleaning guides must be provided.

Compliance Standards

- Treatment center and all the equipment must comply to the following standards
- IEC 60601-1 (electrical, mechanical, and software safety)
- IEC 60601-1-2 (electromagnetic compatibility)
- IEC 60601-1-6 / IEC 62366 (usability)
- IEC 62304 (Software Process)
- ISO 6875 (patient chair)
- ISO 7494-1 (dental treatment units)
- ISO 7494-2 (dental treatment units, water, and air supply)
- ISO 9680 (operating light)
- ISO 11143 (amalgam separator)
- EN 1717 (connection to the drinking water system)

- CE marking in accordance with the provisions of Council Directive 93/42/EEC of June 14, 1993 concerning medical devices.
- comply with the requirements of the RoHS Directive 2011/65/EU.
- The treatment center must meet the requirements of CAN/CSA-C22.2 No.60601-1 And AAMI/ANSI ES 60601-1.
- US FDA

Equipment and accessories to be supplied with the Treatment center.

Doctors stool

1x Doctors stool with rotatable back rest and foot ring

- Must be height adjustable for the user heights of 1.50 to 1.80 m

Assistant Stool

1x Assistant stool with rotatable back rest

- Must be height adjustable for the user heights of 1.50 to 1.80 m

Electric motor Handpieces**

1. 2x Contra angle cavity and crown Handpiece preparation with speed up to 200,000 with gear ratio of 1:5. Head diameter of <9mm and head height of <15mm. Handpiece must have 4 nozzles for water spray. Integrated fiber optic channel for illumination. Must be autoclavable at 134 °C.
2. 2x Contra angle Finishing Handpiece with speed up to 40,000 RPM with gear ratio of 1:1. Head diameter of <9mm and head height of <12.5mm. Handpiece must have at least 1 nozzle for water spray. Integrated fiber optic channel for illumination. Must be autoclavable at 134 °C.
3. 2x Contra angle Excavating Handpiece with speed up to 6,000 RPM with gear ratio of 6:1. Head diameter of <9mm and head height of <12.5mm. Handpiece must have at least 1 nozzle for water spray. Integrated fiber optic channel for illumination. Must be autoclavable at 134 °C.
4. 2x Straight Preparation Handpiece with speed up to 40,000 RPM with gear ratio of 1:1. Must have at least 1 nozzle for water spray. Integrated fiber optic channel for illumination. Must be autoclavable at 134 °C.
5. 2x Straight Preparation Handpiece with speed up to 40,000 RPM with gear ratio of 1:1. Must have at least 1 nozzle for water spray. Must be autoclavable at 134 °C.
6. 1x Contra angle Endo handpiece speed of up to 6,000 with gear ratio of 6:1
7. 1x pack of 6 or more Silicon sleeves for use with contra angle endo handpiece for the detection of apex location. Must be autoclavable at 134 °C.

Turbine handpieces**

1. 2x Turbine handpieces with 26W power and idling speed of 370,000 for cavity preparation with head diameter of 11.4 mm with head height of 12.7mm. With water spray nozzles and integrated fiber optic channel for illumination. Must be autoclavable at 134 °C.
2. 2x Turbine handpieces with smaller head for the difficult to access areas with 21W power and idling speed of 410,000 for cavity preparation with head diameter of 9.7 mm with head height of 12.7mm. With water spray nozzles and integrated fiber optic channel for illumination. Must be autoclavable at 134 °C.

Coupling system for turbine hand pieces and electric motor

1. 2x quick coupling compatible for the offered turbine handpieces.
2. 1x Motor with speed of 40,000RPM compatible for the offered handpieces and the endo control features mentioned in this document.

Ultrasonic Scaler tips

1. 4x tips for scaling (Sizes will be selected by the hospital)
2. 2x tips for root treatment (Sizes will be selected by the hospital)

Air Compressor***

1x Air compressor with following features

- Compressor must be oil free with membrane drying unit.
- Must be with software control.
- Network connection capability to notify about scheduled maintenance, filter replacement, error warnings with detailed information about possible causes and remedies.
- Delivery rate min 60L/min
- Pressure range 6-7.8 bar
- Noise level not more than 64 dB(A)
- Voltage 230V AC, 50Hz
- Tank Capacity min. 20L

Suction Unit***

1x Suction unit with following features

- Quiet and powerful suction motor
- Housing component and high precision runners must be made from coated aluminum or highly corrosion-resistant plastic
- Noise level not more than 65 dB(A)
- Voltage - 230V AC, 50Hz
- Vacuum pressure -180 mbar
- Flow rate with unimpeded flow – 700 l/m

Hygiene covers.

- 1x Silicone Pads – Autoclavable at 134 °C.
- 1x set of Silicone sleeves for handles of dentist element – Autoclavable at 134 °C.
- 1x set of handles for Operating light – Autoclavable at 134 °C.

Legend

* Ultrasonic scaler model must be able to provide tips for the applications of Scaling, Periodontology, Filling therapy, Micro preparation, Retrograde Root treatment and Implantology

** Must be supplied with 2-year warranty

*** Must be supplied with 3-years Warranty