DENTAL CHAIR

CLESTA II

OPERATING INSTRUCTIONS

IMPORTANT

This manual provides operating instructions for the BELMONT CLESTA-II.
The instructions contained in this booklet should be thoroughly read and understood before operating the chair.
After the installation is completed, keep this manual in a safe place and referto it for future maintenance.

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. OVERALL VIEW AND MAJOR COMPONENTS

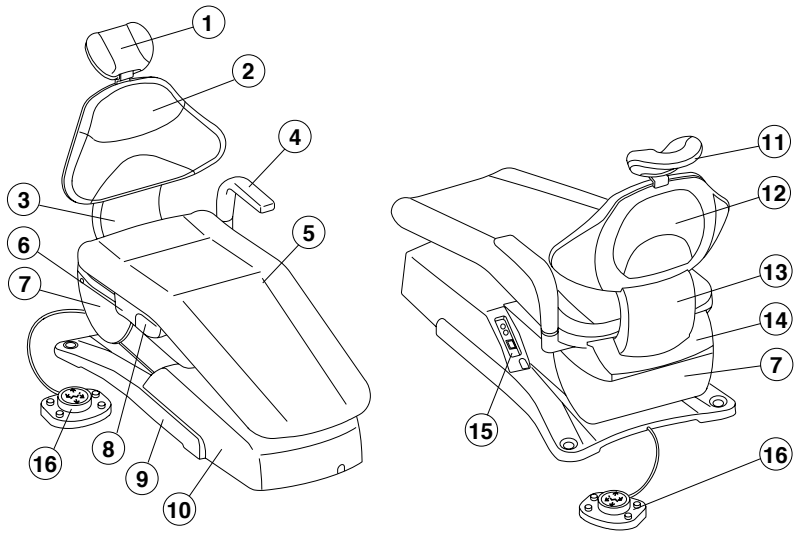

Fig.1-1 Overall View

(1) Headrest
(2) Backrest
(3) Back Support
(4) Armrest (Left)
(5) Seat
(6) Flange
(7) Lower Flange Cover
(8) Flange Hose Cover
(9) Base
(10) Pump Cover
(11) Headrest Rear Cover
(12) Backrest Rear Cover
(13) Back Support Cover
(14) Upper Flange Cover
(15) Main Switch Panel
(16) Foot Control

2. DIMENSIONS AND SPECIFICATIONS

2-1. DIMENSIONS

-mm-

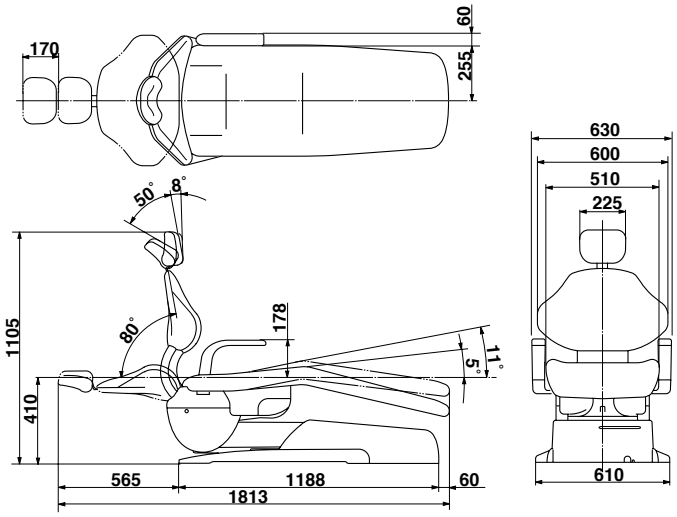

Fig.2-1 Dimensions

2-2. SPECIFICATIONS

Seat Initial Height	410mm
Seat Lifting Stroke	380mm
Backrest Movement	0° ~ 80° above Horizontal
Tilting Mechanism	Backrest Synchronized Tilting (5° ~ 11° above Horizontal)
Auto Movements	2-Preset, 1-Last Position Memory and 1-Auto Return
Control Voltage	DC.12V
Power Consumption	230V, 50Hz, 2.0A
Weight	115Kg
Maximum Load	135 kg
Service Life	10 years

3. OPERATING INSTRUCTIONS

3-1. MAIN SWITCH (Fig.1-1 & Fig.3-1)

Turn on the main switch located on the left side of the pump cover.
A green lamp in the main switch will illuminate.

⚠CAUTION

Operate the main switch by hand only.
Turn off the main switch after daily operation.

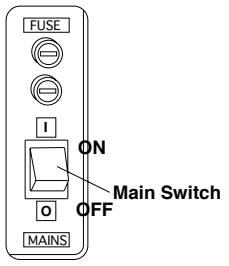

Fig.3-1 Main Switch

3-2. CONTROLS (Fig.3-2)

Before operating the chair, confirm that it is safe for the patient and the operator.

⚠CAUTION

All chair electrical movements can be controlled by the foot switch.

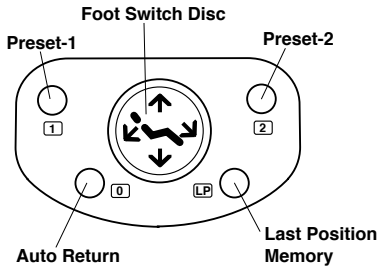

Fig.3-2 Foot Control

(1) Manual Mode Control

A. Seat Lifting

Keep depressing (ⓐ) side of the foot control disc until the seat is lifted up to the desiredposition.

B. Seat Lowering

Keep depressing (ⓑ) side of the foot control disc until the seat is lowered to the desired position.

C. Backrest Reclining

Keep depressing (ⓒ) side of the foot control disc until the backrest is reclined to the desired position.

D. Backrest Raising

Keep depressing (ⓓ) side of the foot control disc until the backrest is rased up to the desired position.

(2) Auto Mode Control

E. Preset Control

CLESTA-2 chair has two preset positions. (Preset-1 and Preset-2)
Momentarily depress (1) button on the foot control, the chair will move to the preset-1 position automatically. (Preset-2 is operated by (2) button.)

F. Auto Return

Momentarily depress (0) button on the foot control, the chair will return to the initial position. (The seat is fully lowered and the backrest is in the upright position.),

G. Last Position Memory

Momentarily depress (LP) button at the reclined backrest position (treatment position), the backrest will raise to the mouth rinsing position automatically.
Momentarily depress (LP) button again, the backrest will recline to the previous treatment position automatically.
Note : Seat height can not be changed by (LP) button.

H. Emergency Stop

During automatic procedure (Preset, Auto return and Last position memory), depress of any side of the disc or buttons on the foot control will cancel the automatic movement immediately.
Note : Do not depress auto mode button (1)(2)(0)(LP) for over 3 seconds, because the memorized position in auto mode may be changed.

3-3. SAFETY LOCK DEVICE (Fig.3-3)

All chair movements can be stopped automatically by the safety lock device when pressure is detected between the base and the sub link cover.

If the safety device has been activated, simply operate the base up button and remove the object causing the safety device to activate from this area.

Note : Seat lifting and backrest rasing can be operated when the safety lock device is activated.

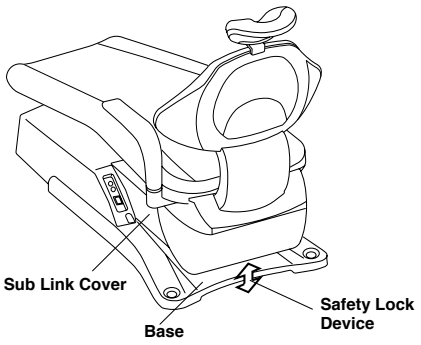

Fig.3-3 Safety Lock Device

3-4. HEADREST (Fig.3-4)

(1) Height Adjustment

Press down or pull up the headrest to the desired height.

(2) Angle Adjustment

Push the headrest forward as required.

Lift the headrest lever to rotate backward and release the lever at the desired angle.

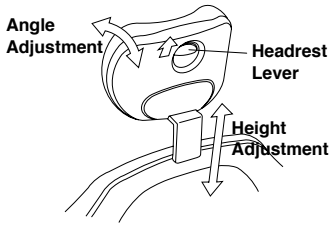

Fig.3-4 Headrest

3-5. DOUBLE ARTICULATING HEADREST (Optional) (Fig.3-5)

(1) Height Adjustment

Press down or pull up the headrest to the desired height.

(2) Angle Adjustment

Angle of headrest can be changed by grasping the headrest release lever on headrest mechanism.

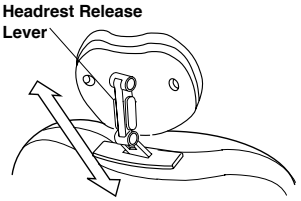

Fig.3-5 Double Articulating Headrest

4. AUTO MODE POSITION ADJUSTMENT

(1) Preset position Adjustment (Fig.4-1)

Two preset positions can be set.

A.Set the seat and the backrest to the desired preset position by manual control switch.

B.Keep depressing preset 1 switch (1) until buzzer sounds (in about 3 seconds), then release it.

C. The position is memorized for Preset-1.

D. Preset-2 can be memorized by depressing preset 2 switch (2), as following A to C.

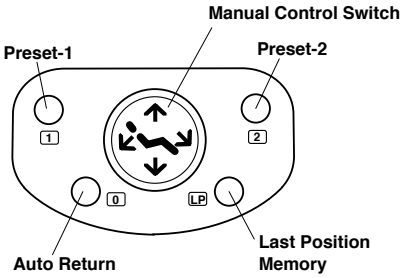

Fig.4-1 Foot Control

(2) Mouth Rinsing Position Adjustment (Fig.4-1)

Mouth rinsing position in last position memory movement can be adjusted.

A. Set the backrest to the desired mouth rinsing position by manual control switch.

B. Keep depressing last position memory switch (LP) until buzzer sounds (in about 3 seconds) and release it.

C. This backrest position is then memorized as the mouth rinsing position.

5. 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 surfaceswith the cloth.
Do not drench the chair and unit.
Wipe all surfaces dry after cleaning.

6. 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 II (CHAIR) is intended for use in the electromagnetic environment specified below. The customer or the user of the CLESTA II (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 II (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 II (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 II (CHAIR) is intended for use in the electromagnetic environment specified below. The customer or the user of the CLESTA II (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 II (CHAIR) requires continued operation during power mains interruptions, it is recommended that the CLESTA II (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 II (CHAIR) is intended for use in the electromagnetic environment specified below. The customer or the user of the CLESTA II (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 II (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 II (CHAIR) is used exceeds the applicable RF compliance level above, the CLESTA II (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 II (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 II (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 II (CHAIR)

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