

OPERATOR'S MANUAL OSADA EXL OSI-2

**NEW BRUSHLESS MICROMOTOR SYSTEM
FOR ORAL SURGERY AND IMPLANT PREPARATIONS**



OSADA, INC.

**3000 So. Robertson Blvd., Suite 130
Los Angeles, CA 90034**

(800) 426-7232, (310) 841-2220, FAX (310) 841-2221

www.osadausa.com

TROUBLE SHOOTING

**WHEN YOU FIND THE UNIT WORKING ABNORMALLY,
PLEASE CALL OSADA, INC. IN LOS ANGELES
TOLL FREE TELEPHONE NO. 1-800-426-7232.**

**IF ABNORMAL BUR ROTATION OCCURS, THE BLUE BEAM
WILL PULSATE RAPIDLY AND CIRCUIT BREAKER MAY
CEASE THE ROTATION. CHECK THE UNIT AND REMEDY
OBVIOUS PROBLEMS. OTHERWISE CALL OSADA, INC.
IF ABNORMAL PERFORMANCE WITH THE FOOT PEDAL
ATTACHED TO THE POWER CONSOLE OCCURS, THE
FOOT PEDAL MAY NEED SENSOR ADJUSTMENTS.**

WARNING & PRECAUTIONS

OSADA EXL-OSI-2 BRUSHLESS MICROMOTOR SYSTEM is a deceptively quiet but powerful drill unit designed for Oral Surgery and Implant Preparations. It provides a wide range of power and high torque. Take a test run before each surgical procedure, and make sure the instruments are in good working condition including attachments. Dull or bent attachments can cause unnecessary risk of injury or damage to the instrument.

In Oral Surgery set a speed range comfortable to operate. Avoid extremely fast rotation with double speed handpieces. Avoid long continuous running; give a short rest time in between. Adjust the pressure while cutting to achieve the best results.

MAKE SURE THE HANDPIECE IS FREE FROM BINDING, NOISE, OR HEATING UP. IF YOU HAVE ANY DOUBT, DO NOT USE THIS HANDPIECE. THE MAINTENANCE OF THE EQUIPMENT IS OF UTMOST IMPORTANCE.

MAINTENANCE

Wipe the Power Console and non-autoclavable parts with a damp towel to keep clean. Damp cloth with alcohol can be used to wipe clean and sanitize the external surfaces of the Power Console, Foot Switch, Cords, Hanging Rod, etc..

Avoid harsh chemical solutions such as germicides to sanitize the surfaces. Do not spray liquid cleanser, it may cause rust and damage external and internal components.

MAINTENANCE of AUTOCLAVABLE PARTS

MICROMOTOR SM1-3 AND ITS MOTORCORD, AND OSADA'S SURGICAL HANDPIECES ARE ALL STEAM AUTOCLAVABLE. IRRIGATION PARTS INCLUDING THE TUBING AROUND THE PUMP CASSETTE ARE ALL STEAM AUTOCLAVABLE.

After surgery, wipe clean external surfaces of the micromotor, cord, handpieces, etc.

A damp cloth with alcohol (Ethanol) can be used to clean.

Now the MICROMOTOR/MOTORCORD are ready to be autoclaved.

The HANDPIECES must be treated with Osada's spray oil prior to autoclaving. Removable nose guards of the handpieces can be separately washed. Spray oil handpieces to purge debris from inside until clean oil comes out of the nose end.

Keep the handpieces up-side-down for a while for better penetration of the oil throughout. Put the instruments in an envelope or wrapped in gauge, and place in an autoclave. Avoid direct contact with the autoclave walls.

Recommended Sterilization Methods:

(1) Steam Autoclave (Follow the manufacturer's direction.)

Sample A. 135°C (=275°F) max. 3 min. or longer
Sample B. 132°C (=270°F) 5 min. or longer
Sample C. 121°C (=250°F) 20 min. or longer

Followed by 15-30 min. drying cycle

Use a protective envelope or wrapped in gauze.

(2) Gas Chamber with Ethylene Oxide

(3) Ethanol (Alcohol) can be used to dampen the cloth and wipe external debris and sanitize. Do not leave the soiled parts unattended. Do not let it solidify.

Keep this instrument clean and dry.

IMPORTANT MESSAGE

Read this manual thoroughly before using any part of the OSADA EXL OSI-2.

**ALL-IN-ONE, SIDE BY SIDE 2 MOTOR SYSTEM
WITH PERISTALTIC IRRIGATION PUMPS.**

INTRODUCTION (FEATURES)

- ◆ The integrated unit consists of a sturdy table top Osada EXL Series Brushless Micromotor System with built in peristaltic irrigation system.
- ◆ Side-by-Side 2 motor system specifically designed for the Oral Surgery and Implant Preparations.
- ◆ The micromotor SM1-03 and SMC2 motor cord are steam autoclavable along with the accompanied silicone tubing and irrigation bottle (optional). Comes with junction to accept ISO e-coupler handpieces.
- ◆ Solid state transistorized feedback circuitry maintains speed and high torque under varying load, producing highly efficient performance.
- ◆ High Torque / Low Speed operation for Implant preparations with adjustable speed and torque settings.
- ◆ Smooth running Oral Surgery up to 80,000 RPM with double speed handpieces.

FOR MORE INFORMATION, TECHNICAL ASSISTANCE AND SERVICES, CONTACT

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Manufactured by

OSADA ELECTRIC CO., LTD.
17-5 Nishigotanda 5-Chome
Shinagawa-ku, Tokyo 141-8517, JAPAN
Phone: 813-3492-7651 FAX: 813-3779-0976

COMPONENTS

Model OSADA EXL OSI-2

A: Control Console Model EXL OSI-2

B: Foot Control with Cord

C: SM1-3 brushless micromotor with e-coupler junction

D: Peristaltic Irrigation Pump Head and tubing set

B: FOOT CONTROL
With cord

A: CONTROL CONSOLE
MODEL EXL OSI-2

C. SM1-3 Brushless
Micromotor with SMC2
Motorcord (autoclavable)

IRRIGATION
PUMP HEAD

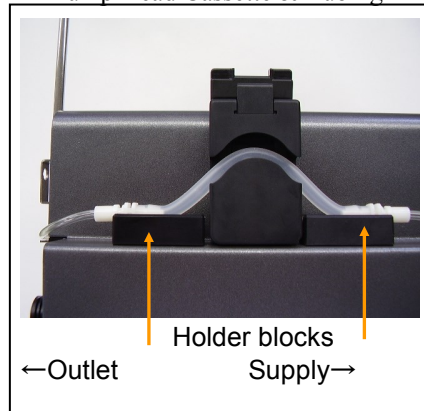


HHA Auto-clavable
Handpiece Holder

POWER CORD

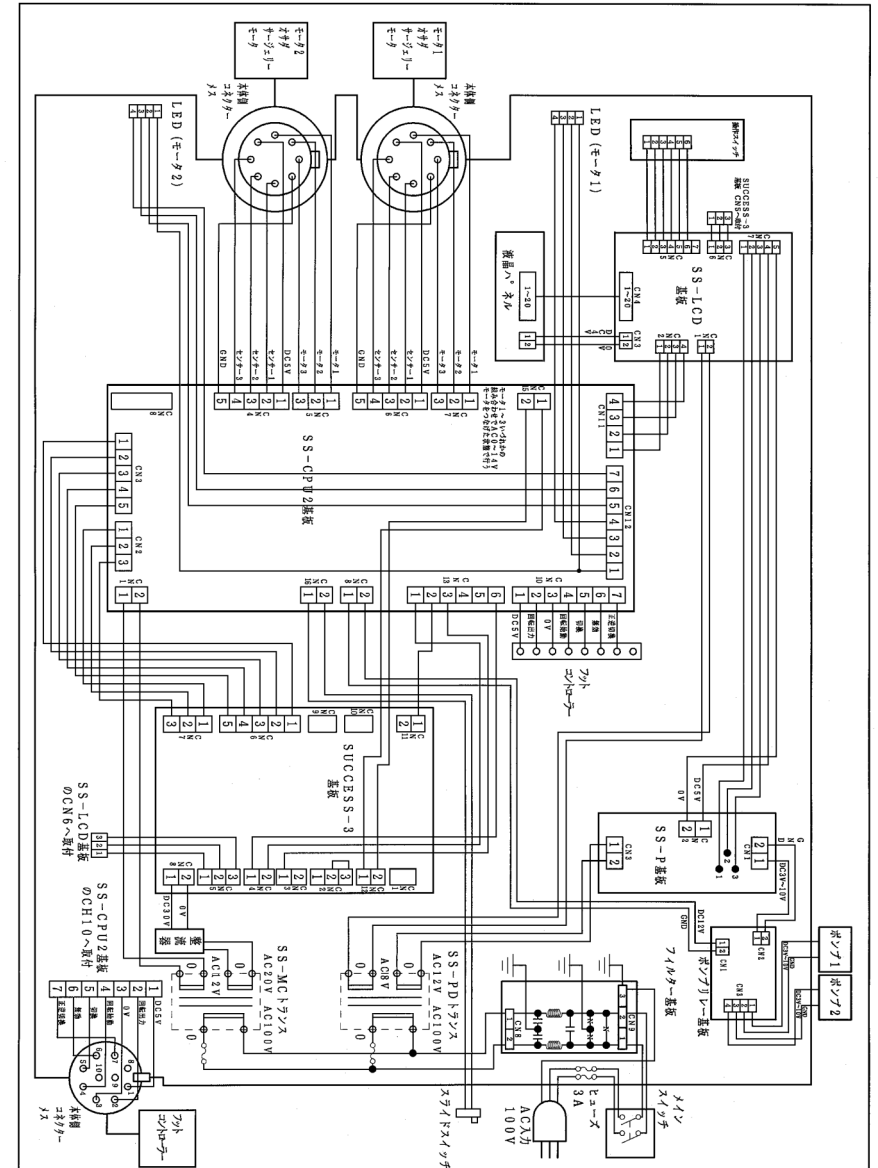


Pump Head Cassette & Tubing



WIRE DIAGRAM

EXL OSI-2 BRUSHLESS MICROMOTOR SYSTEM FOR ORAL SURGERY AND IMPLANT PREPARATIONS



IRRIGATION ACCESSORIES
EXL OSI-2 with Peristaltic Irrigation Dispenser
 (#) marked parts are steam autoclavable

Part ID	Description	Price
EXL OSI-2 PUMP	Built in Peristaltic Pump (the Power Console)	N/A
#EXL OSI-PHT	Pump Head Tubing (Bold) with connectors	\$30.00
#EXL OSI	Handpiece Tubing Packet	\$45.00
#EXL-OSI-15A	10-ft. Silicone Tubing with a male joint	\$30.00
#ID-15BC	Handpiece-end Tubing & reducing Joint (ø1.02mm)	\$ 5.00
#F15-15D	Tubing Clamps (set of 8)	\$10.00
#F15	Reservoir Set	\$41.00
#ID-22B	Connecting Tubing to Pump w/2 male joints	\$10.00
#ID-22C	500 cc Reservoir Bottle (no cap)	\$11.00
#ID-22D	Reservoir Bottle Cap Assembly	\$20.00
#F15	Hanging Rod Set (w/Set of 2 Spare Needles)	\$85.00
#ID-25RL	Long Hanging Rod	\$45.00
#ID-25N	Bag Adapter Needle (disposable) / each	\$10.00
#ID-25E	Connecting Tubing to Pump w/male joint	\$10.00

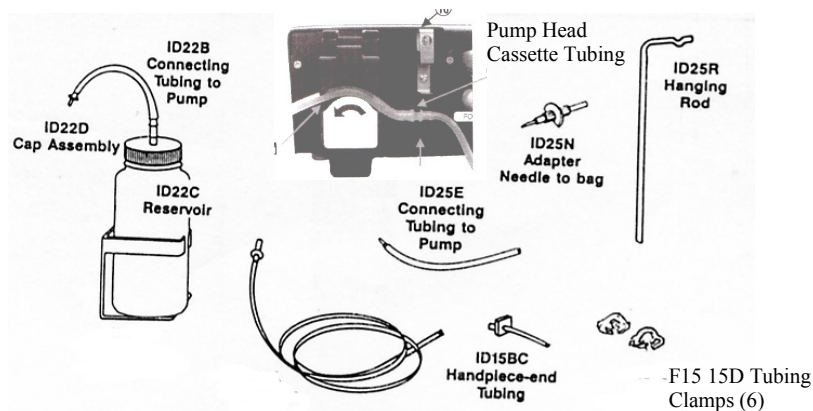
Optional Accessories:

#ID-11	500 cc Reservoir w/Plain Cap	\$16.00
#Miscellaneous Joints (specify as part of above parts)	price / each	\$ 1.00

OSADA EXL OSI-2 nomenclature

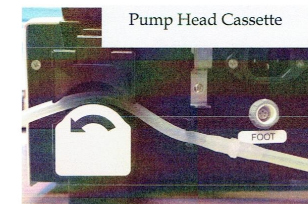
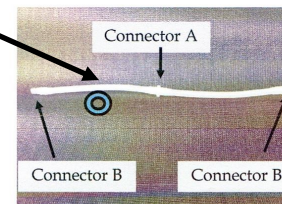


Pump Head Cassette



HOW TO INSTALL THE TUBING TO THE PUMP HEAD CASSETTE
 EXL OSP-2 has a pump head cassette on each side. Irrigation is directed from the back near the irrigation bag or a bottle toward front on each side to be connected to the handpiece tubing .

Position of the pump head cassette

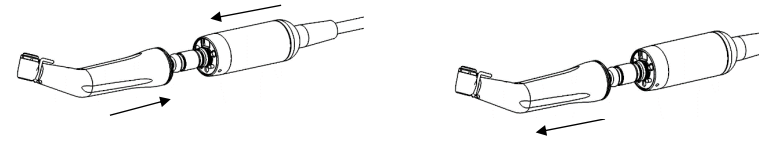


EXL OSI-2 SPECIFICATIONS

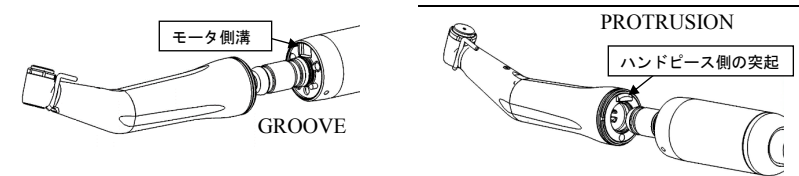
PARTS	ITEM		
1. Classification for form of protection against electric shock	JIS T0601 Class I		
2. Classification for level of protection against electric shock	JIS T0601 Type BF connection		
3. Power Source	Power Voltage	AC 120V	
	Power Frequency	50/60 Hz	
	Power Input	0.34A	
4. Power Console Box (detachable power cord; 2.5 meters) selection switch on the back panel 30,000 or 40,000 rpm	Dimension (main body)	210 (W) x 300(D) x 160(H) mm	
	Weight	7.9 kgs	
	Irrigation Pump	1. Activated with Foot Control 2. Ajustable Volume 20-100 ml/min 3. Peristaltic cassette on each side of the PC 4. Autoclavable tubing outside of the PC	
	Memory	1. Memory items: Maximum speed, Torque, Irrigation Volume and Handpiece speed ratio 1:1 or 1:2 2. Foot Control select Memory (1 - 4)	
	Brushless Micromotor Micromotor SCM1-03	1. Rotational Speed 1000±100 - 40,000±1000 rpm 2. Adjustable Maximum speed 3. Motor 1 or 2 by selection	
	Alarm	Alarm sounds on reverse rotation	
	Torque (maximum 50 Ncm)	Micromotor stops at the set torque when loaded Display torque on Motor 1 Implant Preparations	
	Operation Mode	Motor 1 for Implant Preparations Motor 2 for Oral Surgery or Wire Driver	
	5. Foot Controller with 4 meter cord Left Button Right Button Left Pedal Right Pedal	Dimension (main body)	206 (W) x 186 (D) x 38.4 (H) mm
		Weight	2 kgs.
Functions		Left Button	Micromotor 1 or Micromotor Switching
		Right Button	Choice of Mode 1 through 4
		Left Pedal	Activate Reverse Rotation
Right Pedal	Activate Forward Rotation		
6. Surgery Micromotor SCM1-03 brushless steam autoclavable	Dimension (main body)	Diameter 25mm, Length 72.3mm	
	Weight	100g Autoclavable at 135°C	
	Rotational speed	1000±100 - 40,000±1000 rpm	
	Stopping torque	5 Ncm	
	Usable Handpieces	Handpieces with ISO type joooint (e-coupler)	
7. SMC2 Motor Cord	SMC-2	Diameter 6mm, Length 3m Autoclavable at 135°C	



HOW TO CONNECT A HANDPIECE TO THE MICROMOTOR SM 1-3

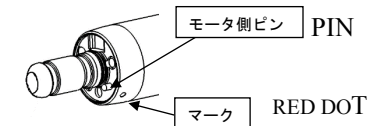


THE HANDPIECE AND THE MICROMOTOR CONNECTION IS SIMPLY ACHIEVED BY PUSH AND PULL ACTIONS.



INSERT THE HANDPIECE ON TO THE E-JUNCTION OF THE MICROMOTOR AND PUSH TOGETHER. TWIST A LITTLE UNTIL YOU HEAR A CLICK AND THE FULL ENGAGEMENT IS FELT. THE HANDPIECE CSR20 HAS A PROTRUSION AT THE END AND THIS WILL MATCH THE GROOVE ON THE MICROMOTOR TO ENGAGE.

A Spring loaded pin on the micromotor is marked with a dot. The handpieces without light will engage when the pin of the micromotor slips into the hole at the base of the handpieces for a full engagement. (Align the dot on the handpiece with the dot on the micromotor.)



The micromotor SM1-3 and the motorcord are steam autoclavable. Wipe off any visible debris with tightly squeezed towel dampened with water or ETHANOL (ALCOHOL) before placing it in the autoclave. DO NOT SPRAY GERMICIDE SOLUTION around the instruments!

Handpieces are all steam autoclavable. However, proper preparation is important to maintain the well working handpieces: immediately after a procedure, spray oil with Osada spray oil from the back end of the handpiece to purge debris inside until clear oil comes out of the bur end; keep the handpiece upside down to allow oil to penetrate throughout and drain excess oil; place it in a bag for autoclaving.

SETTING UP
Model OSADA EXL OSI-2

***Micromotor 2 accepts WIRE DRIVER MICROMOTOR
with Interchangeable Chucks***

**BRUSHLESS MICROMOTOR SM-1-3 AND SMC2
(600—40,000 RPM)**

***ISO JUNCTION ACCEPTS VARIETY OF
E-COUPLER HANDPIECES***

BRUSHLESS MICROMOTOR SM-1-3



CSR20 20:1 CONTRA-ANGLE HANDPIECE



SH26SP 1:1 HANDPIECE



SH42SP 1:2 DOUBLE SPEED HANDPIECE



SH31SP 1:2 DOUBLE SPEED HANDPIECE

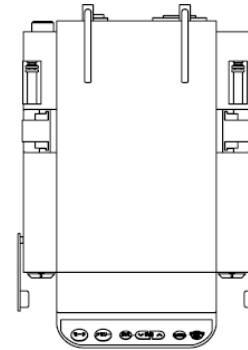


SSH01 SAGITTAL SAW HANDPIECE

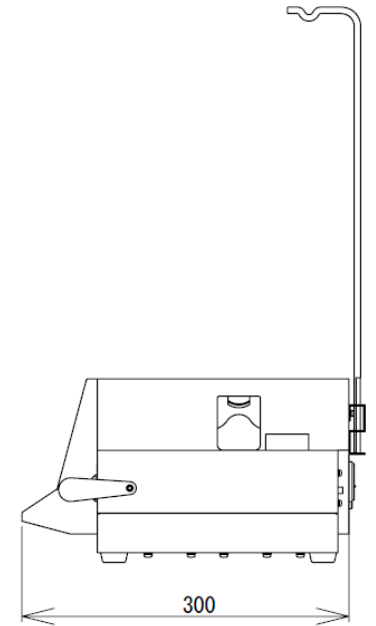
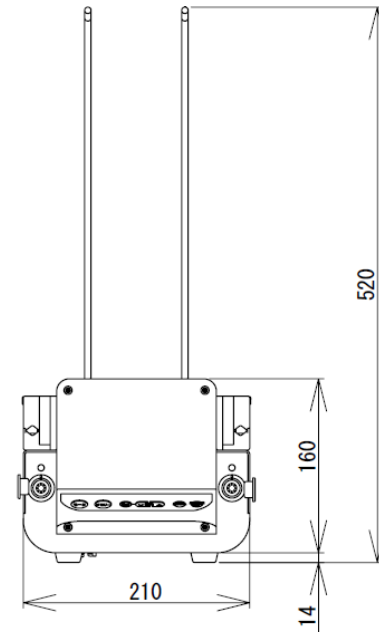


SAMPLE HANDPIECES

**COMPONENTS dimensions
EXL OSI-2 power console**



- Environmental condition for storage
 - Ambient Temperature-10 - 60°C
 - Relative humidity..... 10 - 90%
 - Atmospheric Pressure.....500 - 1,060hPa



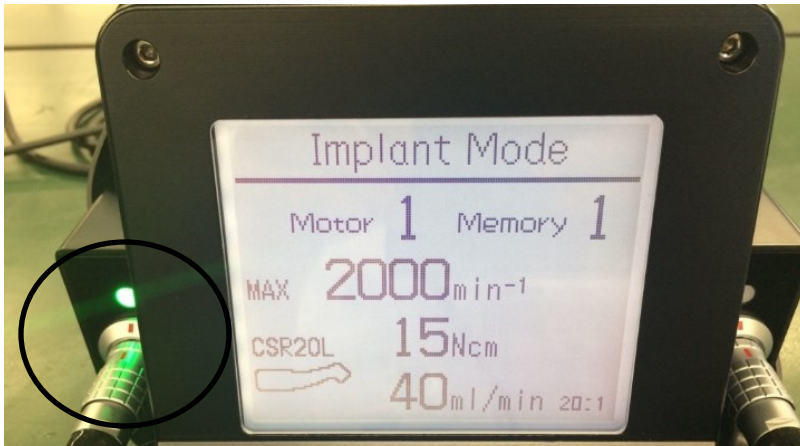
FRONT PANEL DISPLAY

Showing : Motor 1, Memory 1 (for implant drilling)

Max Speed: 2000 min⁻¹

Torque (with CSR20 20:1 contra angle): 15Ncm

Irrigation: 40 ml/min



BACK PANEL



Electric cord

Main switch



System Maximum Speed
Set Switch
30,000 RPM / 40,000 RPM

Foot Control Cord
Connector to the
Receptacle

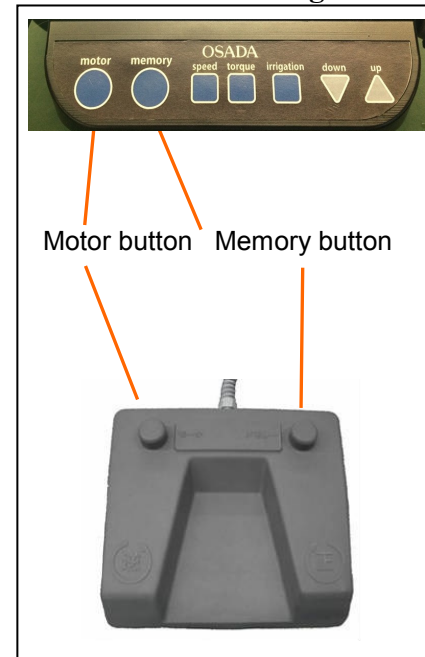
FRONT PANEL BUTTONS

- 1) Motor Button: Select a Micromotor 1 or 2
- 2) Memory Button: Check and edit the Memory 1 through 5 as you like; matching the selected handpiece. Speed, Torque and Irrigation volume can be adjusted by using UP or DOWN triangle.



FOOT CONTROL

- 1) Left Button: Select Micromotor 1 or 2
- 2) Right Button: Select the Memory matching the handpiece you selected.



Motor button

Memory button

ACTIVATION BY FOOT CONTROL



RIGHT PEDAL:
Forward Rotation

LEFT PEDAL:
Reverse Rotation
(lights the LED, warning
the reverse operation)