DENTAL CHAIR

CLESTA

INSTALLATION

and

OPERATING

INSTRUCTIONS

Belmont

CE

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Intended Use of the Product

This product is intended for the exclusive use for diagnoses, treatments and relative procedures of dentistry, and must be operated or handled by the qualified dentists or by dental staffs under the supervision of the dentist.
Such dentists or dental staffs should instruct and/or assist the patients to approach to and leave from the product.
Patients should not be allowed to operate or handle the product unless he/she is so instructed.

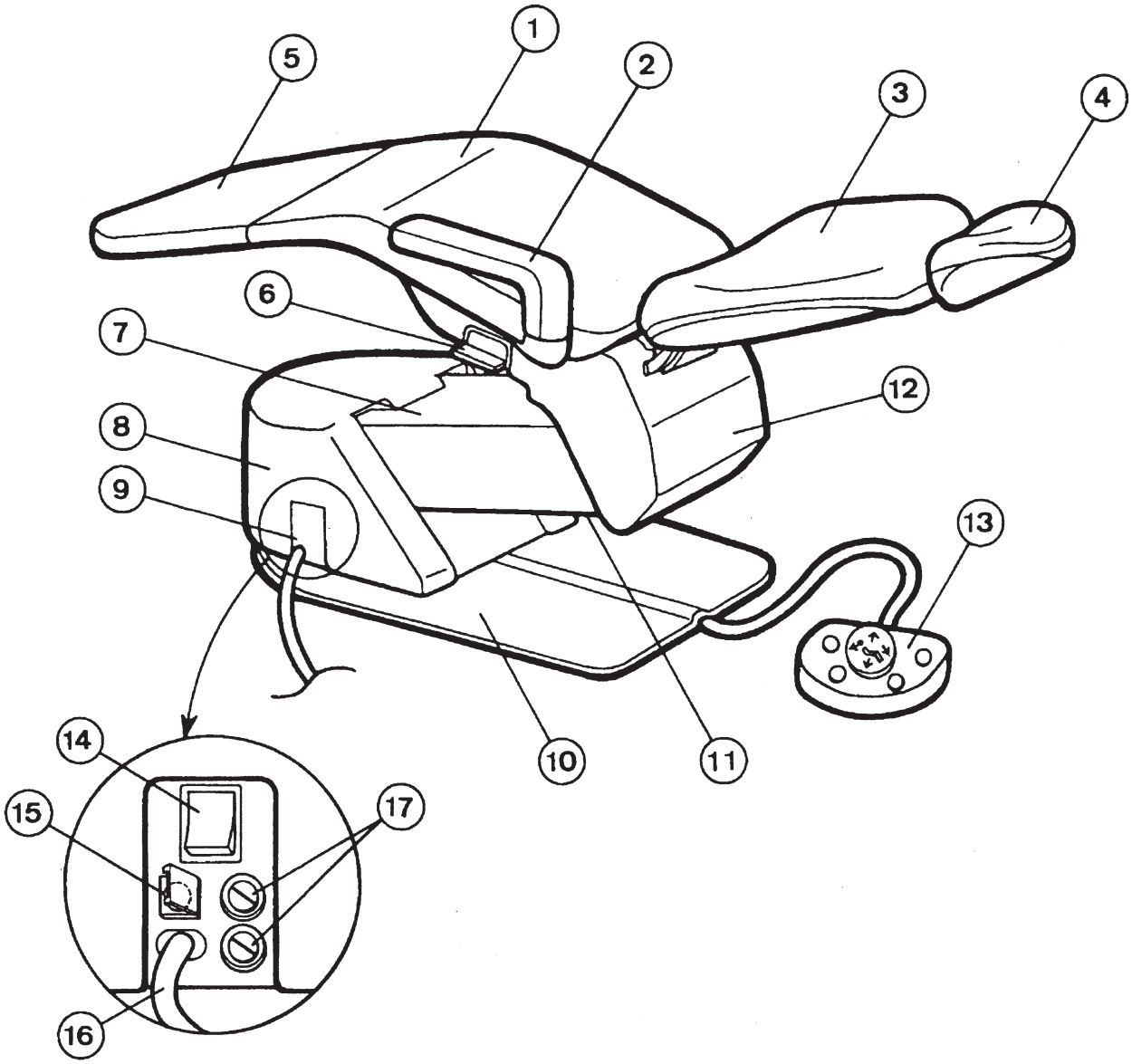
Environmental Requirements

Ambient Temperature	Operating +5℃ - +40℃	Storage -10℃ - +50℃
Humidity	10 % - 80%	
Atmospherical Pressure	600 hPa - 1060 hPa	

Important Notes

In case of the troubles, please contat Takara Belmont offices or your dealers.
Do not disassemble or attempt to repair.
Disassembly, repair or modifications shoud only be done by a qualified repair technician.
Attempts at disassembly, repair or modifications may lead to abnormal operation and accidents.

[1] MAJOR PARTS IDENTIFICATION



1)SEAT
2)ARMREST
3)BACKREST
4)HEADREST
5)SEAT COVER
6)MOUNTING BRACKET
7)MAIN LINK COVER
8)PUMP COVER
9)POWER SUPPLY PANEL
10)BASE
11)SUB LINK COVER WITH SAFETY SWITCH
12)FLANGE COVER
13)FOOT SWITCH
14)MAIN SWITCH
15)SETTING SWITCH
16)POWER SUPPLY CABLE
17)FUSE HOLDER

SPECIFICATIONS

CHAIR WEIGHT (NET) ---------- 140kg
INITAIL HEIGHT ---------- 380mm
STROKE OF EVEVATION ---------- 400mm
ANGLE RANGE OF BACKRET ---------- -2° ~ 70°
POWER CONSUMPTION ---------- 230, 50Hz, 2.0A
MAXIMUM LOAD ---------- 135kg
SERVICE LIFE ---------- 10 Years

[2] INSTALLATION PROCEDURES

(1) CHECKING PARTS FOR INSTALLATION

Unpack chair and check the following parts and quantities.

1. Headrest Assembly	1 set
2. Backrest Assembly	1 set
3. Seat Upholstery	1 set
4. Seat Cover	1 pce.
5. Armrest	1 pce.
6. M8x20 Socket Head Cap Screw for Backrest	4 pcs.
7. M6x25 Philips Screw (1 for Armrest & 3 for Seat Assembly)	4 pcs.
8. M6x10 Philips Screw for Seat Cover	1 pce.
9. Lag Bolt	4 pcs.
10. Set Screw for Levelling	4 pcs.
11. Philips Tapping Screw for Backrest	2 pcs.
12. M8 Spring Washer for Backrest	4 pcs.
13. Flat Washer for Armrest	1 pce.
14. M6 Flat Washer	
(1 for Seat Cover, 3 for Seat Assembly & 4 for Lag Bolt)	8 pcs.
15. Collar for Armrest	1 pce.
16. Hole Plug	1 pce.
17. Seal	4 pcs.
with Armrests (left & right) Specifications	
1. Armrest	1 pce.
2. Spring for Armrest	1 pce.
3. Flat Washer for Armrest	1 pce.
4. M6x25 Philips Screw for Armrest	1 pce.

(2) PREPARATIONS FOR ASSEMBLING

1.Place the chair at the planned location.

NOTE: A Bar for transporting the chair is provided. When transferring the chair, hold both ends of this bar and SEAT CUSHION BRACKET.

2.Remove RED TAGGED BOLT before plugging in the chair.

(CAUTION: DO NOT LIFT the chair by upper structure after this bolt is removed.)

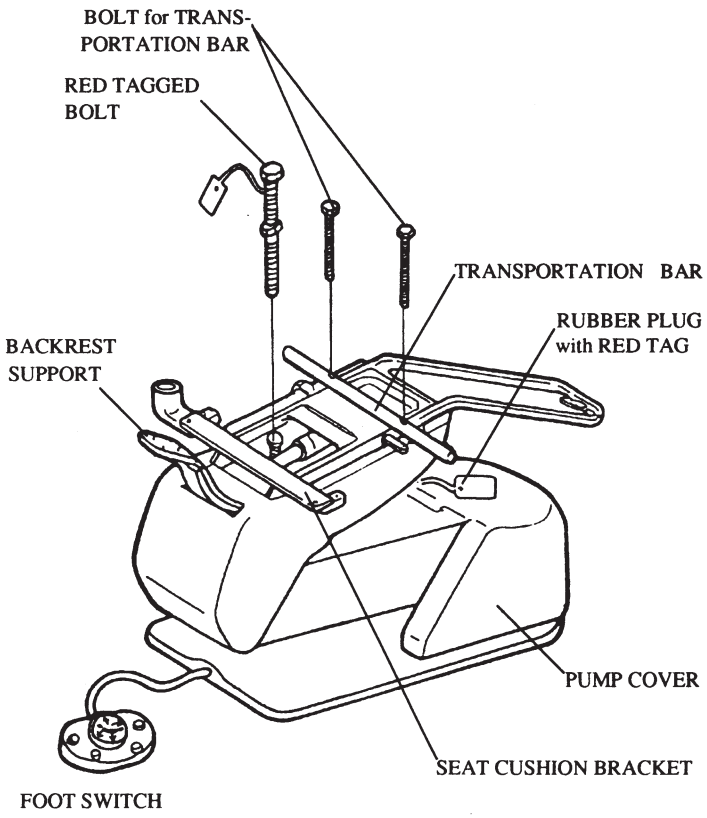
3.Remove PUMP COVER and pull out RUBBER PLUG with RED TAG.

4.Connect power supply to appropriate power source.

5.Raise BACKREST SUPPORT by FOOT SWITCH.

6.Remove TRANSPORTATION BAR by loosening two BOLTS FOR TRANSPORTATION BAR.

7.Raise seat section by FOOT SWITCH for next procedure.

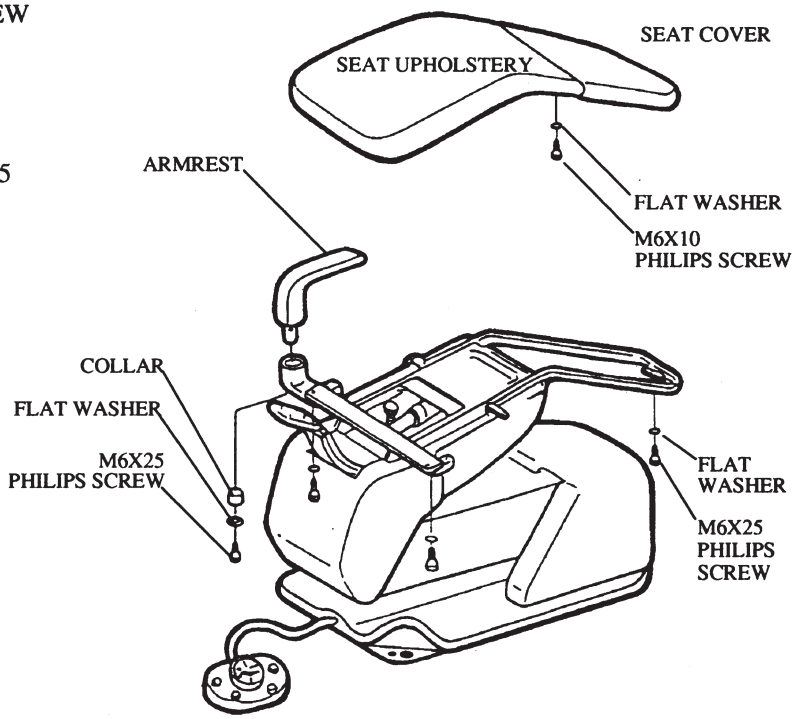


(3) ATTACHING ARMREST AND SEAT UPHOLSTERY

1.Install ARMREST with M6x25 PHILIPS SCREW and FLAT WASHER and COLLAR.

2.Attach SEAT COVER with M6x10 PHILIPS SCREW and FLAT WASHER.

3.Attach SEAT UPHOLSTERY with three M6x25 PHILIPS SCREWs and FLAT WASHERs.

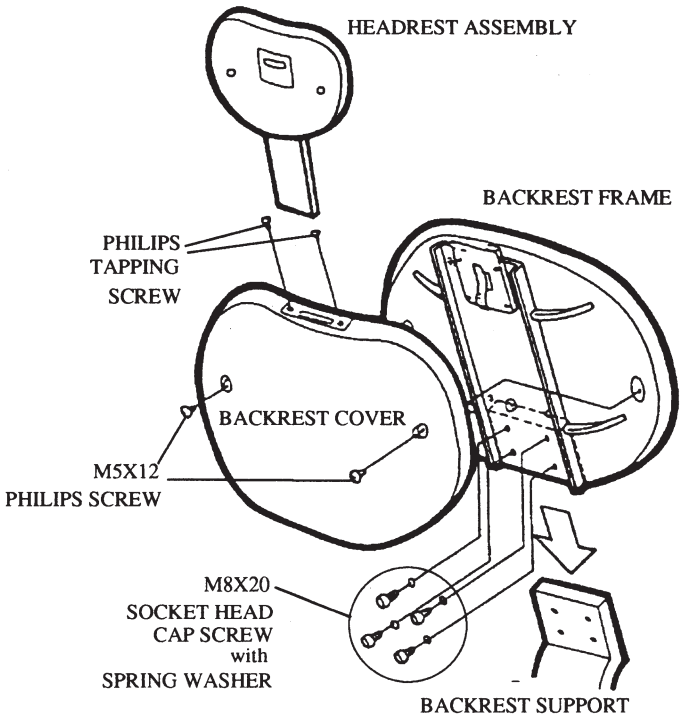


(4) ASSEMBLING BACKREST AND HEADREST

1.Remove plastic BACKREST COVER from the backrest assembly by loosening two M5x12 PHILIPS SCREWs, and attach BACKREST FRAME to BACKREST SUPPORT with M8x20 SOCKET HEAD CAP SCREWs and SPRING WASHERs.

2.Re-attach the BACKREST COVER with two M5x12 PHILIPS SCREWs removed at step 1 and two PHILIPS TAPPING SCREWs packed separately.

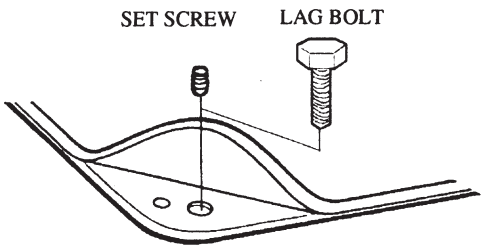
3.Install HEADREST ASSEMBLY to backrest.



(5) FIXING TO THE FLOOR

1.Fix the base plate to the floor with four LAG BOLTs provided, or by other appropriate means.

2.Make the chair base level, if necessary, with four SET SCREWs provided.



[3] OPERATION PROCEDURES

(1) MAIN SWITCH PANEL

1. MAIN SWITCH

I : ON

O : OFF

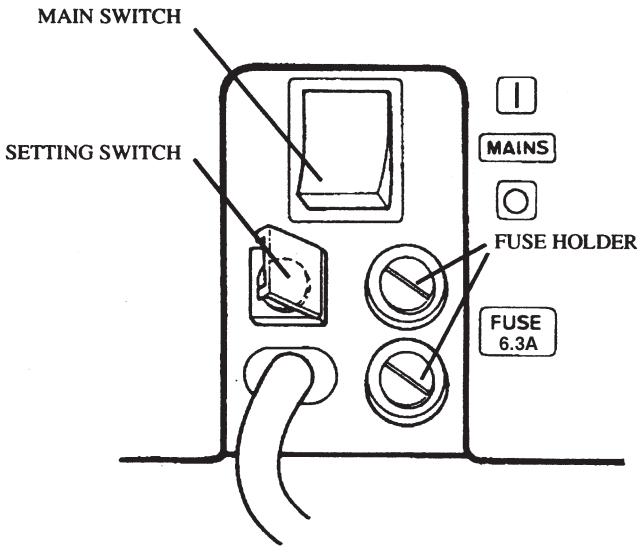
Turn on the main switch, the neon lamp will be lit in green.

2. FUSE

6.3A : 230V

3. SETTING SWITCH

To set preset positions and mouth rinsing position.



(2) CONTROLS

All controls for the chair positioning are located on foot switch.

1. FOOT CONTROL

1)MANUAL CONTROL

UP/DOWN/FORWARD/BACKWARD

2) & 3)PRESET CONTROL

CLESTA chair has two preset positions.

3)AUTO-RETURN

To return to the initial position.

4)LAST POSITION MEMORY (LP)

Momentarily press the LP switch at reclined backrest position (treatment position), and the backrest will raise to mouth rinsing position.

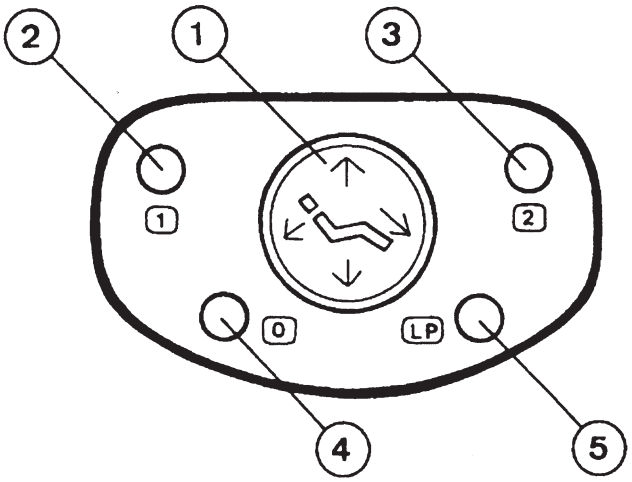
Press momentarily the LP switch again the backrest will recline to previous treatment position.

NOTE: Seat height is not changed by LP switch.

2. CHAIR CONTROL PANEL (UNIT SIDE)

CLESTA chair can be controlled by chair control panel on CLESTA unit.

(Refer to CLESTA unit manual.)



(3) HEADREST

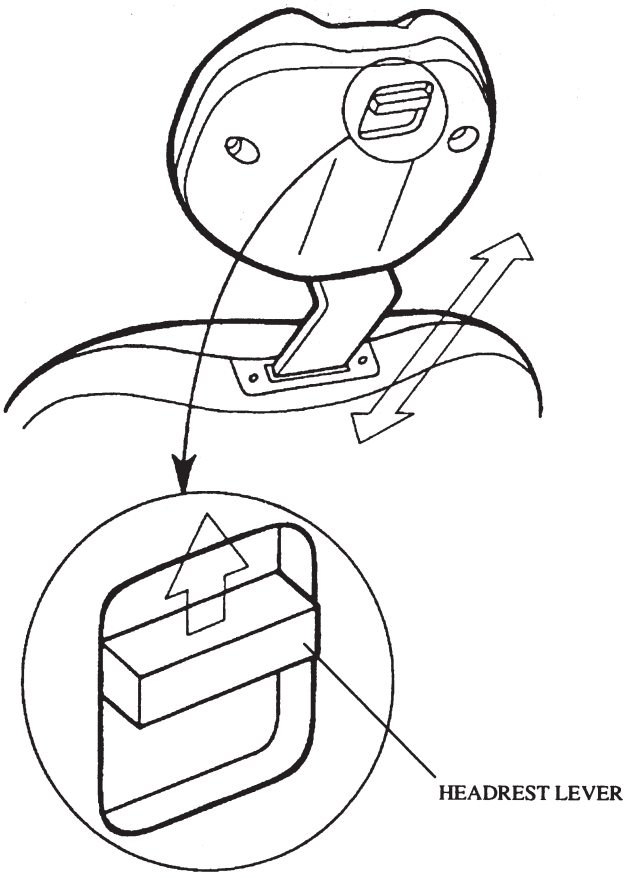
1. HEIGHT

Press down or pull up the headrest to the position required.

2. ANGLE

Push the headrest forward as required.

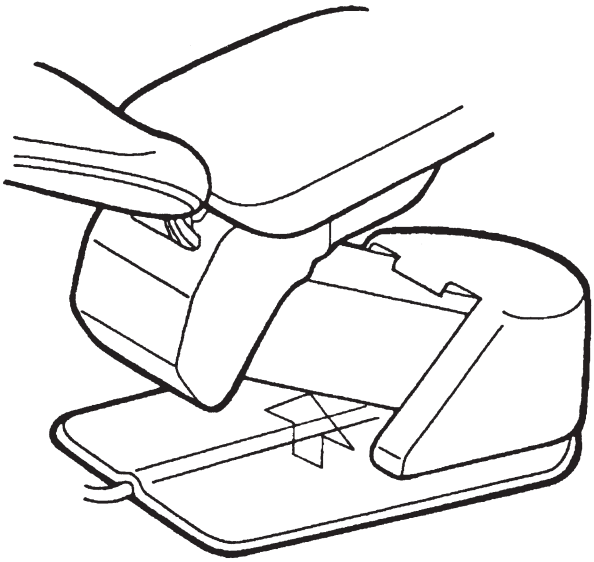
Lift the headrest lever to rotate the headrest backward.



(4) CANCELLING & SAFETY STOP

Automatic travel in all automatic mode (Preset, Auto-Return or Last Position) can be instantly cancelled at any time by momentary depressing any chair control switch.

Any chair movement can be stopped automatically by safety switch when pressure is detected between base and sub link cover.

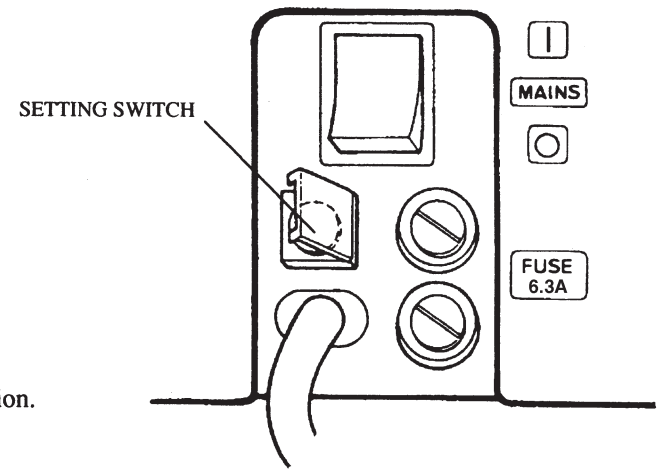


[4] ADJUSTMENT

(1) PRESET POSITION

Two positions (P1,P2) can be set.

1. Set seat and backrest in their desirable positions by manual control.
2. Press setting switch on main switch panel, then buzzer sounds for about 10 seconds (15 times of beep sound).
3. Depress P1 or P2 switch on foot control or chair control panel on CLESTA unit while buzzer is sounding so that the position is put into memory, then the buzzer stops.
4. Repeat the procedures 1. to 3. to set another position.



(2) MOUTH RINSING POSITION

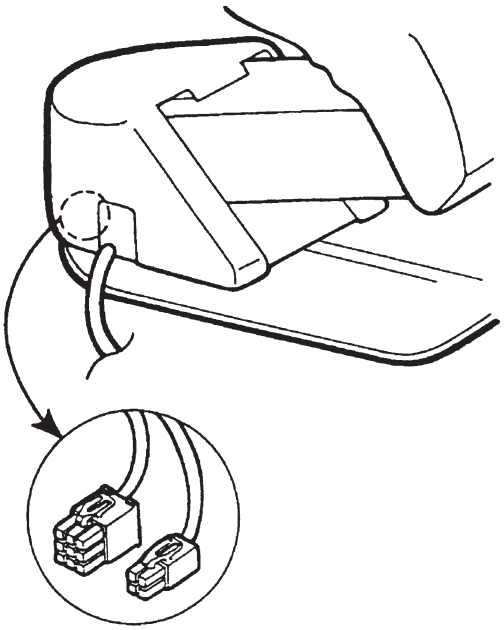
The desirable position of backrest for mouth rinsing can be set.

1. Set backrest in the desirable position for mouth rinsing.
2. Press setting switch on main switch panel then buzzer sounds for about 10 seconds.
3. Depress LP switch on foot control (or chair control panel on CLESTA unit) while buzzer is sounding so that the position is put into memory, then buzzer stops.

NOTE: If none of P1, P2 or LP switch is pressed while buzzer is sounding, no preset position will be set. Repeat the procedures from 2. again.

[5] CONNECTION WITH UNIT

In case that the CLESTA chair is combined with CLESTA unit. The CLESTA chair can be controlled by chair control panel on the unit.
(Refer to CLESTA unit manual to assemble them.)
Two electrical connectors are prepared inside of pump cover.
9P Connector: for chair control
4P Connector: for safety chair locking device.



[6] CARE AND MAINTENANCE

Other than cleaning, no scheduled maintenance of the chair is required.

⚠CAUTION

Turn OFF the main switch at the lowest seat position after daily operation and for a long term interval.

⚠CAUTION

All surfaces can be cleaned with DURR FD333 cleaner (or equivalent).
Spray the cleaner (DURR FD333) on cloth and wipe the surfaces with the cloth.
Do not drench the chair and unit. Wipe all surfaces dry after cleaning.

[7] ELECTROMAGNETIC COMPATIBILITY

Medical electrical equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual.

Portable and mobile RF communications equipment can affect medical electrical equipment.

The equipment or system should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the equipment or system should be observed to verify normal operation in the configuration in which it will be used.

Guidance and manufacture's declaration - electromagnetic emissions		
The CLESTA (CHAIR) is intended for use in the electromagnetic environment specified below. The customer or the user of the CLESTA (CHAIR) should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment - guidance**
RF emissions CISPR 11	Group 1	The CLESTA (CHAIR) uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The CLESTA (CHAIR) is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ Flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacture's declaration - electromagnetic immunity			
The CLESTA (CHAIR) is intended for use in the electromagnetic environment specified below. The customer or the user of the CLESTA (CHAIR) should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic file. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycle 70% U_T (30% dip in U_T) for 25cycle <5% U_T (>95% dip in U_T) for 5 s	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycle 70% U_T (30% dip in U_T) for 25cycle <5% U_T (>95% dip in U_T) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the CLESTA (CHAIR) requires continued operation during power mains interruptions, it is recommended that the CLESTA (CHAIR) be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to applications of the test level.			

Guidance and manufacture's declaration - electromagnetic immunity

The CLESTA (CHAIR) is intended for use in the electromagnetic environment specified below. The customer or the user of the CLESTA (CHAIR) should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
			Portable and mobile RF communications equipment should be used no closer to any part of the CLESTA (CHAIR), including cables, than the recommended separation distance calculated from the equation applications to the Frequency of the transmitter. **Recommended separation distance**
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz outside ISM bands[a]	3 Vrms	$d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,[a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of equipment marked with the following symbol: 

NOTE 1 At 80 MHz and 800MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by adsorption and reflection from structures, objects and people.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the CLESTA (CHAIR) is used exceeds the applicable RF compliance level above, the CLESTA (CHAIR) should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the CLESTA (CHAIR).

b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.

Essential performance (purpose of IMMUNITY testing)

Unless operated by the switches for chair control, the CLESTA (CHAIR) does not make any movements, except for sounding a buzzer and switching on/off the indicator.

Recommended separation distances between Portable and mobile RF communications equipment and the CLESTA (CHAIR)

The CLESTA (CHAIR) is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the CLESTA (CHAIR) can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the CLESTA (CHAIR) as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter** m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	**80 MHz to 800 MHz** $d = 1.2\sqrt{P}$	**800 MHz to 2.5 GHz** $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance *d* in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by adsorption and reflection from structures, objects and people.

NOTE

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