User Manual

J841Q

Magnetostrictive Scaler / Polisher Combo Unit

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Warnings

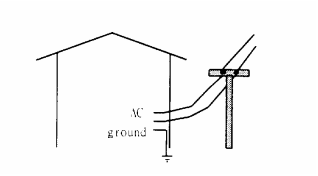
Important Notes!

The equipment is only to be used by a qualified veterinarian or other qualified personnel.

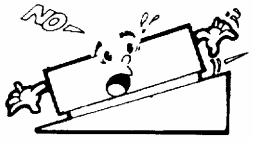
- No one with a pacemaker should operate this unit.
- A grounded AC power cord must be used with this equipment.
  J841Q unit should be powered from a separate wall outlet with a grounding point.

Note before using:

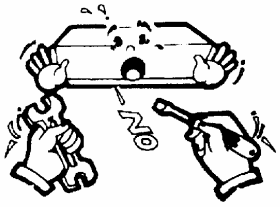
- The electric power used must be grounded. If this requirement is not met, it could cause damage to the unit and possibly to the user.



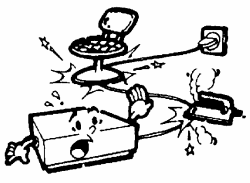
- The machine should be placed on a level and stable platform or surface. Placing the machine on unstable or tilted surfaces may degrade the performance and/or may accidentally cause damage to the system.



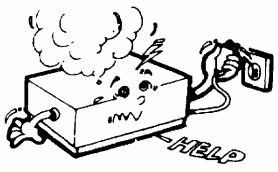
- Do not dismantle the machine on your own or by uncertified technicians. Violation of the requirement may cause harm to the user and/or damage to the machine. This will also void the warranty.



- For electrical safety, the power cord should not be placed under heavy objects, and should also be kept away from high temperature heat sources.



- If you observe any unusual situations when the machine is in use, unplug the power cord for precautionary measure.



Contents

I. Descriptions and Functions of Components

● Descriptions of Components

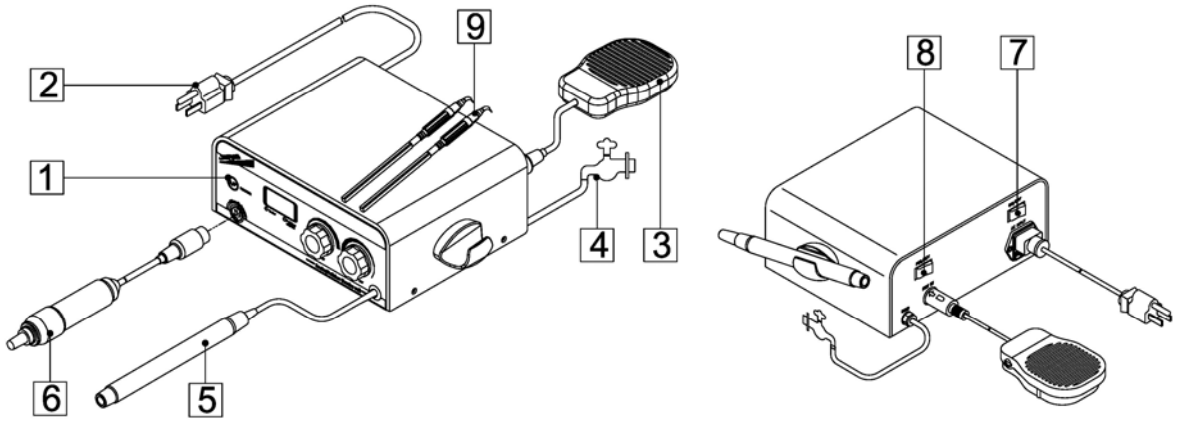


Figure 1. JorVet J841Q Outlook diagram

1. Main Unit

It is the power center of the unit. The main unit generates the needed 25KHz-operation-signal and passes it onto the handpiece, and produces the power to vibrate the insert tip inside the handpiece. Due to pressure variations, a signal from the handpiece will be fed back to the main unit so that the main unit can track the variation of the loading, and adjust the intensity of the controlling signal automatically.

2. AC Power cord

3. Footswitch

The user-friendly footswitch helps operator stop/start the unit easily.

4. Water Inline Connections

This unit comes with a female quick connect and an 8 foot water line. The dental scaler is set up to easily connect to a portable water tank. (J452D4). You can also order a saddle valve with quick release (J452D14) to connect inline to existing water supply.

NOTE：Inline Water Filter

This unit comes with an inline water filter. The filter disk should be cleaned and least once weekly and replaced as necessary. This will extend the life of your dental scaler and inserts.

5. Handpiece

The handpiece consists of two coils (one called the main coil and the other called the feedback coil) and an insert tip.

6. Micro-Motor

This is a DC Micro-motor. Micro-motor speed will be controlled with the power dial. Please see “Operation Procedure”.

7. Main Power Switch

Indicates main power switch.

Before turning the unit on, be sure the foot switch is in the "OFF" position and there is no weight on the pedal.

8. Forward / Reverse

This controls the micro-motor revolving direction. Reverse is useful for removing tangled hair from end of prophy angle.

9. Insert

The insert tip can be divided into two parts; a nickel metal stack and stainless steel insert head. To operate, the nickel stack needs to be "inserted" into the handpiece. These nickel stacks then pick up force from the main coil of the handpiece via the electromagnetic effect. The stainless scaler head then moves back and forth at a high speed for tooth calculus cleaning.

● Description of Control Panel

The function of each button or knob on the control panel is detailed below.

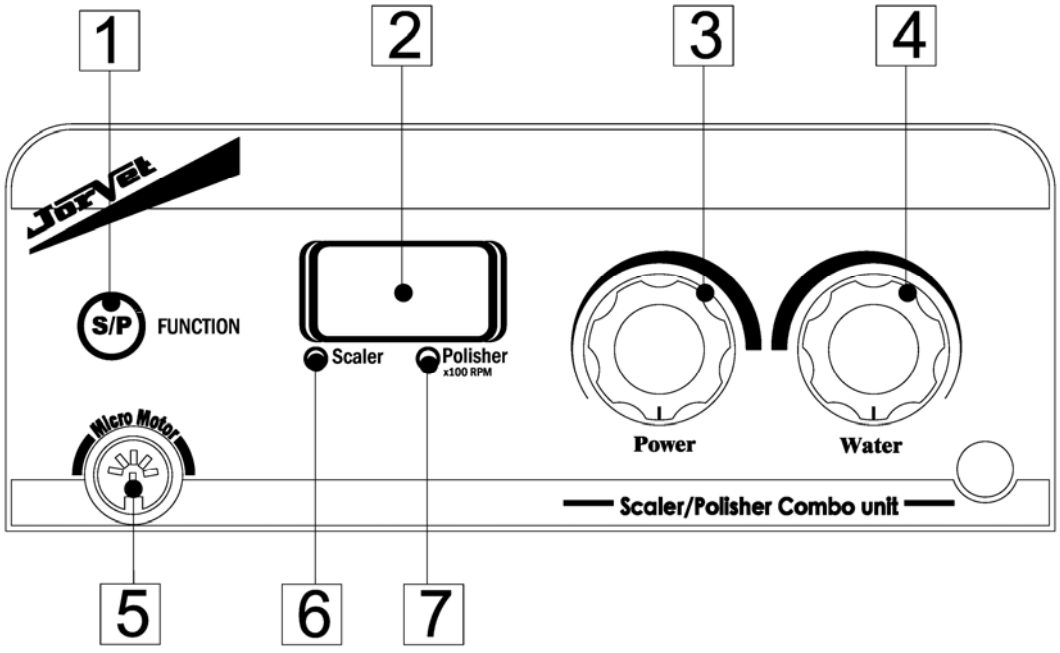


Figure 2. Jorvet Front Panel

1. FUNCTION BUTTON

This is the scaling/polishing mode change switch. Press the button to turn on the "Polishing" mode, and the indicator (LED) (7) will light up. Press it again for "Scaling" mode and (LED) (6) will light up.

2. DIGITAL DISPLAY

Indicates the scaling output power level or rotational speed of Micro-motor (x100 R.P.M.)

3. POWER

Scaling mode

Control knob for adjusting output power level. The power level indicates the strength of impact of the tip of the scaler. Turn the knob clockwise for maximum output power. Turn knob counter-clockwise to decrease the power intensity.

Polishing mode

Control knob for adjusting rotational speed of micromotor. Turn knob clockwise for maximum speed. Turn knob counter-clockwise to decrease the speed.

NOTE: Speed (x 100 RPM) is on digital display.

4. WATER

Control knob for adjusting the water volume.

Warning: Do not operate insert without any water.

Warning: Do not adjust control knob in a counter-clockwise direction over three circles.

Warning: Do not turn water pressure up too much at a time when adjusting water knob.

5. Micro-motor Socket Seat

Connect Micro-motor plug end into this socket.

6. SCALING LED

Indicates Scaling mode.

7. POLISHING LED

Indicates Polishing mode.

II. Installation Guide

II.1. Unpacking

When unpacking the box, check this unit for any damage. If any damage is found; please contact Jorgensen Laboratories immediately. Enter the unit serial number on your warranty card and mail it within 10 days after setting up the machine.

II.2. Storage

A. Environment:
The unit should be stored in a clean, dry environment. The following environmental limitations apply to both storage and shipping:

Temperature: 32° F to 80°F
Humidity: 10%~90%

B. Labels:
The meaning of labels printed on the outside of the package box is listed below:


FRAGILE


KEEP AWAY FROM WATER


DON'T HOOK


THIS SIDE UP

II.3. Safety Instructions

Grounding:
Before any connection to the output connectors is made, the unit must be grounded. The main plug shall be inserted only into a wall outlet with a protective ground.

NOTE: The unit should be positioned so that the plug is accessible.

Main voltage range and fuse:
Before inserting the main plug into the wall outlet, make sure that the unit is compatible with the voltage supply used.

WARNING: The equipment must be disconnected from all voltage sources when replacing the fuse

The main (line) fuse holder is located on the rear panel below input socket. When the mains (line) fuse needs replacing, proceed as follows:

1) Disconnect the unit from the power cord.
2) Remove the cover of the fuse holder by means of a small screwdriver.
3) Replace a new fuse with the correct rating and put back the fuse holder cover. The fuse will be 2A/250V-delay action type.

II.4. Setting Up

Unpack the JorVet Scaler/Polisher Combo Unit and connect the components as shown in the figure below.

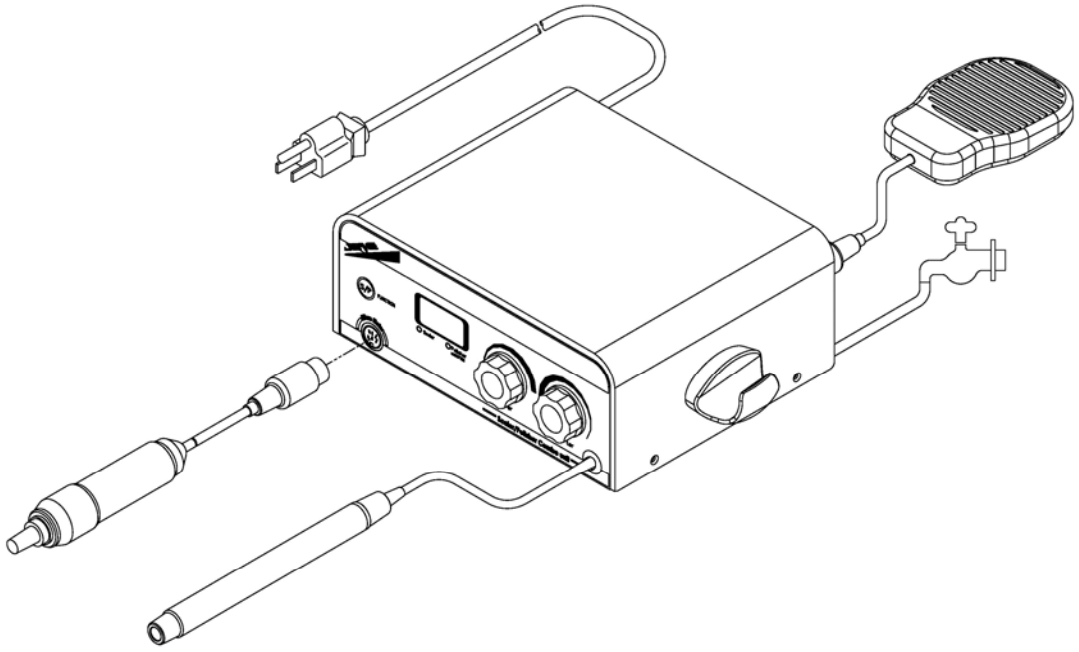


Figure 3. J841Q setting up diagram

1. Check the machine and make sure that both LED indicators and digital display are off when the switch is off.
2. Plug the unit into a grounded AC power outlet.
3. Choose the correct INSERT for desired procedure, and insert it into the handpiece. Make sure the insertion is complete.
4. Make sure the water line is properly connected.
5. Connect the micro-motor to the power unit.

Several installation suggestions are listed below.

- Because patients may experience some tissue trauma during the treatment, it is suggested that the operator uses purified or distilled water. This will significantly reduce the possibility of infection.

- After installation, the extra length of the power cord should be neatly arranged to avoid any accidents.

- The footswitch should be firmly placed at position where the users/doctors can easily access it. Any extra cord to the footswitch extension should also be neatly arranged to avoid any accidents.

- When pushing the insert into the handpiece, do not push the insert all the way into the handpiece at once. First, push the insert into the handpiece half way, step on the footswitch to turn on the scaler, and let some water come out from the handpiece. After some water flow, push the insert all the way into the handpiece. The above procedure will get rid of air inside the handpiece so that the handpiece will not generate too much heat and possibly extending the lifespan of the handpiece.

Caution: Make sure that new insert is fully seated.

Caution: If the insert does not readily slide into the handpiece, lubricate the rubber O-ring with water and slide it with a twisting motion into handpiece. **DO NOT FORCE into place.**

III. Operation Procedures

- When preparing to treat a patient:

1: Push the POWER SWITCH to light the ON indicator (LED).
2: Check the water source.
3: Select the needed INSERT. Wet the O-ring then place the INSERT into the handpiece with a clockwise motion until it is fully tightened or seated.
4: Set the POWER KNOB to the suitable level for the insert.
5: Hold the HANDPIECE with the insert end pointing up over a suitable drain. Step on the foot control and allow water to run from the handpiece for a few seconds until it flows without spurting.

CAUTION: The above procedures should be repeated each time when insert is replaced into the handpiece.

CAUTION: Make sure that the water spray is at the desired temperature and is reaching the working edge of the tip.

- Controlling the handpiece with the foot switch.
  The foot control is designed to control the functions of the handpiece in two ways:
  1. With the foot held down on the foot control, the handpiece is activated and water flows from the handpiece .
  2. With the foot control released, both handpiece and water flow are shut off.

- Water and Temperature control
  The water knob controls the volume of water flowing from the handpiece by turning the water knob clockwise or counter clockwise until the desired rate of flow is obtained.

CAUTION: A continuous flow of water is required to keep the handpiece cool.

Daily start-up

To turn on the unit at the beginning of the day:
*Turn on the water supply.
*Press the MAIN POWER SWITCH to turn on the digital display.

NOTE: If no water comes out, please check the water supply.
NOTE: If digital display does not appear, please contact Jorgensen Laboratories.

- ***Daily shut-off***

To turn off the unit at the end of the day:
*Press the POWER SWITCH to turn the unit off.
*Turn off the water supply shut-off valve.

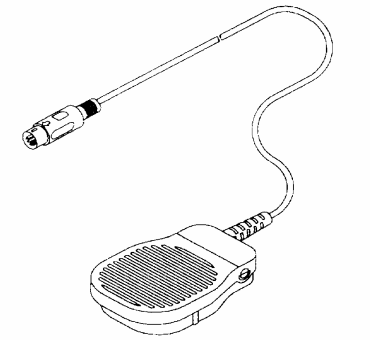
The following suggestions are also useful in extending the product life of the unit.

- Place the Main Unit in an open area where air can flow freely around it.
- If you need to move the Main Unit, handle with care.
- Make sure the AC power is turned off and the water source is turned off when not in use.
- After six months or if you find the output power of the handpiece is not enough to perform treatment, it is very possible that the insert is worn out. If the insert is worn out replace it with a new one.

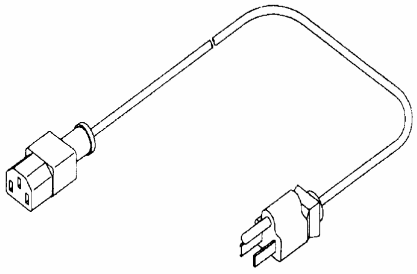
IV. Accessories

Standard Accessories

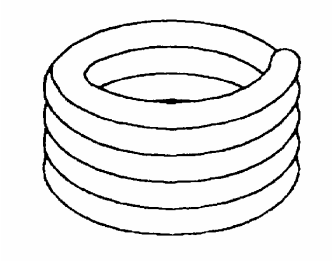
(1) Footswitch x1 J452D18



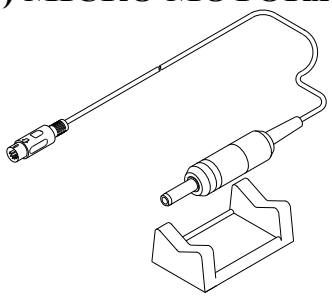
(2) AC Power Line x1 J452DPC



(3) Waterline Tube x1



(4) MICRO MOTORx1 J453D1



(5) Insert:1x Universal Internal Flow Plastic Handle Insert J452D1
1x Wide Spatula Internal Flow Plastic Handle Insert J452D2

(6) In Line Water Filter J453D13

Note: This unit comes with a female quick connect to attach to the male quick release on the portable water tank (J452D4).

V. Cleaning and Sterilization

1. Handpiece

Before cleaning, remove the insert from the handpiece. Let the handpiece run for a couple of seconds to drain out the water and any possible contamination left inside the handpiece. The outer surface of the handpiece should be cleaned with an antiseptic solution. Rinse off with water and wipe or spray with a chemical disinfectant that is compatible with the handpiece material. A sterile insert is then re-attached to the handpiece in preparation for the next patient.

Warning: Do not put the handpiece and the extension wire directly into the disinfectant. Fluid inside the machine will interfere with the normal operations of the system.

At the end of the day with the insert removed, the handpiece and cable should be scrubbed with an antiseptic solution and rinsed off with water. The handpiece should be scrubbed a second time with an antiseptic soap or solution and rinsed off with water.

Warning: The chemical disinfectant should not be allowed to remain on the surface longer than the recommended time or material damage may result.

Note: Cleaning of the handpiece is suggested after each patient use.

2. Insert

After each usage, there will be saliva, blood and other debris left on the insert; consequently, it is necessary to clean the insert with a cleaner first. This can be done manually by scrubbing with a brush or by use of an ultrasonic cleaner with a solution of detergent and water. After scrubbing, the insert/ nozzle should be rinsed thoroughly with water to remove all detergent and then dried. Then put the insert in a sterilization bag or wrap, and autoclave the insert at 270℉ for 12 minutes or as recommended by the manufacturer of your autoclave unit.

Warning: High room temperature conditions, improper dilutions, or excessive immersion time in a chemical sterilant can result in damage to the plastic and elastomeric materials of the insert.

Caution: The use of a dry heat oven, incompatible chemical vapor type sterilizers or quaternary ammonium compounds must be avoided as damage can result to the plastic and elastomeric materials.

3. Main Unit

Since the Main Unit does not have direct contact with the patients, the cleaning is simple. Just carefully wipe the Main Unit with alcohol, and keep away from dust. (If other disinfectant is used, choose one that has no chemical effects on the surface of the plastic case of the Main Unit. Please try it out first if not certain.)

4. Micromotor

Before cleaning, please remove the attached parts from the micromotor. The outer surface of the micro-motor should be cleaned with an antiseptic solution. **Never oil the micromotor. Make sure no moisture gets inside the micromotor.**

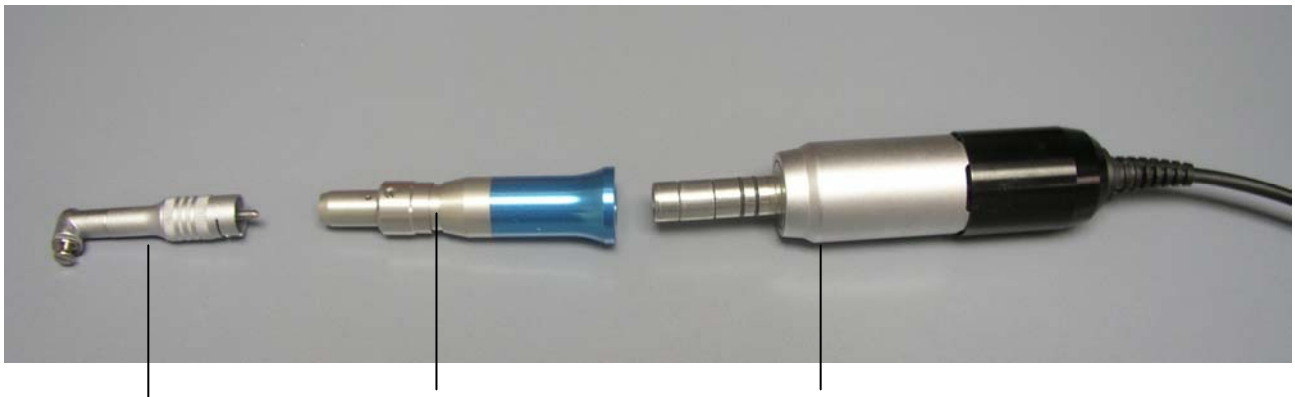
5. Straight Handpiece

The straight handpiece should be lubricated at the end of each day of use. Drop 2-3 drops of mineral oil into the top and allow it to flow down through the handpiece.

6. Prophy Angle

The prophy angle should be cleaned of hair and debris after each patient. At the end of the day it should be cleaned and lubricated as explained on the following page.

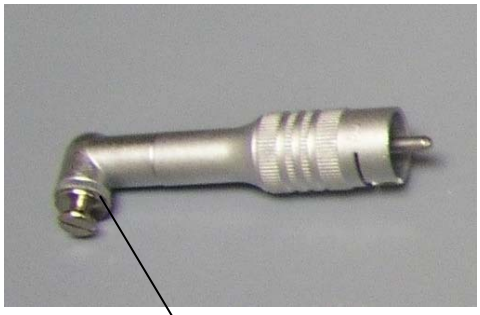
VI. Care and Maintenance of Polisher



Prophy Angle

Straight Hand Piece

Micro-motor



Knurled Knob

Locking Ring

1. The straight handpiece is pushed onto the rod of the micromotor. It will snap into place.
2. The prophy angle is next; attach to the top of the straight handpiece.
   A) The locking ring on the straight handpiece needs to be in the open position. To do this, push it down and to the right (clockwise).
   B) The prophy angle is placed on the straight handpiece with the cut out portion (at the base) placed over the raised bubble on the straight handpiece.
   C) The locking ring is move left (counter-clockwise) so that the dot and the screw on the handpiece line up. If the locking ring is not engaged the prophy angle will not spin.
   D) To remove the prophy angle, simply reverse the above procedure.

The prophy head needs lubrication and cleaning on a regular basis.

1. Remove rubber cup
2. Remove cup holder with pliers by turning the knurled knob. The knurled knob is a reverse thread: turn right not left. Wash out debris from inside; then put on drop of oil into the gears. (3 in 1 oil works well)
3. Make sure all hair is removed from the end of the prophy angle.
4. Replace knurled knob.

To polish the teeth place a rubber cup on the prophy angle and place a little prophy paste in the cup. Press the micromotor switch so that the LED is lit. Adjust the oscillating dial to a low speed of about 2,000 rpm. Depress the foot pedal and begin polishing each tooth surface. Add prophy paste as needed.

- ***Trouble shooting***

1. If no water is flowing from the handpiece, clean or change the water filter disk.
2. The handpiece will overheat if there is not enough water flow. Increase water flow by turning water up.
3. An insert that is starting to wear out will also cause low water. Replace insert.
4. If you have no power to the unit, change the fuse.
5. If the micromotor handpiece is spinning, replace the prophy angle, the gears are worn.
6. If the prophy angle knurled knob is not spinning, remove hair and debris, then lubricate.
7. The straight handpiece may lose some power if not properly cleaned and lubricated.

Note: Product requiring any maintenance should be returned to Jorgensen Laboratories. Call for proper procedure to return unit. JorVet will repair or replace any product under warranty at no charge provided the repair meets the limited terms and conditions of the warranty.

VII. Product codes for accessories and replacement parts.

Universal insert	J452D1	Spatula Insert	J452D2
Periodontal insert	J452D1P (opt)	Prophy Angle	J452D3
Portable water tank	J452D4 (opt)	Polishing paste	J452D5(opt)
Rubber cups	J452D6 (opt)	Diamond cutting disk	J452D7 (opt)
Diamond Burrs (7)	J452D8M(opt)	Contra Angle	J452D9 (opt)
Straight Handpiece	J452D10	Inline Water Filter	J452D13
Inline Filter Screen	J452D13FS	Micromotor	J453D1

VIII. Warranty Terms:

Main unit (PC Board)	6 years
Handpiece	1 year
Micromotor	1 year
Straight handpiece	1 year
Prophy angle	90 days
Scaler inserts	90 days

IX. Specifications

JorVet J841Q unit is designed and manufactured to meet the most demanding environment. Its specifications are listed below:

- **Specifications:**
  - Power supply 115V ±5% ～50/60Hz 160VA
    230V ±5% ～50/60Hz 160VA
  - Scaler Working frequency 24.5KHz ±5% (for 25KHz Insert)
  - Polisher speed 2000～30000 R.P.M
  - Dimension 6”(L) x 8”(W) x 3.5”(H)
  - Weight 6.5 lbs. (including handpiece)
  - Handpiece Cable 8’ 3”
  - Footswitch Cable 8’ 3”

Operation environment

- Temperature 32˚ F - 80˚ F
- Relative Humidity 10% ~ 90% (non-condensing)

Transport and storage conditions

- Temperature Same as above
- Relative Humidity 10% ~ 90% (non-condensing)

Attention!
Avoid use of this machine around pacemakers.

It has been shown that electronic appliances including razors, hair dryers, microwave ovens, TV receptors, and some electronic medical equipment may interfere with the normal operations of pacemakers. It is suggested that patients who have pacemakers avoid treatment with this Unit. For further readings on the subject, please refer to:

- "Advances in Cardiac Pacemaker", The New York Academy of Sciences, Vol. 167, Article 2, pp. 515-1075

- "Electromagnetic Radiation Interference with Cardiac Pacemaker", U. S. Department of Health, Education and Welfare

- "The Individual with a Pacemaker in the Dental Environment", Journal of the American Dental Association, Vol. 91, No. 6, pp. 1224-1229