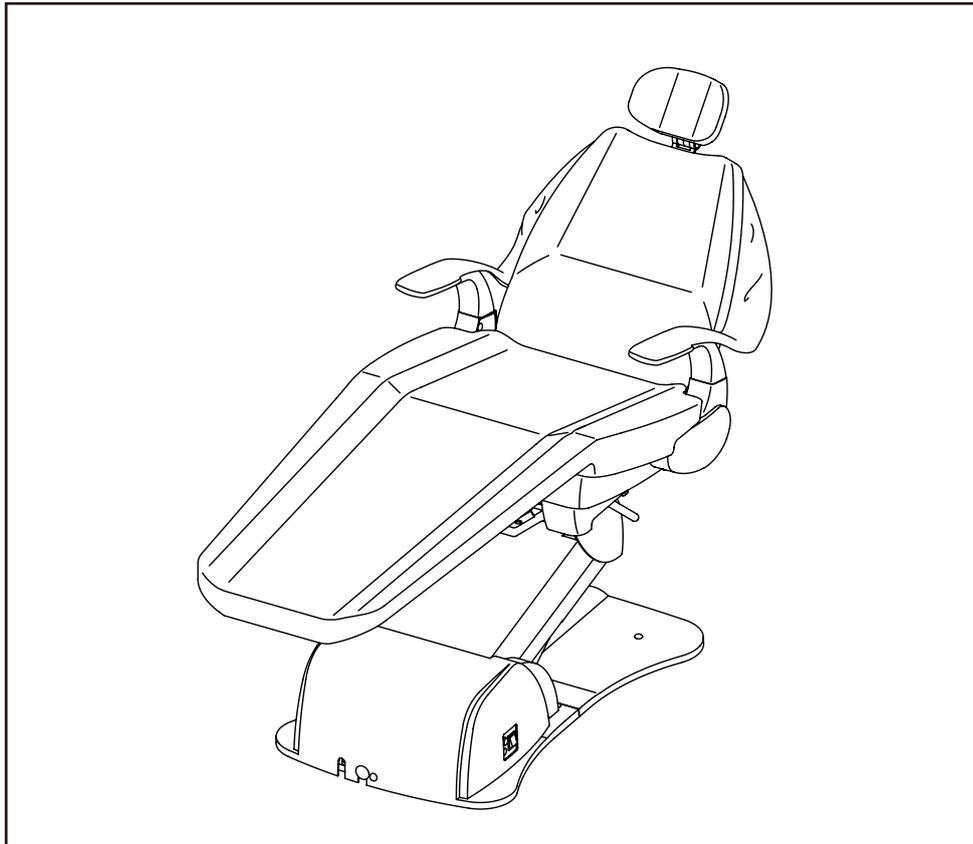


X-CALIBUR V

(MODELS : B50N, B50V)

DENTAL CHAIR



OPERATING INSTRUCTIONS

IMPORTANT

This manual provides operating instructions for the X-CALIBUR V. The instructions contained in this booklet should be thoroughly read and understood before operating the chair. Failure to follow the operating instructions, guidelines, and warnings could result in injury or damage to the equipment. After the installation has been completed, keep this manual in a safe place for future reference.

 **Belmont**

Table of Contents

1. Overview and Major Components	6
2. Dimensions and Specifications	7
3. Operations	8
4. Care and Maintenance	12

Intended Use of the Product

This product is an active therapeutic device intended for the exclusive use for diagnoses, treatments and related procedures of dentistry.

The product 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

Operating	Ambient Temperature	32°F ~ 104°F (0°C ~ 40°C)
	Humidity	10% ~ 95% (No condensation)
	Atmospherical Pressure	10.2psi ~ 15.4psi (700hpa ~ 1060hpa)
Storage	Ambient Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
	Humidity	10% ~ 95% (No condensation)
	Atmospherical Pressure	10.2psi ~ 15.4psi (700hpa ~ 1060hpa)

Classification

- Protection against electric shock : Class I Equipment, Type B Applied Parts  (Headrest, Backrest and Seat cushions)
- Protection against water ingress : Chair (IPX0), Foot control (IPX1)
- Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
- Mode of operation : Non-continuous operation
Maximum activation time: 3 minutes, Duty cycle 1:5

Symbol



Applied part complying with the specified requirements of IEC60601-1:2005 to provide protection against electrical shock, particularly regarding allowable patient leakage current and patient auxiliary current.

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
	Name and address of the manufacturer	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Manufacturer	5.1.1
	Year of manufacture	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Date of manufacture	5.1.3
	Caution *The base color is yellow.	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	Caution	Table D.1 No.10
	General warning sign *The base color is yellow.	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	General warning sign	Table D.2 No.2
	Type B Applied Parts contacting the patient's body surface only	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	TYPE B APPLIED PART	Table D.1 No.19

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
	Follow instructions for use *The color of black part is blue in the actual label.	IEC 60601-1	Medical electrical equipment— Part 1: General requirements for basic safety and essential performance	Refer to instruction manual/booklet	Table D.2 No.10
SN	Serial number	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Serial number	5.1.7
Rx Only	Rx only symbol (21 CFR 801.109)	-	-	-	-
REF	Catalog number	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Catalogue number	5.1.6
UDI	Unique device identifier	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Unique device Identifier	5.7.10

 **CAUTION**

- This chair is intended to be used for the examination and treatment of dental patients. Do not use this product for any other purpose than the examination and treatment of patients.
- Only trained and qualified personnel should operate this chair.
- Follow all of the safety precautions and instructions to protect patients and operators.
- During treatment, keep small children away from chair except for treatment.
- Always keep an eye on the patient to be sure that they do not accidentally operate equipment.
- Keep patient's and operator's hands, fingers or parts of the body away from moving parts of the chair.
- In the case of any malfunction, contact an authorized Belmont dealer.
- This product may be affected by sources that generate excessive electromagnetic waves.
- Do not install this equipment close to devices such as elevators or communication equipment, including cellular telephones.
- Electrosurgical knives may cause the chair to temporarily malfunction. If an electrosurgical knife is to be used, turn off the main switch of the chair after the patient has been positioned.
- Take extreme care with patients that have a pacemaker. Prior to operation of the chair, ask patient to verify whether they have a pacemaker. When operating chair, be certain patient displays no indication of discomfort. Cease chair operation immediately and turn off main switch if patient shows any sign of being affected by chair operation
- Do not position this equipment where it is difficult to access the main power supply outlet where it is plugged in.

 **CAUTION**

The following actions are prohibited:

- Sitting on the headrest, armrest, backrest or on the toe end of the seat for any reason is prohibited. Failure to follow this warning can result in injuries and/or severe damage to equipment.
- Seating a patient that weighs over 300 lbs. on the chair is prohibited.
- Permitting more than one person to be on the chair during operation is prohibited.
- Operating equipment that exhibits any failure condition is prohibited.
- Modification of this equipment in any way is prohibited.
- Application of any disinfectant that contains organic solvent is prohibited. (Manufacturer recommends using a mild detergent solution for cleaning chair surfaces.)
- Operating equipment without doing the daily and periodic check-up is prohibited.

NOTICE

- Resin materials are used in external components of the product. Carefully selected materials are used; however, discoloration may occur for reasons such as natural deterioration or the adherence of drug solutions. To ensure use of the product for as long as possible, immediately wipe off any drug solutions adhered and avoid sunlight.

1. Overview and Major Components

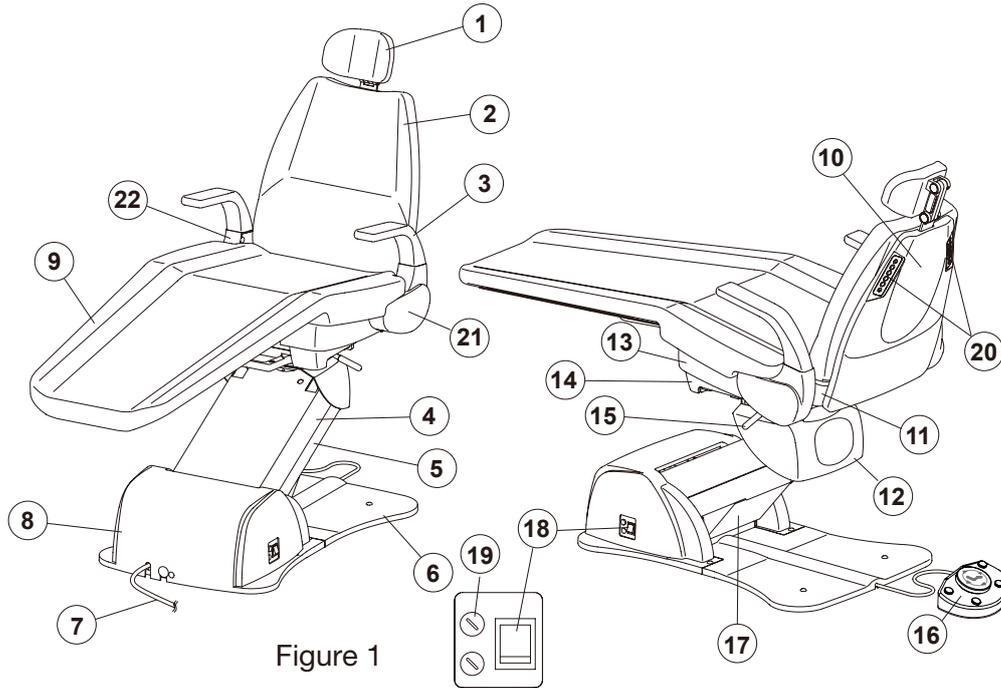


Figure 1

- | | | |
|-----------------------|---------------------------|-----------------------------|
| 1. Headrest Assembly | 9. Seat Cushion | 17. Sub Link Cover (Lower) |
| 2. Backrest Cushion | 10. Backrest Cover | 18. Main Switch |
| 3. Armrest | 11. Seat Back Support | 19. Fuse Holder |
| 4. Main Link Cover | 12. Dome Casting Cover | 20. Backrest Control Panels |
| 5. Sub Link Cover | 13. Tilt Cover | 21. Side Frame (Left) |
| 6. Base Cover | 14. Rotating Flange Cover | 22. Side Frame (Right) |
| 7. Power Supply Cable | 15. Rotation Lock Lever | |
| 8. Pump Cover | 16. Foot Control Ass'y | |

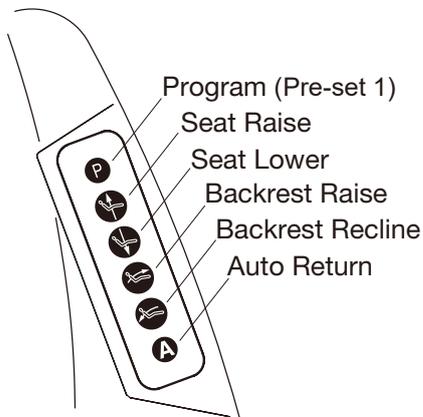


Figure 2
BACKREST CONTROL

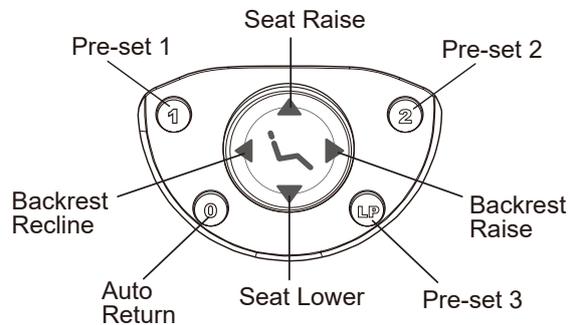
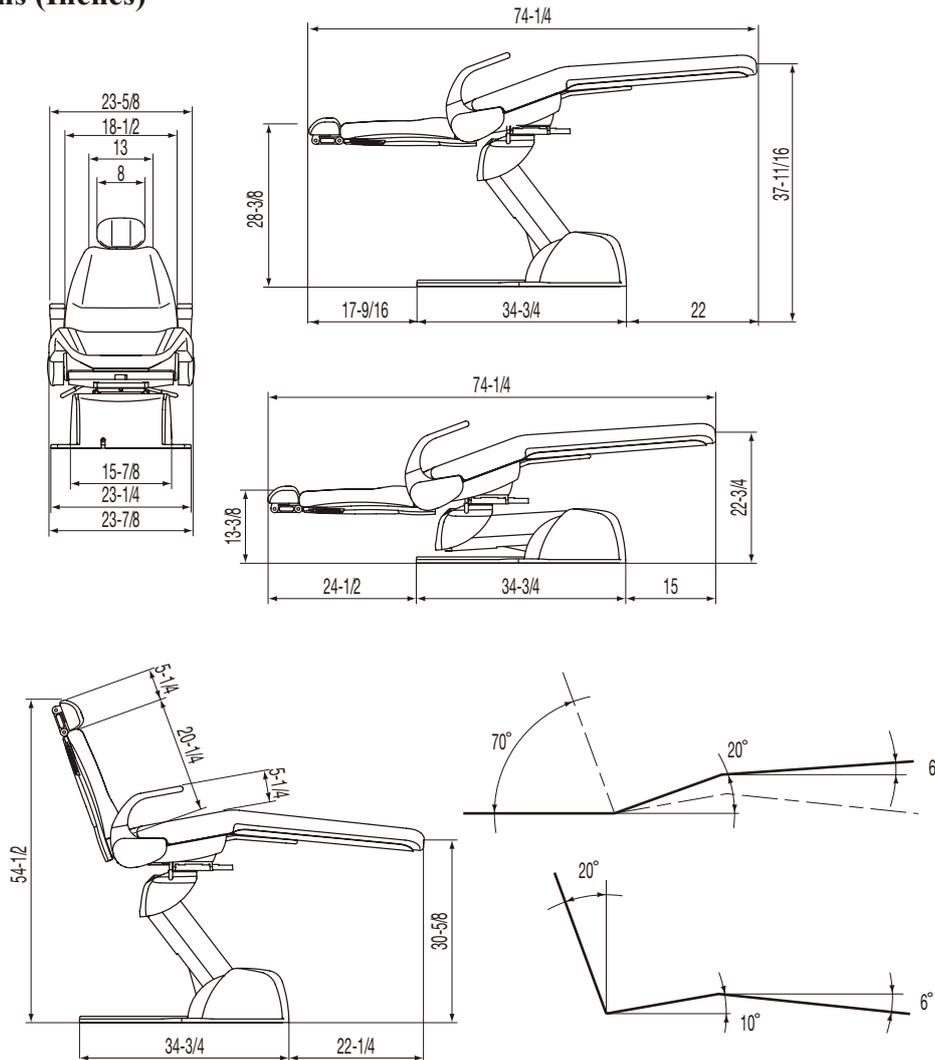


Figure 3
FOOT CONTROL

2. Dimensions and Specifications

2-1. Dimensions (Inches)



2-2. Specifications

- * Power sealed hydraulic system powered by 3.5A motor pump
- * Base plate: 1/2" steel
- * Bearings at link points - low friction in steel jacket.
- * Steel backrest support
- * Electrical requirements : AC120V/60Hz/3.7A
- * Fuse for power supply : 10A/ 250 V (Breaking Capacity : 750A/250VAC)
Operating speed : Fast-blow Size : 6.3×32mm
- * Fuse for Chair control board : 1.25A/250V (Breaking Capacity : 1500A/250VAC)
Operating speed : Fast-blow Size : 5.2×20mm
- * Hospital grade plug
- * Base component housing formed from solid color acrylate styrene acrylonitrile (ASA ,V0)
- * All exposed ferrous parts covered with corrosion-resistant paint or plating
- * Weight: 320 lbs. (145 kg)

Refer to the rating plate for the capacity of power supply.
The specification is subject to change without notice.

3. Operations

CAUTION

Before Use

- Make sure that operating instructions have been read and fully understood.
- Verify that all chair functions work properly.
- Make sure that chair power cord is connected to a grounded electrical outlet.
- Do not operate chair at the same time as electrosurgical devices or devices that generate electromagnetic radiation.

Patient Entry

- Do not operate the chair until patient is fully seated. Patient head, back and feet must be in full contact with seat cushions. Patient hands must be placed on top of forward facing armrests or on their lap. All patients are at risk of potential injury if these precautions are not followed.
- Do not allow patient to sit on the headrest, armrest, backrest or on the front end of the seat cushion. Excessive loading on cushions can cause damage to the upholstery, chair and result in physical injury. Failure to comply with this precaution may lead to injury and/or damage to the chair.

During Use

- Do not use the chair longer than required for examination or treatment.
- Always observe the patient and the equipment to ensure patient safety.
- If any problem is observed with the chair, other equipment or the patient during treatment, stop operation immediately for patient safety. Contact an authorized Belmont service technician to resolve all equipment-related issues before resuming use of equipment.
- Make sure that patients do not touch chair controls or other treatment equipment.

After Use

- Turn the chair power supply switch to the OFF position.
- Clean the equipment and prepare it for the next patient.

3-1. Main Switch

- 1) Plug chair into 120VAC outlet.

CAUTION

To avoid the risk of electric shock, this equipment must only be connected to a grounded electrical power outlet. Grounding reliability can only be achieved when the equipment is connected to a receptacle marked HOSPITAL ONLY or HOSPITAL GRADE.

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

CAUTION

Operate the main switch by hand only. Turn off the main switch after daily operation. Do not touch any switch with a wet hand, as it might result in electric shock.

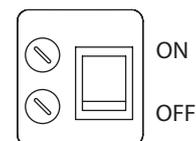


Fig.3-1 Main Switch

NOTE

Do not operate chair controls and turn on the main switch at the same time.

3-2. Controls

1) Seat Height Adjustments

- a. Raise the seat by pressing foot, backrest or touchpad control labeled with the chair symbol identified by an arrow pointing in the UP direction.
- b. Lower the seat by pressing foot, backrest or touchpad control labeled with the chair symbol identified by an arrow pointing in the DOWN direction.

Backrest Control



Foot & Touch Pad Controls



2) Backrest Adjustments

- a. Raise the backrest by pressing foot, backrest or touchpad control labeled with a chair symbol identified by an arrow pointing in the FORWARD direction.
- b. Lower the backrest by pressing foot, backrest or touchpad control labeled with a chair symbol identified by an arrow pointing in the RECLINE direction.



3) Programming a Seat Position

a. Preset Control

B50N chairs have three preset positions. (Pre-set 1, Pre-set 2 and Pre-set 3)
Momentarily depress (P) button on the backrest control or (1) button on the foot control, the chair will move to the preset-1 position automatically.
(Pre-set 2 is operated by (2) button. Pre-set 3 is operated by (LP) button.)



b. Auto Return

Momentarily depress (A) button on the backrest control or (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.)



4) Auto Mode Position Adjustment

Three preset positions can be set.

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

Keep depressing pre-set 1 (P) or (1) button until buzzer sounds (in about 3 seconds), then release it.

The position is memorized for Preset-1.

Pre-set 2 can be memorized by depressing (2) button as same procedures.

Pre-set 3 can be memorized by depressing (LP) button as same procedures.

3-3. Armrest Rotation, Seat Rotation, Cancellation, Headrest Adjustment

1) Armrest Rotation

Armrests rotate outward 90 degrees.

CAUTION

To avoid damage to armrests and chair mechanisms, be certain that armrests are not positioned over the backrest during backrest position adjustment.

2) Seat Rotation

Seat may be rotated 30 degrees to the right or left of center.

Seat position is locked or released using lever shown in Figure 1.

3) Safety Shutoff/ Motion Cancellation

a. A safety plate is provided below the base link cover to stop the motion of chair when the plate comes into contact with an object when the seat is being lowered.

b. Seat motion can be stopped at any time by depressing foot control, backrest control or chair control touchpad switches.

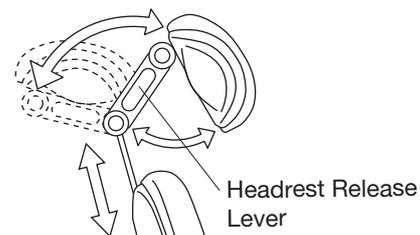
4) Headrest Adjustment

a. Height adjustment

Press down or pull up on the headrest bar for height adjustment.

CAUTION

Take care not to pinch the fingers when positioning the headrest mechanism.



b. Headrest Articulation Adjustment

CAUTION

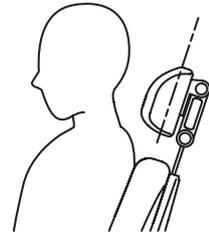
Always support patient's head prior to, and during headrest articulation positioning adjustments. When releasing the latch release button, make sure headrest cushion locks securely in place.

CAUTION

Be sure that the headrest is not rattling or making abnormal noise. Moving the headrest while rattling may result in an accident or injury.

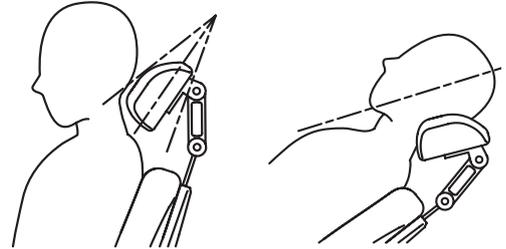
3-4. Positioning of Headrest

1. Seat patient upright and all of the way back on the chair.
2. Position the bottom of the headrest cushion so it is even with the occipital of the patient's head.



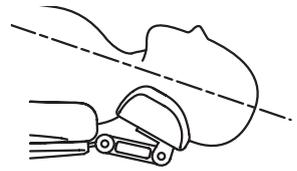
Viewing the lower arch

1. Using the latch release button (white), pivot the headrest cushion half way toward the patient's head.
2. Have the patient lean back on the headrest.
3. Using the chair controls, place the patient in the desired operating position.



Viewing the upper arch

1. Lower the backrest and raise the base of the chair.
2. Slide the headrest in toward backrest.
3. Support the patients head/headrest cushion while pressing latch release button.
4. Tilt the headrest cushion until the desired upper arch position is obtained.

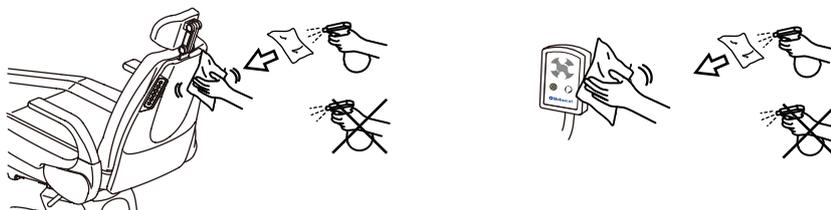


4. Care and Maintenance

4-1. Cleaning and Disinfection

⚠ CAUTION

Do not spray liquids directly onto chair surfaces and operation panel.
In order to prevent damage to electrical components and systems, do not apply excess cleaning solution onto chair surfaces.



Routine Care

Clean plastic and upholstery surfaces regularly using a mild soap and water solution.

When cleaning, use a dampened cloth only, as excess cleaning solution can flow into the chair and cause permanent damage to electrical components.

Barrier Technique

Use of disposable barrier products should be the first choice for the protection of dental equipment. Disinfectants leave behind a surface residue that accumulates over time and eventually damages equipment and upholstery surfaces.

Chemical Disinfection

Only use Belmont's recommended disinfectants. The use of unacceptable disinfectant products will void your warranty. Thoroughly wash all areas that have been exposed to disinfectant cleaners with mild soap and lukewarm water at least once per day to minimize harmful effects of chemical disinfectant residues to accumulate and degrade the equipment.

Unacceptable Disinfectants

The following chemicals may damage equipment and upholstery:

- * Alcohol based solutions
- * Bleach
- * Phenol / Alcohol combinations
- * Foam spray products
- * Benzalkonium chloride solutions

Use with Caution

- * Water based phenolic disinfectants, following manufacturer's exact instructions for use.

NOTE

Warranty does not cover damage to equipment and upholstery caused by disinfectant solutions.

4-2 Storage and Working Lifetime

4-2-1 Storage

1. Keep the equipment away from standing water and puddles.
2. Keep in a circumstances safe from influence by extremes in temperature and humidity, and prevent excessive exposure to wind, sunlight, air containing salts and minerals.
3. Store product upright and level in a stable environment free from vibration.
4. Do not keep the equipment in a place where chemicals are or where gas is emitted.

4-2-2 Lifetime

Provided that the recommended and authorized care and maintenance are correctly performed, the working lifetime of this equipment is 10 years from the date of initial shipment from the manufacturer.

4-3. Daily/Weekly/Monthly Check-up of Product and Product Functions by the End-User

In order to assure safety and proper functioning of this equipment, please carry out the following check-up schedule in the frequency listed in the table below (Daily, Weekly & Monthly).

If it is determined that any part of the product requires service or repair, discontinue the use of the product and immediately contact an authorized Belmont dealer.

No.	Item (Frequency)	How to check and diagnose	Potential consequence of not doing check-up	Corrective Action
1	Safety functions (Daily. Before opening office)	During pre-set movement or auto-return movement, press any key for chair operation and the chair should automatically stop.	Potential patient and/or operator injury.	If safety shut-off functions are not working, discontinue product use immediately. Call an authorized Belmont dealer for product service.
2	Function of each switch (Daily. Before opening office)	Check that each switch for chair operation is working correctly.	Potential patient and/or operator injury.	If any switch is malfunctioning or not working, discontinue product use immediately. Call an authorized Belmont dealer for product service.
3	Wiping off water (Daily. Before closing office)	Check product for water that may have been spilled during treatment or during cleaning.	Water will cause rust.	Wipe off water with a soft and dry cloth.
4	Stain removal from external parts (Daily. Before closing office)	Visually inspect chair and make sure that no chemical or other material residue are on chair surfaces.	Chemicals will cause discoloration, deterioration and breakage of plastics.	Thoroughly clean the chair, following the Routine Care cleaning instructions in this manual.
5	Main switch (Daily. Before closing office)	Make sure that the main switch is off.	Unintended seat motion activation resulting in potential injury and/or damage to equipment.	If the main power cannot be turned off, discontinue the use of product immediately and contact an authorized Belmont dealer for product service.
6	Moving parts (Weekly)	Make sure that the chair does not make any abnormal noises during automatic movement.	Potential patient and/or operator injury, as well as damage to equipment.	If any abnormal noises are detected during use of the chair, discontinue product use immediately. Call an authorized Belmont dealer for product service.
7	Oil leakage (Monthly)	Make sure that no hydraulic oil leakage from cylinders, hoses, valves or reservoir are visible on the floor and on the chair.	Potential patient and/or operator injury, as well as damage to equipment.	If any oil leakage is detected, wipe up oil spill. Discontinue product use immediately. Call an authorized Belmont dealer for product service.
8	Power supply cable (Daily)	Power supply cable should not be abnormally bent, pinched or damaged, and the plug should be firmly inserted to the power outlet and not covered with dust.	Potential patient and/or operator injury, as well as damage to equipment.	If the power supply cable is damaged in any way, discontinue product use immediately. Call an authorized Belmont dealer for product service.

4-4. Guidelines for Periodic Check-up

- Chair components may deteriorate over time, based on product use and product care & maintenance.
- To maintain product in top working condition and for any product servicing, a periodic check-up should be scheduled with an authorized Belmont dealer.
- For any and all product repairs, please contact an authorized Belmont dealer.

Parts and components that require a periodic check-up

No.	Parts Description	Standard Lifetime
1	Headrest Mechanism	2 years
2	Electric wiring of moving parts	2 years
3	Switches for operating equipment	2 years
4	Transformer	3 years
5	Control PCBs	3 years
6	Hydraulic cylinder and related parts	5 years

Consumables

No.	Parts Description
1	Power supply cord
2	Upholstered Cushions
3	Base Cover
4	Pump Cover

4-5 Disposal

- This is not an infectious device; however, prior to disposal, make sure that all product surfaces have been cleaned & disinfected.
- Follow the federal, state and local regulations for disposal.



Importer in U.S.A.
BELMONT EQUIPMENT,
Division of Takara Belmont USA, Inc.

101 Belmont Drive, Somerset, New Jersey 08873 U.S.A.

TEL : (732) 469-5000 / (800) 223-1192

FAX : (732) 356-1035

Importer in Canada
TAKARA COMPANY, CANADA, LTD.

2455 Meadowvale Blvd. Mississauga, Ontario L5N 5S2, Canada

TEL : (905) 816-8965

www.belmont.ca

BELMONT MANUFACTURING CO., LTD.
(Manufacturer)



Lot I-2, Long Duc Industrial Park, Long Duc Ward,
Long Thanh District, Dong Nai Province, Vietnam

TEL.: +84-2513-201-100 / FAX.: +84-2513-201-096