

# STRONG

## POWER SERIES



### SAESHIN SAESHIN PRECISION CO., LTD.

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SOM-L003S-E [Rev.19] 2022-04-20



Read all instructions before using  
This product is mainly designed for dental laboratory use.

Thank you for your purchase.  
In order to have trouble-free performance,  
please read all instructions before operating.  
Please keep this manual for future reference.  
Saeshin is not responsible for the accident causing by not following the instructions.  
Design and specification of the product can be subject to be changed  
for improving the quality.  
Informing the product, model, faulty status, and the customer  
(tel # or email etc), the kind consulting and quick service will be provided.

### WARRANTY

Saeshin warrants our products for manufacturer's fault such as material or workmanship for 1 year from the date of invoice. The warranty does not cover the product fault caused by user's misuse, wrong installation, inappropriate maintenance and repair, and normal wear of consumable parts such as bearings, spindle case ass'y, armature. In order to check the warranty, it's required to provide used condition and environment information with product serial number and stamped invoice. The performance of warranty is by manufacturer's product analysis and discretion by repair or replace the product.

Exception of warranty  
user's misuse or improper use and treatment  
using with wrong input Voltage (AC Voltage)  
dropping down during setting, moving, using  
using consumable parts or accessories not recommended  
by manufacturer malfunction after repairing at the places not  
recommended by manufacture replacing normal wear of  
consumable parts (ball bearings, gear assy, collet chuck, armature)  
Faulty by Act of God

### SETTING AND OPERATION

- 1 After checking off-switch in control box, plug in.
- 2 Connect handpiece to output of control box.
- 3 Set the speed dial of control box to "0".
- 4 Check collet chuck of handpiece locked well turning the handle of handpiece or pulling bur out.  
In case of easy chuck change type or front-chuck-open type (Forte, 103L, 107 and 102WL HP), please use it after checking the bur is completely lock. This is because the chuck could be loose after chuck or bur change.
- 5 Hold handpiece with one hand and with the other hand, turn on the power of control box.
- 6 Check handpiece running normally controlling speed dial in control box.
- 7 Turn off the power and connect the foot pedal to control box. Check speed operating of the pedal.
- 8 Turn off the power and switch to reverse direction. Turn on the power and check the operating.

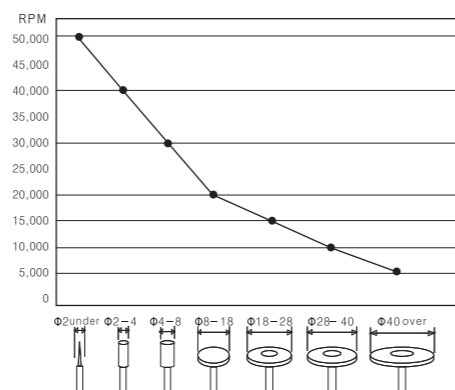
### CAUTION

Please turn off the switch when you do not use the unit.

- 1 Do not work in a dangerous place. Do not use the control box in a humid place.
- 2 Our handpiece & foot pedal should be only used for our control unit.
- 3 Bur
  - ※ Dimensions of the bur: 2.35mm (ISO7785-2 TYPE2)
  - ※ Minimum fitting length of bur: 10mm
  - ※ When locked in the chuck, the maximum projection length of should be less than 35mm Use a bur that conform to the ISO standards.
  - Avoid using a rusty or bent bur that may cause excessive wear of bearings. Keep safe speed, and precautions recommended by bur manufacturer.
  - Check for any troubles, including vibration of bur, at low speed, and then start high speed.
- 4 Operate the speed control dial in control box softly.
- 5 ※ INPUT 100-120V/ FUSE : 2A/5A(S206 only) ※ 220-240V/ FUSE : 2A
- 6 Turn off the power in order to change the bur.
- 7 Be careful not to drop the handpiece as it may be damaged or broken.
- 8 In case that it is dropped, check if the bur is bent or if any excessive heat is generated while carefully operating it.
- 9 If any problem occurs in handpiece, use after repairing.
- 10 Do not turn on the power of control box while the collet chuck of handpiece open.  
(Short circuit of the motor may be caused)
- 11 Make sure that the switch is off before putting the power plug in the socket, in order to avoid an unexpected injury due to sudden start.
- 12 A circuit breaker is provided to protect the motor. It is actuated when there is an overload which the motor cannot stand. Work within a range of load which it is not actuated.
- 13 Do not open the chuck while operating.
- 14 Keep the handpiece with setting a bur to the collet chuck after operation.
- 15 Do not put the handpiece down before it stops completely.
- 16 Be sure to pull out the power cord before moving the control box.
- 17 Use the specified voltage.
- 18 Use accessories suitable for this product.
- 19 For recommended speed in various applications, follow the manufacture's instructions.
- 20 Wear proper protective clothes and equipment, including a dust mask and safety goggles.  
Use a proper suction unit and a ventilator.
- 21 Keep the workplace clean. Debris may cause an accident.

Operating condition	Temperature(°C)	10~30
	Relative humidity(%)	10~80
	Atmospheric Pressure(hPa)	700~1060
Transport and storage condition	Temperature(°C)	-20~60
	Relative humidity(%)	10~90
	Atmospheric Pressure(hPa)	500~1060

[The allowable RPM according to the bur diameter]  
Please keep the RPM according to below diagram against the accident.  
<The allowable RPM could be different from the bur material and type.



### CHECK POINT IN CASE OF PROBLEM

If the product dose not work after checking, please contact to the seller or manufacturer.

#### [CONTROL BOX]

problem	check	cause	solution
The motor dose not run.	The power is out.	The control box may have a problem.	Check the fuse.
	The power lamp is out, when the power switch turn on.	Check the connection of power cord.	Connect the power cord properly.
	The handpiece dose not run, when the hand/foot switch is on and power lamp is on.	Check if the OV(overload) lamp is on.	Turn off the power and then turn on.
		Open the end cap of handpiece and check the burnt smell.	Ask to the seller.
		Check the connection connector and HP cord.	Connect the handpiece properly.
		Check the pedal connection.	Connect the pedal properly.
The motor runs	Check if the cord is broke down or disconnected.	Ask to the seller.	
	Check the carbon brush.	Change the carbon brush or ask to the seller.	
The motor runs	Speed control is out	The control box may have a problem.	Ask to the seller.

#### [HANDPIECE]

problem	cause	solution
The handpiece dose not run, although the chuck is lock.	Check the connection of bearing, carbon brush, control box.	Ask to the seller.
The handpiece is getting warm during use	Check the bearing.	Ask to the seller.
The noise and vibration happen during use.	Check the bearing and chuck.	Ask to the seller.
	Check if the bur is bent.	Change the bur.

### REPLACEMENT OF FUSE

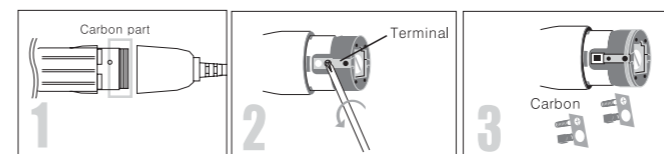
The fuse is in a small fuse box beside the power connector at the back of the control box  
Pull out the fuse box then replace it with a new one  
(120V-T3.15A/250V, 230V-T2A/250V)

### CHANGE CARBON BRUSH

#### CAUTION

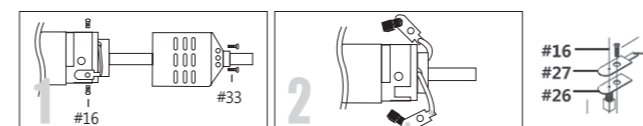
Please make sure the power is off, before you change the carbon brush.  
Please run the motor for 1 minute with non-load in order to put the carbon brush in right place.  
Please check periodically the carbon brush wear in order to prevent the severe damage.  
The motor can be damaged if the carbon brush worn out is not changed in proper time.

#### [ 102, 102L, 102LS, 102WL, 103L, 107, 107II, 120II, 108E, 108EI ]



- 1 Unscrew the carbon bolt. The terminal is separated at the same time.
- 2 Change carbon brush.

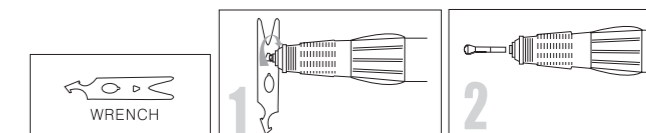
#### [130]



- 1 Unscrew the bolt #33 and unscrew #16 fixed in the carbon brush.
- 2 Remove the soldered carbon and change the new one.

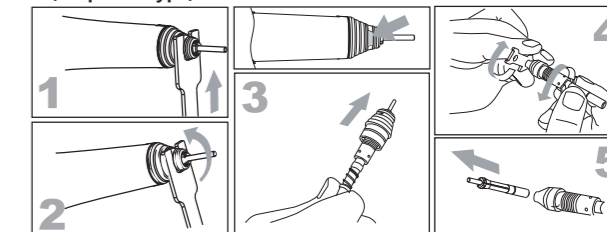
### CHANGE COLLET CHUCK

#### [STRONG102WL]- easy chuck open type



- 1 Open the chuck and remove the bur.
- 2 Fix the wrench to chuck and turn it to the counterclockwise.

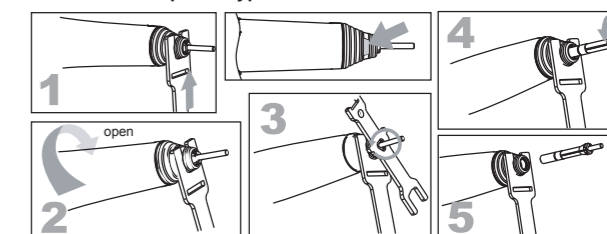
#### 106 (H-spindle type)



- 1 Set and fix the wrench truing the bur.
  - 2 Turn the wrench1 to counter clockwise and then the spindle assembly would be disassembled.
  - 3 Take off the nose tip, spring, busing A,B.
  - 4 Turn each wrench 1 and wrench 2 to the counter clockwise.
  - 5 Change the chuck.
- \* Fix the bur and chuck turning to dock wise. Then turn again to counter dock wise a bit and set the tension to remove the bur

\*Do not disassemble except skilled engineer.

#### 103L / 107 (Old spindle type)

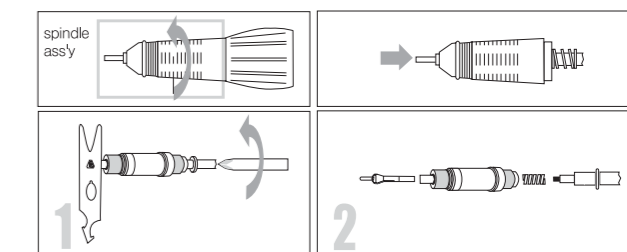


- 1 Set and fix the wrench truing the bur.
  - 2 Turn to open direction. chuck open.
  - 3-4 Turn the chuck to the counter-clock wise  
In case of not turning by hand, use wrench.
  - 5 Change the chuck.
- \* Fix the bur and chuck turning to clock wise. And then turn again to counter clock wise a bit and set the tension to remove the bur.

#### Attention

Clean and assemble the chuck very carefully.  
If not skilled engineer, do not disassemble the handle and motor part. It may cause the breakage.  
If disassembled,  
Delrin joint of handle part and the shaft of the motor part have to be fit each other.  
If it doesn't,  
vibration,noise,heat and bearing damage may caused.  
\*If the chuck is not open, please turn it with the wrench.

#### [STRONG102,102L,102LS,107II,120II]



- 1 Fix the wrench to the collet chuck in spindle assy and turn to the arrow mark direction with screwdriver.
- 2 Change the chuck.

[caution!]  
Clean and assemble the chuck very carefully.  
If not skilled engineer, do not disassemble the handle and motor part.  
It may cause the breakage.  
If disassembled, delrin joint of handle and the shaft of the motor part has to be fit each other.  
If it doesn't, vibration,noise,heat and bearing damage may caused.  
\*If the chuck is not open, please turn it with the wrench.



**FOR YOUR SAFETY, KEEP TO THE FOLLOWING.**

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard. When unplug the power cord, hold the plug and do not touch with wet hand. Do to use with loosening power plug causing the danger of electric shock and fire.

Do not bend the power cord excessively and do not press with heavy things. If may cause electric shock and fire.

Do not place near heat equipment and candles or cigarette causing fire. Close supervision needs if this product is used by or near by the very young, the elderly or invalid.

This appliance can be used by children aged from 8 years and above and person with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision of instruction concerning use of the appliance in safety way and understand the hazards involved.

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided

This equipment is not suitable for use in the presence of flammable anesthetics or oxygen

Mode of operation: continuous operation

Use the grounding conductor. Breakage or electric leak may cause the danger of electric shock. For grounding, inquiry to electrician or to main office.

In case of using extension cord, do not use many electricity equipments in one time. It causes fire and electric shock.

Do not place or set up the product in the humid and rainy or snowy location. It brings the danger of electric shock and fire.

Do not drop or damage the handpiece. In case of malfunction, dropping, drowning, do not use and contact to the manufacturer, (If may cause vibration of the bur, overheating, or damage of the bearings.)

Use the products in proper use as per the instruction and do not use not recommended by the manufacturer.

It may cause injury or property loss if not following the instructions.

Saeshin is not responsible for the accident causing by not following the instructions

**SUGGESTION FOR MAINTENANCE**

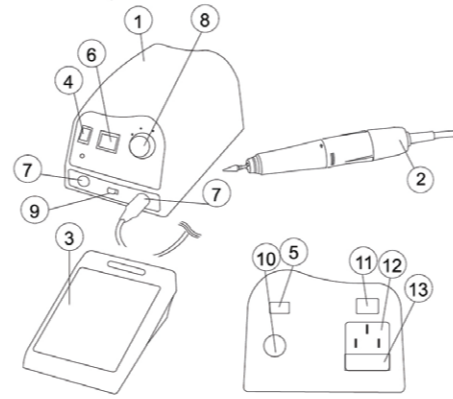
- 1 Keep the place around in handpiece clean from dust and grindings.
- 2 Remove dust on handpiece wiping with isopropyl alcohol and avoid wet inside.  
\*Do not apply the oil to the goods or clean with water.  
The grease inside of the bearing could melt away due to the oil.
- 3 Air cleaning is acceptable but air pressure may affect the handpiece or motor.
- 4 Insertion and removal of bur  
Turn the handle in the open direction to open the chuck.  
Then, the chuck is opened and the bur is removed. turn the handle in the dose direction, and the chuck is closed and the bur is recurred. turn the ring until a click sound.

**STRONG 206**

Power consumption 15W

[PART NAME]

- 1-CONTROL BOX
- 2-HANDPIECE
- 3-SPEED FOOT PEDAL
- 4-POWER SWITCH
- 5-HAND-FOOT SWITCH
- 6-FORWARD(R)-REVERSE(L) SWITCH
- 7-MOTOR CONNECTOR
- 8-SPEED CONTROL DIAL
- 9-MOTOR SELECT SWITCH (M1/M2)
- 10-FOOT PEDAL CONNECTOR
- 11-VOLTAGE CHANGE SWITCH
- 12-POWER CONNECTOR
- 13-FUSE HOLDER

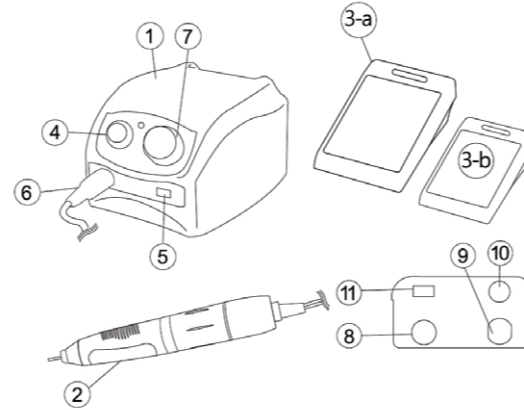


**STRONG 207S**

Power consumption 15W

[PART NAME]

- 1-CONTROL BOX
- 2-HANDPIECE
- 3-a-SPEED FOOT PEDAL (207A)
- 3-b-ON/OFF FOOT PEDAL (207B)
- 4-POWER SWITCH
- 5-FORWARD-REVERSE SWITCH
- 6-MOTOR CONNECTOR
- 7-SPEED CONTROL DIAL
- 8-FOOT PEDAL CONNECTOR
- 9-POWER CONNECTOR
- 10-FUSE HOLDER
- 11-HAND-FOOT SWITCH

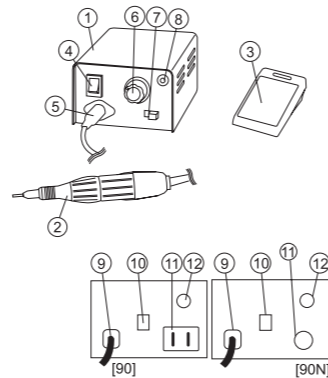


**STRONG 90/90N**

Power consumption 15W

[PART NAME]

- 1-CONTROL BOX
- 2-HANDPIECE
- 3-FOOT ON/OFF PEDAL
- 4-POWER SWITCH
- 5-MOTOR CONNECTOR
- 6-SPEED CONTROL DIAL
- 7-FORWARD-REVERSE SWITCH
- 8-POWER LAMP
- 9-POWER CONNECTOR
- 10-VOLTAGE CHANGE SWITCH
- 11-FOOT PEDAL CONNECTOR
- 12-FUSE HOLDER

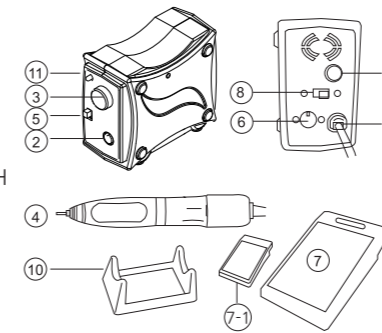


**STRONG 209**

Power consumption 15W

[PART NAME]

- 1- POWER CORD
- 2- MOTOR CONNECTOR
- 3- ON/OFF SWITCH & ROTATION SPEED CONTROL
- 4- HANDPIECE
- 5- FORWARD-REVERSE SWITCH
- 6- FOOT PEDAL CONNECTOR
- 7- FOOT SPEED CONTROL
- 7-1 ON/OFF FOOT PEDAL
- 8- HAND-FOOT SWITCH
- 9- FUSE BOX
- 10- HANDPIECE STAND
- 11- OVERLOAD LAMP (209A) POWER LAMP (209B)

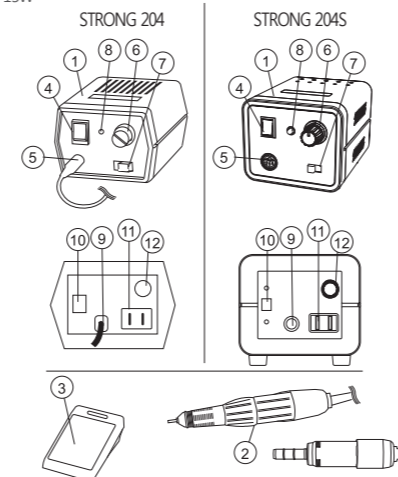


**STRONG 204/204S**

Power consumption 15W

[PART NAME]

- 1-CONTROL BOX
- 2-HANDPIECE
- 3-ON/OFF FOOT PEDAL
- 4-POWER SWITCH
- 5-MOTOR CONNECTOR
- 6-SPEED CONTROL DIAL
- 7-FORWARD-REVERSE SWITCH
- 8-POWER LAMP
- 9-POWER CONNECTOR
- 10-VOLTAGE CHANGE SWITCH
- 11-FOOT PEDAL CONNECTOR
- 12-FUSE HOLDER



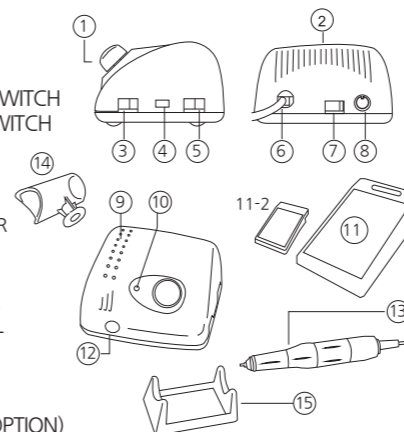
**STRONG 210**

**STRONG camo**

Power consumption 16W

[PART NAME]

- 1- SPEED CONTROL DIAL
- 2- CONTROL BOX
- 3- FORWARD-REVERSE SWITCH
- 4- VOLTAGE CHANGE SWITCH
- 5- POWER SWITCH
- 6- POWER CORD
- 7- HAND-FOOT SWITCH
- 8- FOOT PEDAL CONNECTOR
- 9- BUR HOLDER
- 10- POWER LAMP
- 11- SPEED CONTROL DIAL
- 11-2 ON/OFF FOOT PEDAL
- 12- MOTOR CONNECTOR
- 13- HANDPIECE
- 14- HANDPIECE HOLDER
- 15- HANDPIECE STAND (OPTION)

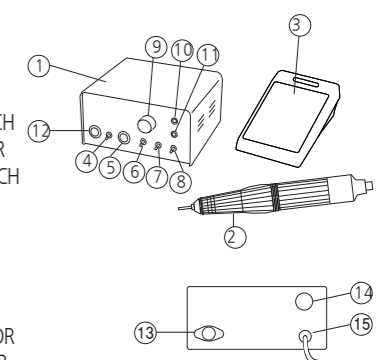


**STRONG 201**

Power consumption 16W

[PART NAME]

- 1-CONTROL BOX
- 2-HANDPIECE
- 3-SPEED FOOT PEDAL
- 4-OUTPUT SELECTION SWITCH
- 5-DC 2 MOTOR CONNECTOR
- 6-FORWARD-REVERSE SWITCH
- 7-HAND-FOOT SWITCH
- 8-POWER SWITCH
- 9-SPEED CONTROL DIAL
- 10-POWER LAMP
- 11-RESET BUTTON
- 12-DC 1 MOTOR CONNECTOR
- 13-FOOT PEDAL CONNECTOR
- 14-FUSE HOLDER
- 15-POWER CORD

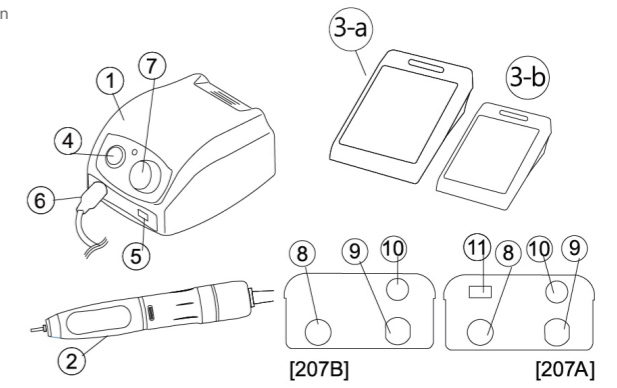


**STRONG 207A/B**

Power consumption 15W

[PART NAME]

- 1-CONTROL BOX
- 2-HANDPIECE
- 3-a-SPEED FOOT PEDAL(207A)
- 3-b-ON/OFF FOOT PEDAL(207B)
- 4-POWER SWITCH
- 5-FORWARD-REVERSE SWITCH
- 6-MOTOR CONNECTOR
- 7-SPEED CONTROL DIAL
- 8-FOOT PEDAL CONNECTOR
- 9-POWER CONNECTOR
- 10-FUSE HOLDER
- 11-HAND-FOOT SWITCH (207A)

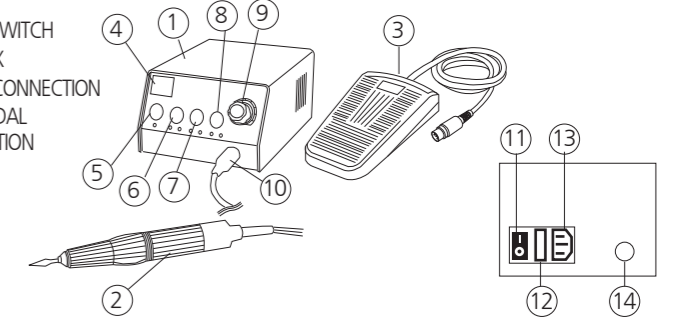


**STRONG 202**

Power consumption 16W

[PART NAME]

- 1-CONTROL BOX
- 2-HANDPIECE
- 3-SPEED FOOT PEDAL
- 4-RPM DISPLAY BOX
- 5-MOTOR ON/OFF BUTTON
- 6-35/45K RPM BUTTON
- 7-HAND-FOOT SWITCH
- 8-FORWARD-REVERSE SWITCH
- 9-SPEED CONTROL DIAL
- 10-MOTOR CONNECTOR
- 11-POWER SWITCH
- 12-FUSE BOX
- 13-POWER CONNECTION
- 14-FOOT PEDAL CONNECTION



**STRONG 230**

Power consumption 16W

[PART NAME]

- 1-CONTROL BOX
- 2-HANDPIECE
- 3-ON/OFF FOOT PEDAL
- 4-POWER SWITCH
- 5-MOTOR CONNECTOR
- 6-SPEED CONTROL DIAL
- 7-FORWARD-REVERSE SWITCH
- 8-POWER LAMP
- 9-POWER CONNECTOR
- 10-VOLTAGE CHANGE SWITCH
- 11-FOOT PEDAL CONNECTOR
- 12-FUSE HOLDER

