

DENTAL CHAIR  
**037/039**

INSTALLATION  
and  
OPERATION INSTRUCTIONS

 **Belmont**



## TABLE OF CONTENTS

	Page
Overall View and Major Components .....	1
Dimensions and Specifications .....	2A
Dimensions and Specifications (Europe Type) .....	3
Installation Procedures.....	4
Operation Procedures.....	5
Adjustment of Auto Positioning.....	7
Care and Maintenance.....	7
Electromagnetic Compatibility .....	8

### 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 °C - +40 °C	Storage -10 °C - +50 °C
Humidity	10 % - 80%	
Atmospherical Pressure	600 hPa - 1060 hPa	

### Important Notes

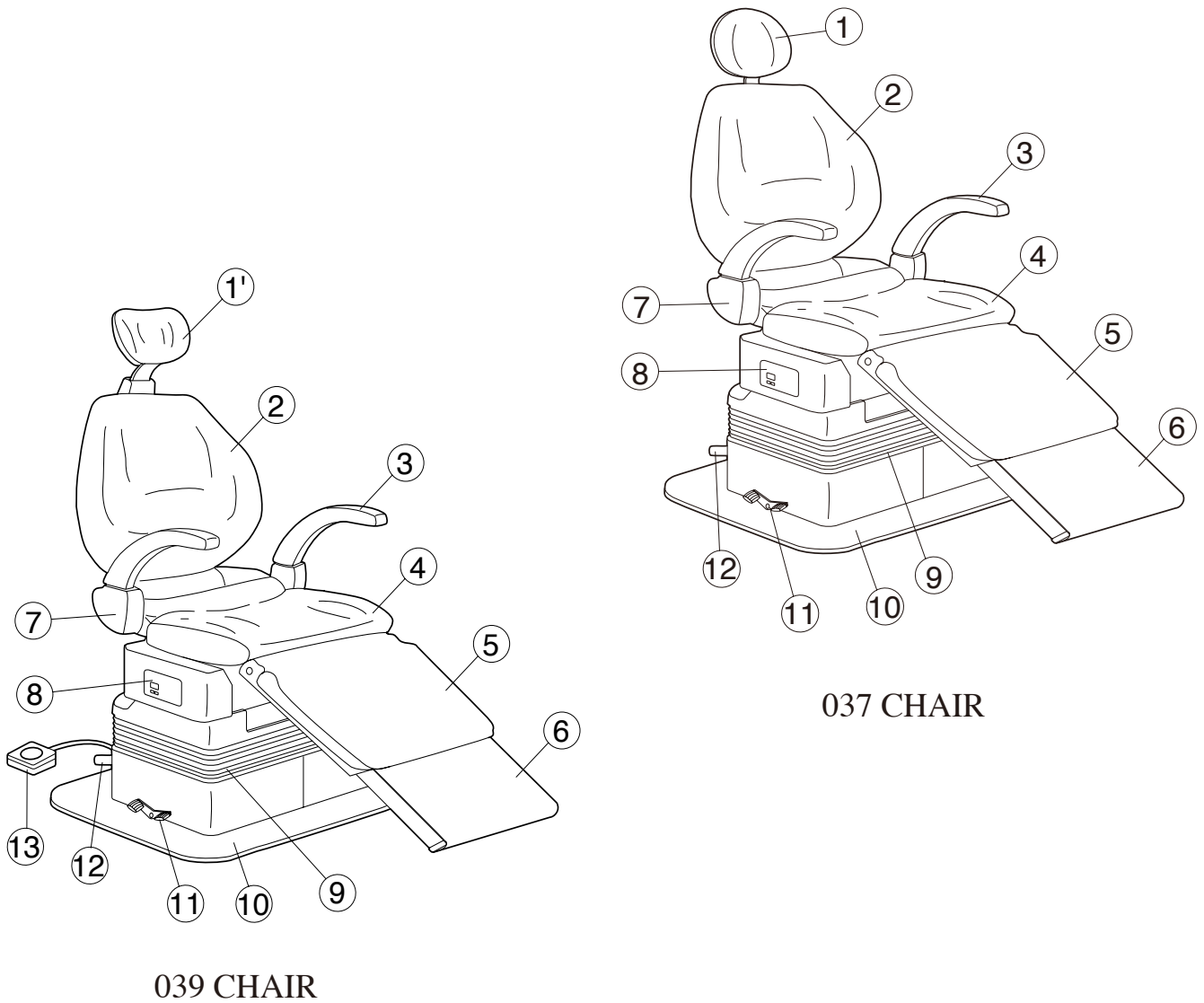
In case of the troubles, please contact Takara Belmont offices or your dealers.

Do not disassemble or attempt to repair.

Disassembly, repair or modifications should only be done by a qualified repair technician.

Attempts at disassembly, repair or modifications may lead to abnormal operation and accidents.

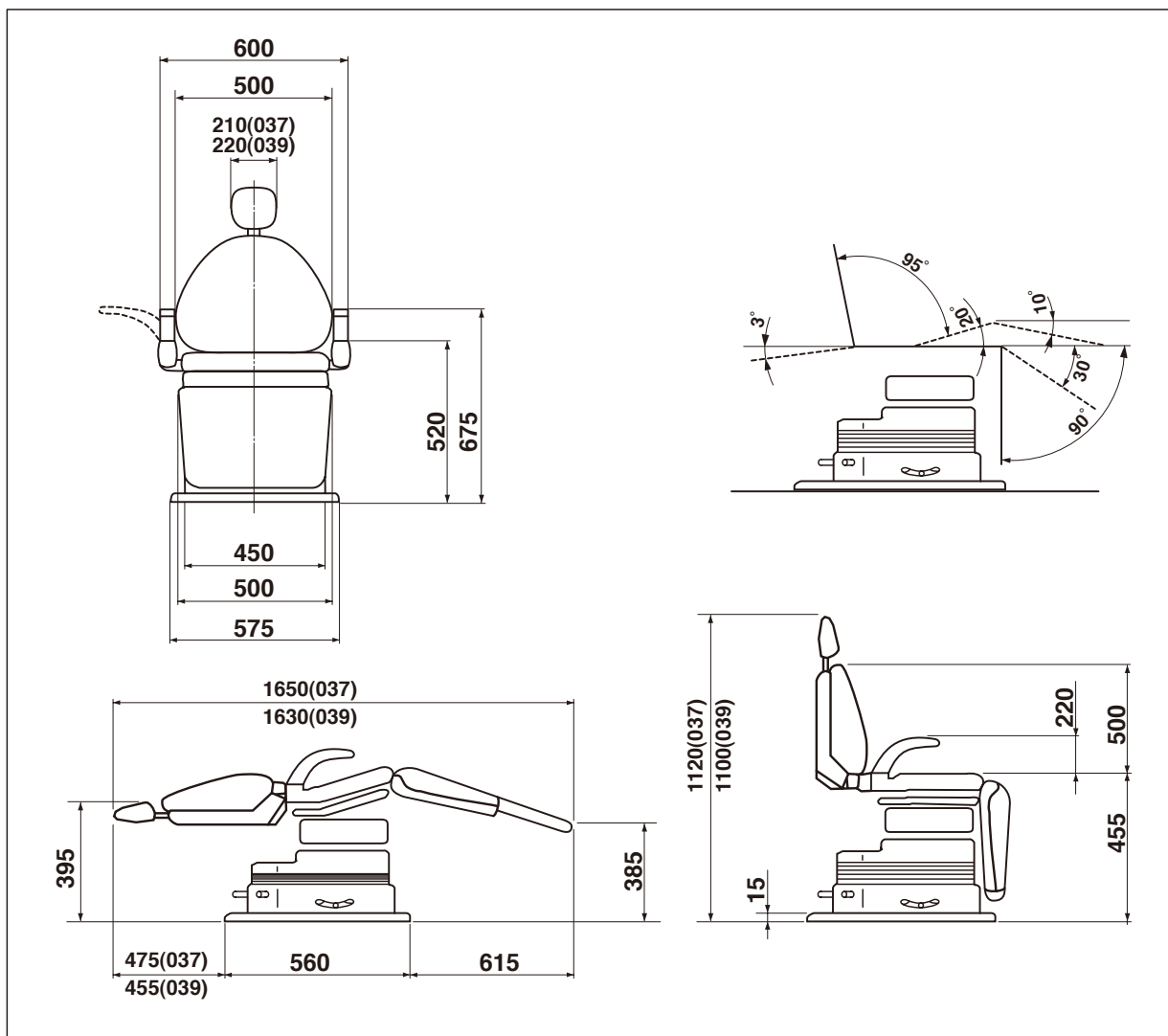
# 1. OVERALL VIEW AND MAJOR COMPONENTS



- |                           |                             |
|---------------------------|-----------------------------|
| (1) ARTICULATING HEADREST | (7) ARMREST BLOCK           |
| (1') POWER HEADREST       | (8) CHAIR PRESET PANEL      |
| (2) BACKREST              | (9) BELLOWS                 |
| (3) ARMREST               | (10) BASE PLATE             |
| (4) SEAT                  | (11) ROTATION LOCK PEDAL    |
| (5) LEGREST               | (12) FOOT SWITCH (CHAIR)    |
| (6) RETRACTABLE FOOTREST  | (13) FOOT SWITCH (HEADREST) |

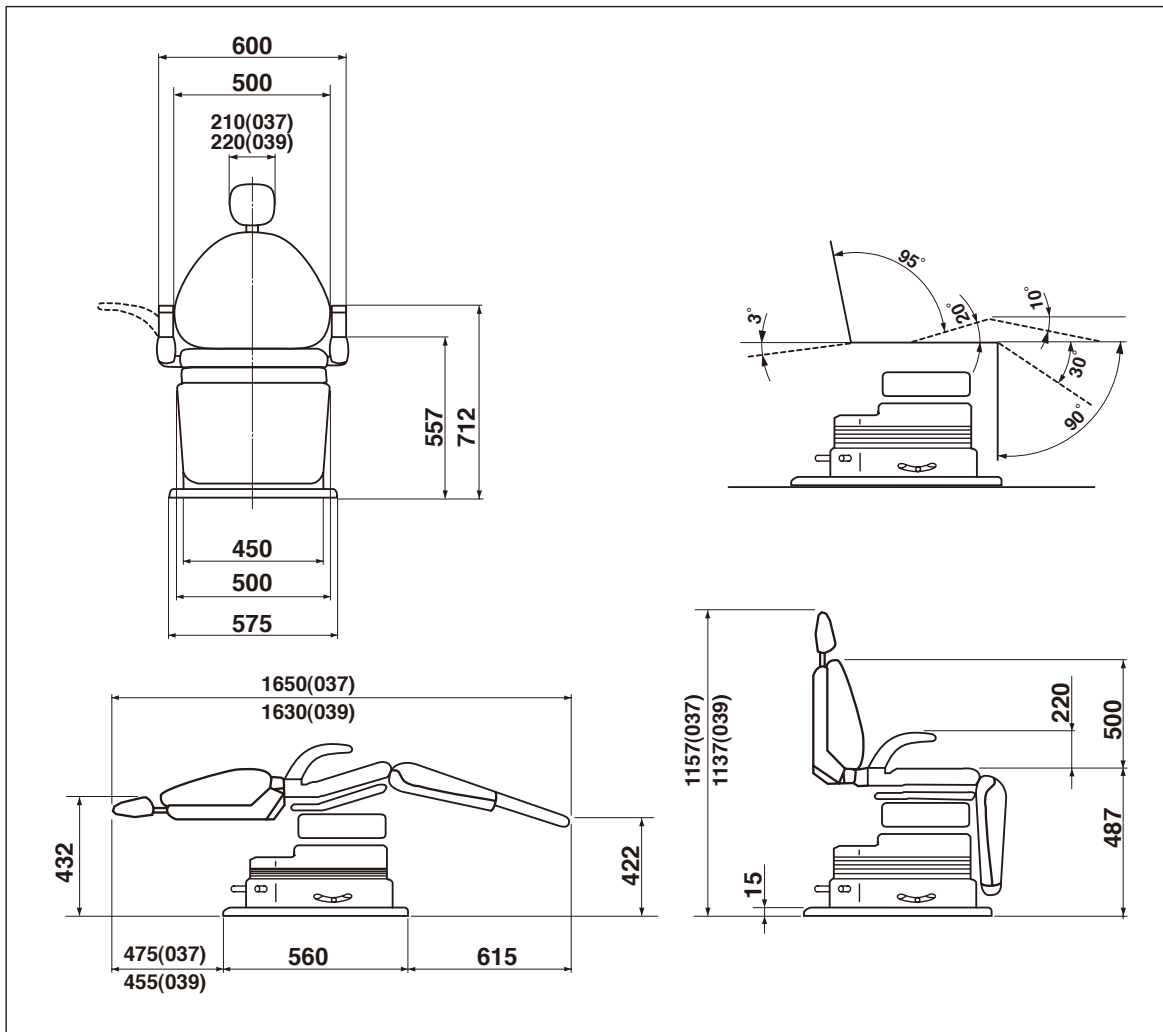
**Fig. 1-1 OVERALL VIEW**

## 2. DIMENSIONS AND SPECIFICATIONS



Chair Height	-----	455mm	
Seat Elevation Stroke	-----	260 mm	
Headrest Extension	-----	120 mm	
Legrest Extention	-----	230 mm	
Hydraulic Fluid	-----	900 cc	
Type of Motor Pump	-----	5LP	
Power Consumption	-----	230V 50Hz	2.1A
Chair Weight	-----	150 Kg (037)	
		154 Kg (039)	
Maximum Load	-----	135kg	
Service Life	-----	10 years	

## 2. DIMENSIONS AND SPECIFICATIONS (EUROPE TYPE)



Chair Height	-----	487mm
Seat Elevation Stroke	-----	300 mm
Headrest Extension	-----	120 mm
Legrest Extention	-----	230 mm
Hydraulic Fluid	-----	900 cc
Type of Motor Pump	-----	5LP
Power Consumption	-----	230V 50Hz 2.1A
Chair Weight	-----	150 Kg (037)
		154 Kg (039)
Maximum Load	-----	135kg
Service Life	-----	10 years

039 : After Ser. No. DDA080219  
 037 : From 1997 October Production

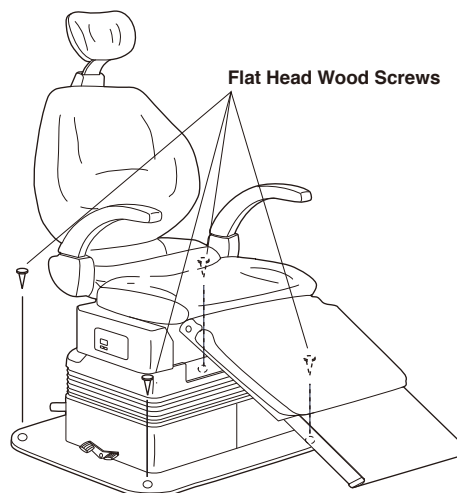
### 3. INSTALLATION PROCEDURES

- 1) Place chair crate just behind the planned location for the chair.
- 2) Open the crate and remove all packing materials.  
(Do not use sharp instrument that can damage upholstery.)  
Slide the chair off palette into the place.  
**DO NOT LIFT THE CHAIR BY ARMRESTS OR BACKREST.**
- 3) Once the chair is located, but **BEFORE PLUGGING INTO POWER**, do the followings ;
  - (1) Remove red bolt with a caution tag located on chair seat-plate.
  - (2) Grasping red tag on bellows, pull out rubber plug of oil reservoir.
  - (3) Save above red bolt and rubber plug in case the chair is ever reshipped in the future.
- 4) Remove 3 nuts and washers under the seat.  
Attach the seat on seat-plate and fix it by screwing the nuts and washers from underneath the seat-plate.
- 5) Attach bellows to bellows support.
  - (1) Loosen and remove 4 Phillips screws on bellows support-rear, then remove the bellows support-rear from the chair.
  - (2) Hang the top plate of bellows on the edge of bellows support-front, and hang the top-rear plate of bellows on the edge of bellows support-rear.
  - (3) Reattach bellows support-rear with hanging bellows on to the chair by screwing 4 Phillips screws.
- 6) Unpack the small carton containing accessories. Check following items in it.  
Headrest Assembly (037)..... 1 pce.  
Foot Switch (039) ..... 1 pce.  
Flat Head Wood Screw (Pie.4.8 - 40) ..... 4 pcs.  
Anchor Plug (7 x 30)..... 4 pcs.  
For an 037 chair, slide headrest into slide mount on top of backrest.

- 7) Fixing the chair on the floor  
Fix the chair base on the floor with bolts.  
Chair base fixing points are shown in figure 3-1.  
In case of wood floor, fix the chair base with attached flat head wood screws.  
In case of concrete floor, fix the chair base with attached anchor plug and flat head wood screws.

#### **CAUTION**

Chair must be fixed to the floor with bolts to prevent from falling down.  
When fixing chair to the floor, be careful not to damage pipings under the floor.



**Fig. 3-1 Fixing chair on the floor**

#### **AFTER INSTALLATION**

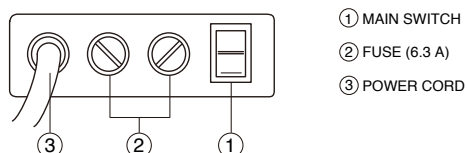
Once the chair is installed according to above steps, check the all chair function following the operation procedures in this booklet.

## 4. OPERATION PROCEDURES

The Belmont 037/039 chair was designed for maximum simplicity of operation. However, taking a few moments to familiarise yourself with the operation of the chair will make its operation comfortable and simple for you and your patients.

Plug the chair into an appropriate electric power source.

Turn on the Main Switch located on left side of Pump Cover. (See Fig. 4-1.)



Basic Control Function:

Chair manual control functions are duplicated on both sides of the pump cover.

Chair auto control functions are equipped on rear side of the pump cover.

A separate foot control is used with the power headrest (039).

### 1) Chair Manual Controls (See Fig. 4-1.)

#### (1) Seat Height Control

To raise : Move either side mounted foot switch up.

To lower : Move either side mounted foot switch down.

#### (2) Backrest Control

To raise : Move either side mounted switch right.

To reclining : Move either side mounted switch left.

### 2) Chair Auto-mode Controls (See Fig. 4-1.)

#### (1)Preset Mode Controls

037/039 chair has two preset positions and last position memory. To place the chair in each position with footrest extension. Momentarily move the foot switch located on rear side of the pump cover.

Preset 1 : Move rear mounted switch left.

Preset 2 : Move rear mounted switch right.

LP : Move rear mounted switch up.

#### (2)Auto-return Control

To return the chair to the patient entry position (fully lowered with the footrest retracted), momentarily move rear mounted foot switch down.

### 3) Power Headrest Controls (039) (See Fig. 4-1.)

(1)To extend : Press down upper area of foot control disc.

To retract : Press down lower area of foot control disc.

(2)To move back : Press down right side of foot control disc.

To move forward : Press down left side of foot control disc.

### 4) Articulating twin axis prosthetic headrest adjustments (037) (See Fig. 4-2.)

Articulating twin axis prosthetic headrest adjusts to match patient's anatomy, looks securely in any desired position.

To extend: Simply pull up to desired position.

To retract: Depress to desired position.

**5) Safety Stop**

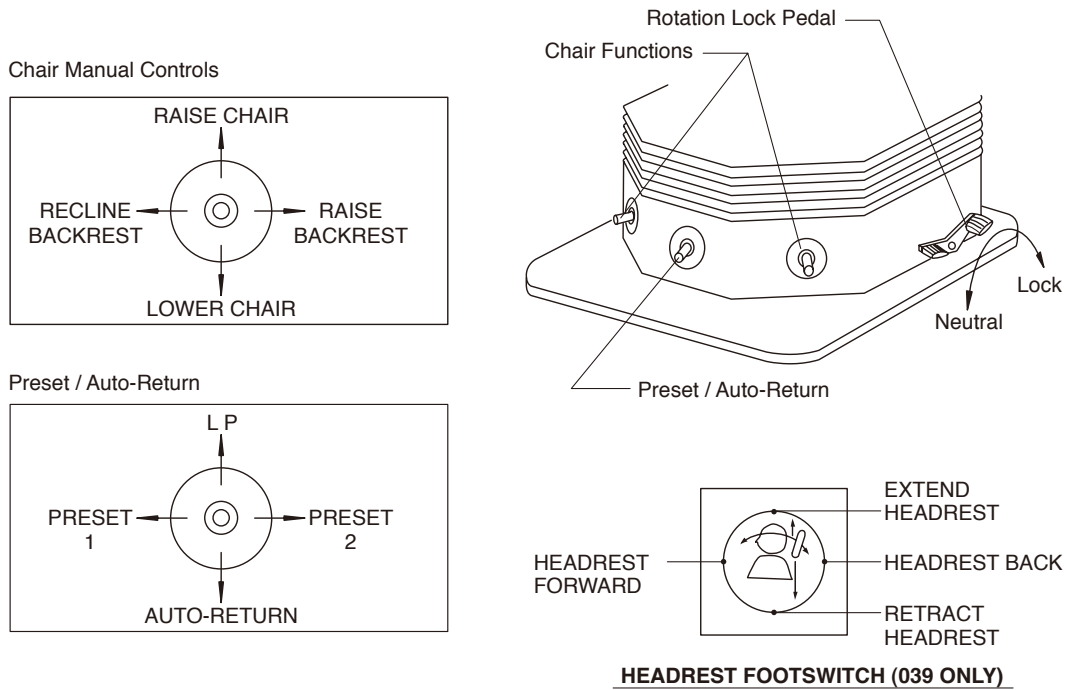
Automatic travel in all automatic mode can be instantly cancelled at any time by momentarily pressing any control switch.

**6) Armrest Rotation (See Fig. 4-3.)**

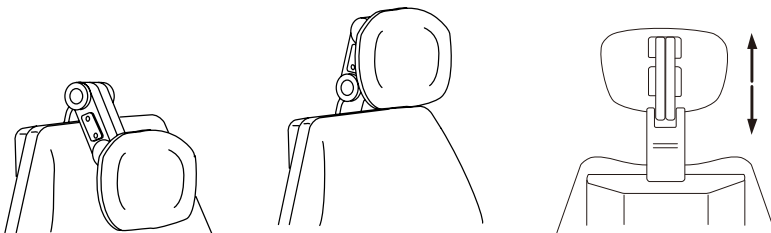
Either armrest can be rotated outward by pulling.

**7) Chair Rotation (See Fig.3-1.)**

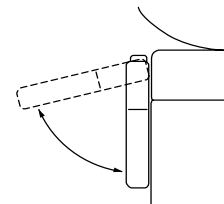
Release rotation lock by pressing "N" footpad and lock chair in desired position by pressing "L" footpad.



**Fig. 4-1 Control Switch Location & Function**



**Fig. 4-2 Headrest Adjustment**



**Fig. 4-3 Armrest Rotation**



## 8) AUTO MODE POSITION ADJUSTMENT

### (1) Preset position Adjustment

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.

### (2) Mouth Rinsing Position Adjustment

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 surfaces with 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.

<b>Guidance and manufacture's declaration - electromagnetic emissions</b>		
The 037/039(CHAIR) is intended for use in the electromagnetic environment specified below. The customer or the user of the 037/039(CHAIR) should assure that it is used in such an environment.		
<b>Emissions test</b>	<b>Compliance</b>	<b>Electromagnetic environment - guidance</b>
RF emissions CISPR 11	Group 1	The 037/039(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 037/039(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	

<b>Guidance and manufacture's declaration - electromagnetic immunity</b>			
The 037/039(CHAIR) is intended for use in the electromagnetic environment specified below. The customer or the user of the 037/039(CHAIR) should assure that it is used in such an environment.			
<b>Immunity test</b>	<b>IEC 60601 test level</b>	<b>Compliance level</b>	<b>Electromagnetic environment - guidance</b>
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 tile. 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 037/039(CHAIR) requires continued operation during power mains interruptions, it is recommended that the 037/039(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 037/039(CHAIR) is intended for use in the electromagnetic environment specified below. The customer or the user of the 037/039(CHAIR) should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz outside ISM bands <sup>a</sup>	3 Vrms	<p>Portable and mobile RF communications equipment should be used no closer to any part of the 037/039(CHAIR), including cables, than the recommended separation distance calculated from the equation applications to the Frequency of the transmitter.</p> <p><b>Recommended separation distance</b>  <math>d = 1.2\sqrt{P}</math></p>
Radiated RF IEC 61000-4-3	3V/m 80 MHz to 2.5 GHz	3 V/m	<p><math>d = 1.2\sqrt{P}</math> 80 MHz to 800 MHz  <math>d = 2.3\sqrt{P}</math> 800 MHz to 2.5 GHz</p> <p>Where <math>P</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <math>d</math> is the recommended separation distance in metres (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> <div style="text-align: center;">  </div>

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 037/039(CHAIR) is used exceeds the applicable RF compliance level above, the 037/039(CHAIR) should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the 037/039(CHAIR).

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

**Recommended separation distances between  
Portable and mobile RF communications equipment and the 037/039(CHAIR)**

The 037/039(CHAIR) is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the 037/039(CHAIR) can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the 037/039(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.



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