

**UNIDAD DENTAL VETERINARIA MOVIL  
MOBILE CART VETERINARY DENTAL UNIT  
CHARIOT MOBILE D'UNITÉ DENTAIRE VÉTÉRINAIRE**

REF. - CODE - RÉF. - ZML023 | MODELO - MODEL - MODÈLE BDS-05

**axavet**  
soluciones veterinarias



Este manual es parte inseparable del aparato por lo que debe estar disponible a todos los usuarios del equipo. Le recomendamos leer atentamente el presente manual y seguir rigurosamente los procedimientos de uso para obtener las máximas prestaciones y una mayor duración del mismo.

*This manual should be available for all users of these equipments. To get the best results and a higher duration of this equipment it is advisable to read carefully this manual and follow the processes of use.*

*Ce manuel est une partie indissociable de l'appareil et doit être mis à la disposition de tous les utilisateurs de l'équipement. Nous vous recommandons de lire attentivement ce manuel et de suivre scrupuleusement les procédures d'utilisation afin d'obtenir des performances maximales et une plus longue durée de vie de l'appareil.*

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## 1- INTRODUCTION

### 1.1 Application

The veterinary dental unit is a dental platform that integrates polishing, repairing, cutting, and auxiliary root canal treatment. It is used for dental beauty, tooth removal, oral tumor cutting, etc., providing a convenient and favorable operating environment for animal dentists.

### 1.2 Product Features

- With a magnetic plate at the top of the unit to prevent the burs from falling during the operation.
- The bracket is made from high-quality Stainless Steel and is height adjustable for work and easy to store.
- LED high-speed handpiece can generate LED light source spontaneously, providing 22,000 Lux of sun lighting level.
- Internal solution filtration unit could help lessen particles to enter the water supply and reduce the failure rate of high-speed handpiece.
- Silent oil-free air compressor with low maintenance and oil-free.

### 1.3 Environment requirements for equipment

Please prepare equipment operating environment conditions listed as follows to ensure operability and safety in use.

**Operating environment:**

Humidity: 15%-95% (non-condensing)

Air pressure: 70kPa-106kPa

Temperature: 5°C-40°C

**Storage environment:**

Humidity: 35%-95% (non-condensing)

Air pressure: 70kPa-160kPa

Temperature: -20°C-55°C

**Operating power:**

Power supply: 220-230V, 50/60 Hz

#### 1.4 Technical Parameters

<b>Item</b>	Dental Unit
<b>Compressor</b>	Oil-Free Air Compressor
<b>Power</b>	2.6-2.9A, 220/230V, 50/60Hz
<b>Out Put Pressure</b>	0.45~0.5MPa
<b>Gas tank</b>	12L
<b>Sound Level</b>	≤65dB
<b>High Speed Handpiece</b>	300000-340000rpm; Three-point spray; LED light
<b>Low Speed Handpiece</b>	1800-20000 rpm
<b>Ultrasonic Scaler</b>	With white LED light 28kHz±3kHz
<b>Suction handpiece</b>	High-volume suction system
<b>LED Light curing unit</b>	Light wavelength:420-480nm Three curing modes Curing time: 5~40 s
<b>Auto Drain Function</b>	Single time 0.5-10s Interval time 0.5~45min
<b>Dimension (L*W*H)</b>	50 *50 *95 cm
<b>Weight</b>	Around 30kg

#### 1.5 Product List

<b>Description</b>	<b>Amount</b>
<b>Compressor</b>	1pcs
<b>Power line</b>	1pcs
<b>High-Speed Handpiece</b>	1pcs
<b>Low-Speed Handpiece</b>	1pcs
<b>Scaler Handpiece</b>	1pcs
<b>3-Way Air/Water Syringe</b>	1pcs
<b>Suction handpiece</b>	1pcs
<b>LED Light curing unit (wireless)</b>	1set (optional)

## 2- SYSTEM SAFETY

Please read safety instructions carefully. For the sake of safety, please be sure to be aware of the followings:

### **Correct cable connection**

Ensure that all cables are safely and securely connected to the device

### **Avoid exposure of all electronic cables**

Do not touch any electronic devices and circuits inside the device

### **Please stop the device in case of suspected failure**

If there is a potential danger in the device or it cannot be operated properly, contact authorized technical personnel.

### **Correct device connection**

Connect the device correctly to avoid difficulties in operation due to wrong connection, resulting in disconnection.

### 2.1 Precautions

- Fasten the power cord to prevent poor power contact.
- Pay attention to shock-, water-, humidity-, pressure-, and fire-proof.
- Pay attention to handling strength during moving and handling, to prevent damage or dumping the instrument.
- Untrained personnel are prohibited from operating the equipment. Please use a reliable grounding device.
- Users shall undertake corresponding duties due to any improper cleaning, maintenance, and operation.

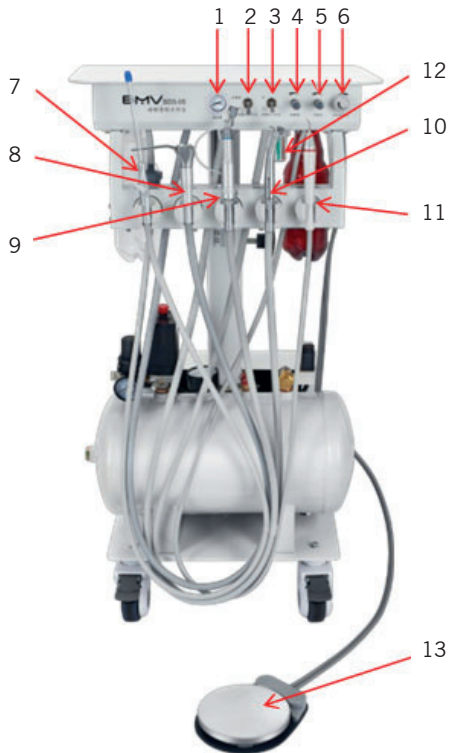
### 2.2 Description of Safety Signs

The user manual includes the following signs, to warn users of potential hazards:



Warning of personal and animal safety. The sign warns users that such operation might do harm to people or animals.

**3- PRODUCT STRUCTURE**



NO.	Name of Parts	NO.	Name of Parts
1	Handpiece pressure gauge	2	Water/disinfectant toggle switch
3	Collant pressure switch	4	Water flow control knob
5	Water atomization adjustment knob	6	Ultrasonic scaler control knob
7	Suction handpiece	8	3 Way air/water syringe
9	Low-speed handpiece	10	High-speed handpiece
11	Ultrasonic Scaler	12	Return gas bottle
13	Control pedal	14	Power Switch
15	Bottle for disinfectant	16	Waste bottle
17	Bottle for distill water	18	Drainage bottle

### 3.1 Coolant (Distilled Water/Disinfectant)

Distilled water and disinfectant are respectively stored in transparent bottle and Milky bottle.

To prevent the buildup of bacteria or minerals, distilled water must be used instead of tap water. If need the disinfectant, fill an appropriate amount of disinfectant into the milky bottle, add distilled water according to the required concentration.

*Note: Not use of distilled water will void the warranty during operation.*

*Note: The disinfectant usually contains chlorhexidine, which is light sensitive and should be stored in the milky bottle.*

The coolant mainly supplies HS handpieces, 3-way air water syringe and ultrasonic scaler. Disinfectant and distilled water can be changed by toggling the selector switch.

The pressure of coolant system has been preset at 33~36psi.

#### **Refilling Coolant Bottles**

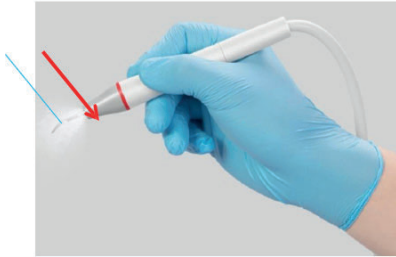
To refill the distilled water or disinfectant, toggle the pressure switch to the OFF to depressurize the system. After the system has been depressurized, unscrew the bottle and refill with either distilled water or disinfectant. After filling the coolant bottle screw, it back to the bracket and toggle the pressure switch to the ON, repressurizing the system.

*Note: when the day's dental procedures are complete, toggle the pressure switch to the OFF position, depressurizing the coolant bottles for storage.*

*Cleaning: Bottles may be sterilized with ethylene oxide or by chemical sterilization.*

*Note: do not dilute disinfectant beyond the recommended label instructions, as it may result in crystal deposits forming and blocking handpieces and valves.*

### 3.2 Ultrasonic Scaler Coolant Outlet



The ultrasonic scaler coolant outlet is on the back, and it could provide coolant for any ultrasonic scaler. Users can choose between distilled water and disinfectant by toggling the selector switch.

The figure shows the connection between the dental unit and the ultrasonic scaler, just align the two joints to connect them:

### 3.3 Low Speed handpiece

As shown in the red circle above, there is a speed control knob of the LS handpiece, the “0” is used as the reference point. The speed of the corresponding direction can be adjusted by turning this knob left or right to accelerate or slow it down.

#### **Locking knob**

Install the polishing head to the LS handpiece and turn the locking knob clockwise to lock it.

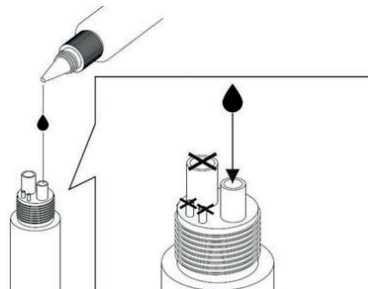


#### **Operation recommendations:**

Air pressure: Factory default 35psi (Please keep it).

Lubrication: to assure optimal performance and life, the handpiece should be lubricated before using each time.

*Note: only the holes shown in the picture below can be dripped with lubricant. Using before and after using for 30 minutes, please drop with lubricant.*



### 3.4 High Speed Handpiece

Distilled water can be ejected by HS handpiece.

*Note: While handpiece runs at a high speed, please make it touch the operating area lightly.*

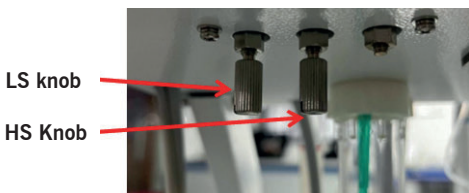
*Note: All handpieces should be lubricated prior to use. Please refer to section 3.3 for lubrication method. In addition, the HS handpiece needs to drip 2 drops of lubricant into the connector every week*

Bur Replacement:

- 1) Depressing the button and pulling out the old bur at the same time.
- 2) Insert a new one until it reaches the limit.
- 3) Loosen thumb and check secure location by applying slight axial tension.
- 4) Air pressure: Factory default 40 psi (Please keep it).



### 3.5 Handpiece Pressure Knob



*Note: The high and low speed handpieces should be set specific pressure. The handpieces pressure regulation, that silver knurled knobs, are located underneath each handpiece holder.*

**HS handpiece pressure regulation method:** firstly, turn the dental unit on and remove the HS handpiece for adjusting. Depress the foot pedal and turn the knurled knob, adjust until the desired pressure is displayed on the handpiece pressure gauge.

**LS handpiece pressure regulation method:** First make sure that the HS handpiece is plugged into its bracket, then take off the LS handpiece and then adjust the corresponding silver knurl knob to change the pressure of the LS handpiece.

High speed handpiece factory default work pressure:40psi Low speed handpiece factory default work pressure:35psi

### 3.6 3 Way Air/Water Syringe



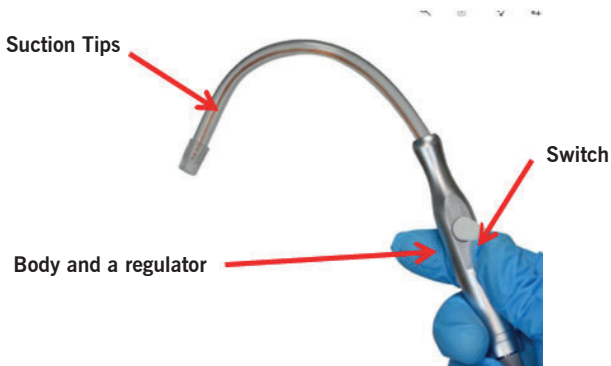
Selection of air/water/fine mist as shown in the picture above, depress the “water drop” sign button on the left for water, and press the “air injection” sign button on the right to start the gas, depress both for a fine mist.

Users could select water or disinfectant by the water/disinfectant toggle switch.

The 3-way syringe is mainly used for flushing away debris during polishing, and drying the operation are as during endodontic procedures.

The tip of the 3-way syringe may be removed for cleaning and autoclaving, slightly depressing the outer lock ring to remove it.

### 3.7 Suction handpiece



The suction handpiece is a high-volume air-venturi suction system, it mainly consists of:

- 1) Body and a regulator. Toggle the regulator upward to enhance suction and downward to weaken suction.
- 2) Liquid waste collection bottle of suction handpiece(1000ml).
- 3) Bellows.
- 4) Suction tip.

It is recommended to clean after each use.

The suction tip can be sterilized at a high temperature (121°C) and high pressure.

It is recommended to remove the liquid waste collection bottle and handpiece exhaust air collection bottle at regular intervals for cleaning and disinfection. Please replace the filter in the collection bottles if it is visibly dirty.

### 3.8 Foot Pedals

Two pedals control the air supply of suction handpiece and HS/LS handpiece respectively.

The one with a sign “suction” controls the suction handpiece, the other one controls the HS/LS handpiece.

Depress hard the pedal to start the air supply and release it to end air supply.

The harder depress the pedal of HS/LS speed handpiece, the higher the pressure of the handpieces, the faster the speed.



## 4- OPERATION

**For operation safety, it is recommended that safety goggles, face mask and surgical gloves be worn during operation.**

- 1) Fill a clear plastic water bottle with distilled water and screw it into the pipe on the back of the stand.
- 2) If disinfectant is used, fill a milky white plastic bottle with an appropriate amount of disinfectant, and add distilled water according to the concentration requirements of the disinfectant to make a disinfectant of the corresponding concentration. Screw the bottle into the pipe.
- 3) Fix the scaling handle and the water/air/mist 3-way spray gun on the corresponding bracket.
- 4) Screw the air/water transmission line of the mobile phone to the mobile phone and fix the mobile phone on the corresponding mobile phone bracket.
- 5) Make sure the air supply line is connected to the compressor outlet.
- 6) Plug the supplied power cord into the port on the back of the dental bench and connect the other end to a power outlet.
- 7) Turn on the power switch and the compressor will pressurize.
- 8) Secure the foot control switch to the front of the device.
- 9) Check the status of the scaling handle and the high/low speed handpiece:
  - I. Checking the Scaling Handle - Remove the scaling handle from the stand and depress the foot switch.
  - II. Check the high-speed handpiece - remove the high-speed handpiece from the stand and depress the foot switch.
  - III. Check the low-speed handpiece - remove the low-speed handpiece from the stand and depress the foot switch.
- 10) After opening the pressure switch to the “on” position, the water flow begins to pressurize. coolant bottle pressure switch ON back of the dental platform.

## 5- MAINTENANCE

### 5.1 Handpiece Maintenance & Sterilization

All handpieces have a working life, but it can be extended by maintaining with the correct operating pressures and speeds as well as adequate lubrication. The working life of most handpieces turbines is 12-24 months; however, it will depend upon the degree of care and the frequency of use.

#### **Handpieces Daily Maintenance:**

1) Prior to use and after using for 30 minutes, please drop with lubricant, see sections 3.3 and 3.4.

#### **Handpieces Yearly Maintenance:**

1) Replace worn turbine/"O"rings /sealing gasket, please contact the supplier.

#### **Sterilization of High-Speed Handpiece:**

1) Handpieces should be thoroughly cleaned and removed all foreign particles, eg: blood, saliva etc. Make sure the turbine cartridge and bur are clean prior to be autoclaved, otherwise the bloody particles will be scorched and cause damage to the turbine.

2) The exterior of the handpiece may be cleaned with any good surgical disinfectant. Be sure to rinse and dry thoroughly. Lubricate handpiece turbine with Lubricant.

*Note: Do not autoclave the high-speed handpiece with a bur!*

#### **Sterilization of Low-Speed Handpiece:**

Prepare handpiece before autoclaving by carefully cleaning the exterior surface, and thoroughly scrub, rinse and clean away any residual solution and particles. Wipe away moisture with a towel or dry it by 3 way air/water syringe.

*Note: Prior to autoclaving, lubricate the handpiece.*

1) Seal the handpiece in sterilization tubing bags. Make sure that the bur is removed from handpiece prior to sealing.

2) Place handpiece on a tray for autoclaving. Do not exceed temperatures of 135 °C.

3) After sterilization is completed, allow handpieces to cool down then lubricate handpiece thoroughly. After the sterilization is completed, the handpiece needs to be stored in another container to avoid re-contamination.

*Note: Lubricate handpieces after cooling down, and do not allow handpiece to sit in sealing bag overnight or for a long period, immediately operate handpiece as described in the following step.*

4) After lubricating items, insert bur into handpieces and operate for a few seconds to expel excess lubricant.

*Note: the polishing head is disposable and should be replaced after each operation, to prevent cross-infection.*

## 5.2 Air Compressor Maintenance

### Weekly Maintenance:

- 1) Drain moisture from the tank and the pressure regulator will automatically drain and filter it.
- 2) Turn off the power and drain the moisture from the tank (open the brass valve at the bottom of the tank), drain all water, and empty the gas.

### Yearly Maintenance

It is recommended to replace the inlet filters and pressure regulator filters every year, please contact the supplier.

## 6- TROUBLESHOOTING

The chapter describes problems (faults) and suggested measures that are common in using the product.

### High Speed Handpiece

Problem	Cause	Solution
No Water Flow in handpiece	Compressor not ON.	Turn compressor ON.
Water flow control not ON.		Turn water control to ON.
Water/Disinfectant bottle empty.		Fill water/Disinfectant Bottle.
The water line is blocked.		Check lines and pressure.
Use of tap water, blocking water filter.		Filter need replaced.
Pressure regulator is loose.		Contact the supplier.
Mineral Accumulation	Use of tap water - mineral or chemical action blockage will usually take 3-4 years to occur.	Pass a fine wire through the water intake hole. Pass another fine wire through the hole in the handpiece head. Pass the wire as far as possible each way. Blow out the loosened mineral accumulation.
Verdigrease build up in brass water valves due to chemical reaction with tap water.		Replace valves.
HS handpiece doesn't run	Drive head damaged	Contact supplier's after-sales personnel.
LED is not on	LED damaged	Póngase en contacto con el personal postventa del proveedor.
Use of disinfectant	Most of disinfectants will cause solution deposit and block valves, etc, so the	Contact supplier's after-sales personnel.

## Low Speed Handpiece

Problem	Cause	Solution
Handpiece not run	1) No or low air pressure. 2) Inferior oil; too much or too little oil or water in the turbine. 3) Drive head damaged.	1) Check the airline to be sure the air is turned on and the line is unobstructed. 2) See lubrication instructions. 3) Contact supplier's after-sales personnel.
The polishing head has no effect	Polishing head is loose	Reinstall the polishing head and screw it.
Overheat of polishing head	Pressure is too large	Adjust the speed of handpiece.
The polishing head not run	Handpiece doesn't run	Check the manual of LS handpiece, depress the pedal, adjust the speed control knob.

## Syringe

Problem	Cause	Solution
No water or disinfectant	Fill with tap water, to block the water filter	Replace the filter
No gas output	Compressor not ON.	Turn compressor ON
The pressure regulator is loose	Contact supplier's after-sales personnel.	
Water/disinfectant bottle empty.	Fill water/Disinfectant	
Chlorine in tap water can cause flocculation, clogging filters and valves <i>Note: use distilled water only</i>	Contact supplier's after-sales personnel.	
Airline is blocked.	Check lines and pressure	
The use of	Most disinfectants cause solution deposition, clog valves, etc. The solution is diluted according to the dilution strength of the label and will not cause deposition. <i>Note: deposition can also occur if the dilution is inadequate.</i>	Contact supplier's after-sales personnel.

**Compresor de aire**

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Air compressor doesn't work	Incorrect power supply	Check the supply voltage and connect the correct voltage
The power connection is loose	Check whether the socket is well plugged	
Air compressor is damaged	Contact supplier's after-sales personnel.	