Micromotor Osada
Model OS 40
Art.-No. 692020

Operation instructions

To the person who operates the equipment
For the safety and getting the best efficiency of the equipment, please read this instruction manual thoroughly before using the equipment. Please follow the warnings and cautions strictly to keep yourself out of danger.

For the danger prevention
Read carefully the Cautions for the Safety and the Danger Prevention. Treat the equipment with maximum care to get the best efficiency, reliability and safety.

☞ **WARNING**	The mishandling of the equipment may cause the serious injury or blindness even to the user.
☞ **CAUTION**	The mishandling of the equipment may cause the injury to the user. It may also cause the damage to the equipment.

Exemption clauses
We are not responsible for the damages and troubles caused by the installation, transfer, maintenance, or repair handled by others, caused by the other manufacturer's product, caused by the repair using the parts which are not the genuine parts, caused by the negligence of the necessary cautions or proper operations, caused by the improper environmental conditions, caused by the natural calamity.
For repairs, please contact the authorized **OSADA** distributor.

☞ **WARNING**	1) Do not use this equipment for the treatment in the oral cavity under any circumstances. 2) The bur should be used in the revolutionary speed specified by the bur manufacturer with a shank diameter of 2,35mm. 3) Do not use the bur which is crooked or rusted. Insert the bur fully into the chuck for use. 4) When attaching/detaching the motor cord or the **micromotor** or foot pedal switch to/from the control unit, always turn OFF the main switch of the control unit. 5) The change of the fuses should be undertaken after disconnecting the plug of the electrical cord from the room receptacle. 6) The electrical cord is a 3P type with an earth terminal. Connect it accordingly.
☞ **CAUTION**	1) Never move the lever of the headpiece while the **micromotor** is revolving in the handpiece. Otherwise it will cause damages. 2) Do not apply so heavy load as to stop the revolution of the **micromotor**. It will be burnt out. 3) Do not lubricate the handpiece and **micromotor** under any conditions. It may cause damages. 4) Do not use the air gun or similar tool to blow out the dust from the handpiece and control unit. It rather pushes the dust in them and will cause damages. Do not use the solution of ethanol or benzene to wipe the control unit for cleaning.

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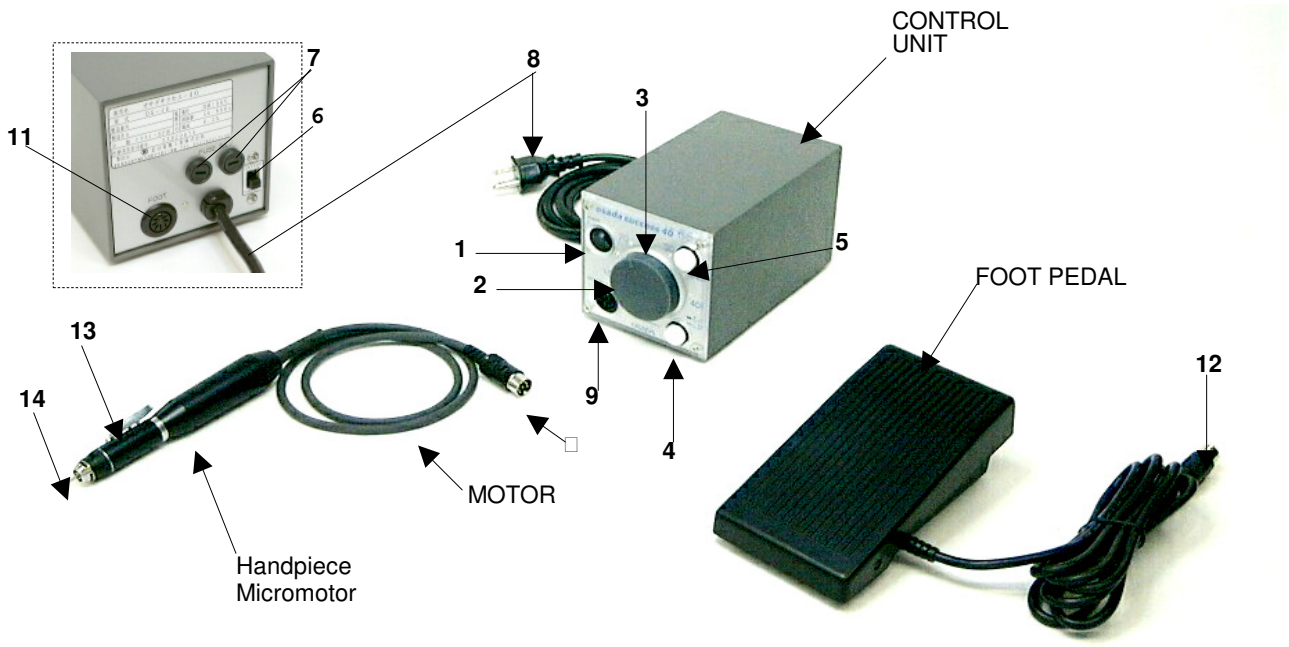
1. Components

1.1 Name of the parts

Rear side of control unit



NAME OF THE PARTS

1. main switch
2. revolutionary speed dial
3. indication lamp
4. forward/reverse switch
5. manual/foot switch
6. constant/variable switch
7. fuse holder
8. electrical cord
9. motor cord connector
10. motor cord plug
11. pedal switch connector
12. pedal switch plug
13. lever of handpiece
14. chuck of handpiece

1.2 Function of each part

1. main switch	ON/OFF control of electrical supply
2. revolutionary speed dial	regulates revolutionary speed from 1000 to 40000 in
3. indication lamp	lights in blue when the main switch is turned ON
4. forward/reverse switch	changes rotational direction from forward to reverse & vice versa
5. manual/foot switch	changes the operational mode from the foot pedal operation to the manual (no foot pedal) & vice versa
6. constant/variable switch	changes the operational mode of the foot pedal switch from the single revolutionary speed to the variable speeds & vice versa
7. fuse holder	there are 2 pieces à 1,25A
8. electrical cord	to be connected to AC230V room receptacle for supplying electricity to the control unit.
9. motor cord connector	on the front side of the control unit
10. motor cord plug	to be connected with the motor cord connector
11. pedal switch connector	for the connection of the foot pedal switch to the rear side of the

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control unit

12. pedal switch plug — to be connected to the pedal switch connector
13. lever of handpiece — to be used for attaching/detaching the bur
14. chuck of handpiece — to be used for catching the bur

1.3 Accessories

handpiece holder F

chuck remover A

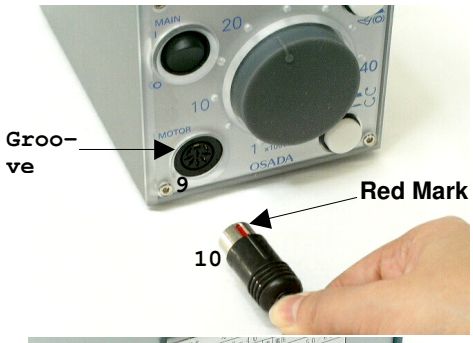
spindle holder

cleaning brush

fuse (2 pc.)

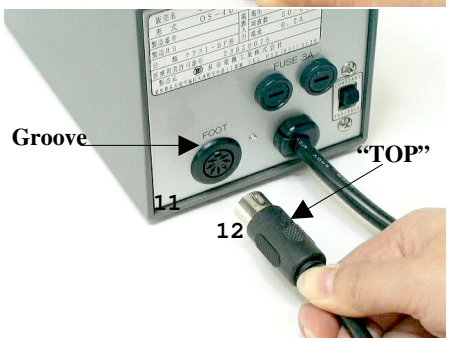
2. Connections and installation

2.1 connections



2.1.1 Connection of the motor cord

connect the motor cord plug (10) with the **micromotor** to the motor cord connector (9) on the front side of the control unit.
Align the red mark (groove) with the groove in the motor cord connector on the front of the control unit.



2.1.2 Connection of the foot pedal switch

Connect the foot pedal switch plug (12) to the pedal switch connector (11) on the rear side of the control unit (align „TOP“ mark with the groove in the pedal switch connector)

2.1.3. Connection of the electrical cord

Connect the plug of the electrical cord extending from the rear side of the control unit to AC230V (room receptacle with a protective earth terminal.

☞ **CAUTION** In case the plug is not suitable for the room receptacle, contact your **OSADA** distributor. Do not change by yourself !

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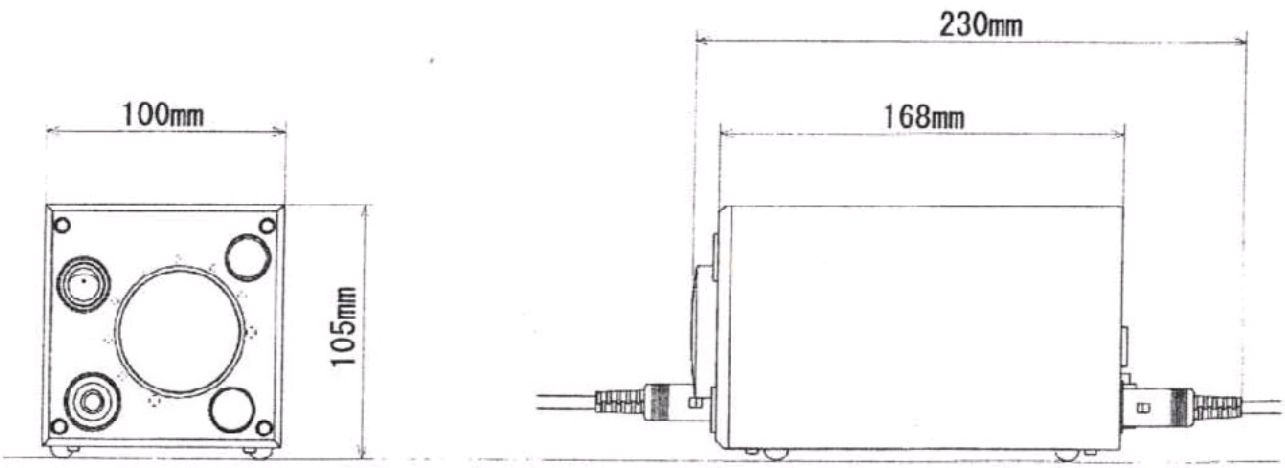
2.2 Condition for the installation

1. Place the equipment at the position which has no inclination, vibration and shock.
2. Place the equipment at the place where water does not affects the equipment.
3. Do not place the equipment at the place where chemicals or drugs are stored or gas containing salinity sulphur is generated.

2.3 Maße der Kontrolleinheit



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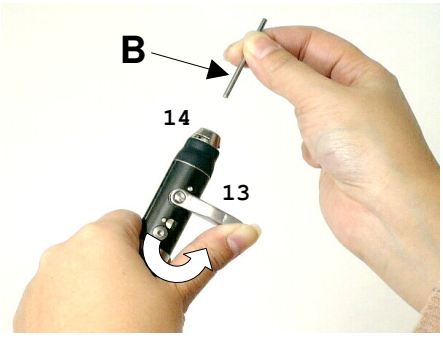
3. Operation method

3.1 Removal & insertion of the bur



FOR REMOVAL: Push up the lever (13) 90° counter-clockwise as the arrow indicates, the chuck (14) of the hand-piece is opened and the bur can be detached.

FOR INSERTION: Insert the bur fully until the end of the chuck (14).

Return the lever (13) to ist original position and the bur is fixed.

3.2 Operation of the switches

Turn the main switch (1) which is at the front side of the control unit ON. The indication lamp (3) is lit in blue.

Select the rotational direction of the **micromotor** by the forward/reverse switch (4).

Set the desirable speed by the revolutionary speed dial (2).

When depressing the manual/foot switch (5) the **micromotor** starts revolving at the speed set.

The revolutionary speed dial (2) can also regulate the speed when the **micromotor** is in revolution.

Depress the manual/foot switch (5) once more to stop revolution of the **micromotor**.

☞ **CAUTION**	To avoid the danger of unexpected revolution of the **micromotor**, this one does not revolve even if the main switch is turned ON when the manual/foot switch and/or foot pedal switch is ON. It does not revolve as well if the manual/foot switch and/or foot pedal switch is turned ON within a second after the main switch is turned ON. In this case, the indication lamp shows the abnormality by blinking consecutively three times. After confirming that both of the manual/foot switch and foot pedal switch are turned OFF, turn the main switch ON again.

3.3 Operation of the foot pedal switch

When the foot pedal switch is used, always switch OFF the manual/foot switch. The foot pedal switch provides the constant and variable mode, which can be selected on the rear side of the control unit.

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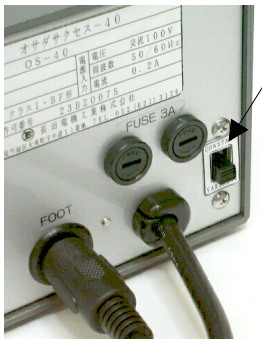
3.4 Constant/variable switch



In case of the variable mode, the **micromotor** starts revolving when the foot pedal is depressed and the revolutionary speed from min. 1000 min to max. 40000 min is adjustable depending on the pressure given to the foot pedal. However the max. revolutionary speed depends on the revolutionary speed dial.
When the foot is lifted from the foot pedal switch, the **micromotor** stops.

In case of the constant mode, the **micromotor** starts revolving when the foot pedal is depressed and it revolves at the speed set with the revolutionary speed dial (2). Even if the foot is lifted from the foot pedal switch, the **micromotor** continues to revolve.
When the foot pedal is depressed once more, the **micromotor** stops.

4. Safety devices

1. **Fuse**
   For protecting the interior circuit from the excess a fuse is put in the control unit. The fuse is burnt by cutting the excessive surges of electricity, and as the result, the main switch does not turn ON.

   Replace the blown-out fuse with new ones

2. **Electronic breaker**
   When over loaded, by the work of electronic breaker integrated in the control unit, the **micromotor** stops automatically.
   In this case the indication lamp shows the abnormality by blinking consecutively three times.

   Turn OFF the manual/foot switch and/or the foot pedal. Then turn ON the main switch again

3. **Against sudden revolution**
   To avoid unexpected revolution of the **micromotor**, it does not revolve even it the main switch is turned ON
   In this case, the indication lamp shows the abnormality by blinking consecutively three times.

   Turn OFF the manual/foot switch and/or the foot pedal. Then turn ON the main switch again

4. **Auto OFF**
   To avoid unknowingly turned ON of the **micromotor**, it stops automatically, when it revolves for about 60 minutes.
   In this case, the indication lamp shows the abnormality by blinking consecutively three times.

   Turn OFF the manual/foot switch and/or the foot pedal. Then turn ON the main switch again

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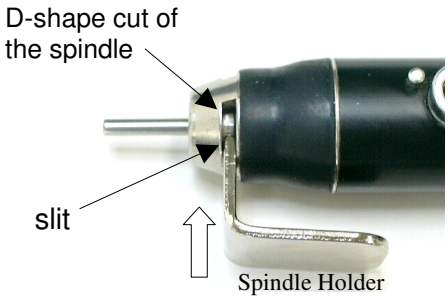
5. Maintenance and cleaning

5.1 Cleaning the chuck

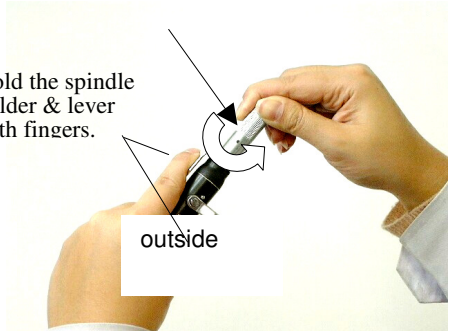
When there is the dust on the handpiece, especially around its chuck, this leads to drop-off chucking power and bur vibration. Clean the chuck of the handpiece regularly to use it safety and efficiently.



Turn the bur and adjust the position of the spindle to go into D-shape cut. Insert the spindle holder into the slit as shown on the picture.

Push up the lever of the handpiece 90° counter-clockwise and remove the bur.

Chuck Remover A



Insert the chuck remover A and turn it to the arrow direction. The chuck can be removed.

After removing the chuck clean the dust stuck inside the chuck and the tip of the handpiece with the cleaning brush, or cotton. Then the dust can be cleaned more thoroughly from inside the chuck.

inside

The portions shown by arrows are to be cleaned most intensely with caution.

inside

To attach the chuck, turn the one remover A in opposite way and tighten.

5.2 Cleaning the control unit

When cleaning the surface of the control unit, wipe the surface with a soft cloth immersed in water and wipe again with a soft dry cloth.

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6. Expendable supplies and spare parts

6.1 Expendable supplies

❋ List of expendable items

items		Person in charge			How to change (refer to)	When you should change	P/No.
		user	dealer	OSADA factory			
Control unit	fuse	X	X	X	6.1 page 7	The fuse is blown out	06029
Handpiece And micromotor	Ball bearing	---	---	X	---	The noice is abnormal	---
	chuck	X	X	X	5.1 page 6	The bur comes out during cutting	79097
	lever	---	---	X	---	The chuck cannot be opened or closed smoothly	

❋ How to change the expendable items, exchanging the fuses

Though the electrical cord is connected correctly, if the blue-colored indication lamp (3) of the revolutionary speed dial (2) does not light up when the main switch is turned ON, check and change the fuses at the following method :

⦸ Do not touch the glass part of the fuse directly by your bare fingers.

Disconnect the electrical cord (8) in order to avoid electrical shock.

Detach the fuse holders (7) by pressing and turning in 90° anti-clockwise.

Take out the fuses and check whether they are blown out

If the fuse is blown out, change the both fuses (two at one time).

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6.2 Spare parts

items	handpiece/micromotor	motor cord	foot pedal switch	chuck dia 2,35	chuck dia 1,6
P/No.	09357	50023	43036	79097	79154

items	handpiece holder F	chuck remover A	spindle holder	cleaning brush	fuses (2pc.)
P/No.	12742	79130	09356	71149	06029

7. Trouble shooting

Please contact your **OSADA** distributor, if the trouble cannot be solved though the following checking points are cleared.

	Situation	Checking points	References
	Power does not come when the main switch is turned ON. (the indication lamp does not light up)	If the electrical cord is connedted correctly If the fuse blown out	Refer 2.1 page 3 Refer 6.1 page 6
control unit	Does not revolve	If the main switch is turned ON If the motor cord is con-neted correctly If the foot pedal switch is connected correctly If the indication lamp is showing the abnormality	Refer 3.2 page 4 Refer 2.1 page 3 Refer 2.1 page 3 Refr 4 page 5
Handpiece and micromotor	There is abnormal sound, big vibration or bur deflection.	If the bur is crooked or damaged If the chuck has been cleaned regularly	Refer page 2 Refer 5 page 6
	Gets hot while the micromotor is in revolution.	If the micromotor is used with heavy load	Refer page 2

8. Exceptional rules for repairs without charges

Repairs will be charged according to the following conditions even if they are within the guaranteed period.

1. Damages and troubles caused by the installation, transfer, maintenance or repair handled by others.
2. Damages and troubles caused by the other manufacture's products which we do not provide.
3. Damages and troubles caused by the repair using the parts which are not genuine parts.
4. Damages and troubles caused by the negligence of the cautions or proper operations.
5. Damages and troubles caused by improper conditions for the utilization, including electric source, Installation environment, etc.
6. Damages and troubles caused by natural calamity such as fire, earthquake, flood, lightening, etc.
7. Exchange or replacement of expendable supplies (ball bearing, chuck, motor cord, fuse, etc...)

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9. Specifications and conditions of the utilization

Item			specifications (device + performance)	remarks
Product			OSADA Success 40	
Model			OS 40	
Medical device approval			23BZ0075	
		Appearance	width x depth x height : 100 x 185 x 105 mm	
Function & performance	1. Control unit	Functions	1. Revolutionary speed dial can adjust the speed from 1000min to 40000min	* The height includes the rubber pad
			2. Forward/revrse switch can change the rotational direction	
			3. Manual/foot switch can revolve and stop the micromotor	
			4. Constant/variable switch can change the operations: the micromotor continues	
			to revolve at the speed set or can be adjusted up to the speed set with the	
			revolutionary speed dial	
			5. Alarm indications :	
			* indication lamp blinks when the rotational direction is set to reverse	
			* indication lamp blinks consecutively three times when abnormality occurs	
		weight	2,9 kgs	
	2. Handstück (LHP-12) & Micromotor (L12M)	measurements	diameter x length : 26,5 x 137mm / grip section : dia 16,0mm	* The diameter does not include the lever
		usable bur	shank diameter : 2,35mm	
		bur change	lever type	
		speed	1000 - 40000min	
		torque	4,8 N.cm	
		weight	175 g	
	3. Motorkabel	appearance	length 1800 mm	
	4. Fußpedal	measurements	width x depth x height : 100 x 165 x 65 mm / cord length 2000mm	
		function	Adjustment of revolutionary speed	
		weight	530g	
Safety	classification according to type of protection against electircal shock		Class I equipment	
	classification according to degree of protection against electrical shock		B equipment	
Conditions of the utilization	power	voltage	AC 230 = 10V	
		frequency	50/60Hz	
		current	0.1 A	max. 1.25 A
	environment	ambient temper.	10 - 40° C	
		relat. Humidity	30 - 75 %	
		atmospheric press.	700 - 1060 HPA	

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