Operator's Manual
Vacu-Jet DUO Mobile Dental Unit

Document Version 1.2 – 2 March 2019

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1. Vacu-Jet DUO operating unit

1.1 Introduction

The purpose of the Vacu-Jet DUO unit is to provide the Orthodontist's and Dentist's with the tools to satisfy their needs and those of the patient.

The standard Vacu-Jet DUO unit comes with the following inclusions:

- Triplex syringe
- Brushless fibre optic electric micro motor
- High speed fibre optic air line
- One high velocity suction line
- One low velocity suction line
- Compressor
- Clean water system
- Spittoon funnel
- Suction motor

Recommended Uses:

- De-banding
- Removal of bonding material
- Drying the tooth surface
- Cleaning of the Tooth Surface
- Removal etching material
- Removal of plaque
- Rinsing
- Aspiration
- General Dentistry

The standard configuration can be modified according to the options ordered with the equipment.

1.2 Assembly

1.2.1 Unpacking the unit

The Vacu-Jet DUO is shipped in a specially designed box that makes the installation of the unit simple and very fast. The unit is shipped in just one piece making installation even easier. Needing only to connect to power you can begin using the Vacu-Jet DUO almost immediately.
Remove the packing strapping with a sharp knife. The box is divided into two pieces. Remove the top box by sliding it up. This will leave the shallow bottom box attached to a pallet.
With two people you are now able to lift the unit by the handles that are incorporated into the unit top.
In the event there is only one person on site the unit may be broken into its two components parts so that it is more easily handled.
Once the Vacu-Jet DUO is unpacked be sure to remove all packing materials from inside the unit before switching on.

Important:* *Please read this manual thoroughly to ensure the proper use of the machine

1.2.2 Carrying the components

As previously mentioned the Vacu-Jet DUO can be broken into two main components that allow for easy handling or transportation into a vehicle.

Firstly remove all of the handpiece tubing's so they do not get caught up or damaged in transport. (For short distances the handpiece lines need not be removed provided adequate care is taken not to damage them.)
Open the Vacu-Jet DUO rear door and disconnect the three main connections between the two components:

- Remove the yellow clip of the suction tubing next to the door hinge inside the unit. Disconnect the hose by pulling up until it separates.

- Disconnect the black power cable located in the rear of the top component. The connection is un-secured by turning a locking ring at the bottom of the connector anti-clockwise for a quarter turn only. The cable can then be safely disconnected.
- Disconnect the air tube by pressing on the release button on the side of the air quick disconnect coupling. (Be sure that all air has been expelled from the air reservoir before disconnecting)
- Insert the locking key in the side of the unit turning in an anti-clockwise direction until the key will no longer turn.(approximately ¾ of a turn) There is one locking hole on either side of the unit approximately half way down.
- You can now lift and separate the two halves of the unit.

Important: You <u>must</u> disconnect all the connections inside the unit before attempting to separate the two halves of the unit. Failure to do so will result in damage to the unit.

- If required, the tray top of the unit can be fixed to the bottom component for easy of transportation and lifting. To do this you must firstly remove the tray top from the Vacu-Jet DUO by releasing top with the supplied locking key. The key holes for the tray top are located just below the tray surface in each side of the unit.
  It is recommended that you split the unit into two pieces first as the tray top can also be used to carry the top component.
  Once removed use the locking key to attach the tray top to the bottom component as shown.

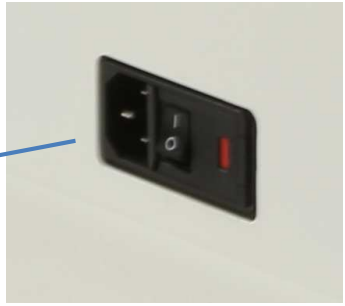
1.2.3 Assembly of unit

To assemble the unit simply repeat the steps described in "Carrying The Components" in reverse.

1.3 Operation

1.3.1 Controls

The main power switch to the Vacu-Jet DUO is located at the bottom of the back panel of the unit and features a removable power lead. The switch also houses 2 x 10 Amp fuses and will facilitate both 20 mm and 32 mm fuse types



The remainder of the controls are located on the front panel of the Vacu-Jet DUO.

- **Power On/Off**

Ensure that the Vacu-Jet DUO is plugged into a 240V power outlet and that it is switched on.
To turn the Vacu-Jet DUO on, the mains power switch on the rear of the unit must be put in the ON position. To turn the Vacu-Jet DUO off, select the OFF position of the switch.
The Vacu-jet DUO also has a standby mode which will turn off all instruments and the internal compressor.
The Standby mode can be entered by pressing and holding the "**STANDBY**" button for more than one second. To enter the general operative mode press and hold the "**STANDBY**" button again for more than one second. "STANDBY" button is located with the Spray Water button

- **Spray water and air for instruments**

All rotary instruments have the capability for four spray settings. No Spray, Spray air only, Spray water only or Mist (a combination of spray air and water.) To control the spray setting of any instrument, lift the instrument you wish to control. The spray indicator LED will show the active state of the lifted instrument
0 Flashes indicates no spray
1 Flash indicated spray water only
2 Flashes indicate spray air only
Solid green light indicates air and water spray
Repeated pressing of the "**SPRAY**" button scrolls through the 4 different states.

- **Electric micro motor control**

Lift the slow speed handpiece and motor from the hanger and press down on the disc type foot control. The micro motor speed is controlled by pressure on the disc type foot controller. The maximum speed of the electric micro motor is 40,000 rpm.
Forward / Reverse for micro motor:
Direction of the Micro motor is indicated by the LED button marked "**MM REVERSE**". When the LED is illuminated the micro motor is in the reverse direction. To change direction back to forward press the "**MM REVERSE**" button, the LED will go out and the motor is set back to normal operation.

- **Scaler Intensity Control**

Scaler intensity can be controlled by five separate increments. This is indicated by the flashing sequence on the Blue LED marked with a Minus (-) symbol.
The intensity can be increased or decreased by pressing the Plus (+) or Minus (-) buttons. With each press the intensity is adjusted and the setting is reflected by the flash sequence of the Blue LED light. The faster the flash the higher the intensity setting.

- **Discharge waste**

When the waste tank is full, the suction motor is prevented from running to stop fluids from entering the suction motor.
The red "**TANK FULL**" LED light flashes when the suction canister is 90% full. The light becomes solid at 100% and the suction motor will stop. This can be overridden to purge the suction hoses if they are full of fluid. To override the system turn off the Vacu-Jet DUO from the main power switch at the rear of the unit and switch it on again. This will allow the suction motor to run for a further 10 seconds allowing any fluids still in the suction lines to be cleared. The suction tank must then be emptied and refitted to resume normal operation.
Instructions on emptying the separator tank are in the maintenance section of this manual.

1.3.2 Clean Water System

The Vacu-Jet DUO is fitted with a clean water system to provide water to all of the instruments. The clean water system consists of a clear PET reservoir bottle, 1.25 litre capacity, which is screwed into a manifold block. This bottle is marked "WATER". The manifold block is attached to the inside body of the Vacu-Jet DUO. The water bottle is pressurised with regulated air, which forces the water out on demand. The air pressure is factory set to 23 psi.
The bottle is pressurised when the **toggle switch** inside the Vacu-Jet Duo is selected in the downwards direction. The switch is located just underneath the tray top on the right hand side of the unit behind the door.
(Also located on this panel are various other controls including the pressure gauges for the bottle pressure and air reservoir pressure)

To remove the bottle; Firstly, relieve the pressure in the reservoir. This is done by switching the toggle switch in the upwards direction. You should be able to hear the pressure releasing from the bottle reservoir. When the pressure has been released, twist the bottle to unscrew. The bottle can now be removed for filling. To re-install the bottle, align the threads on the bottle and the manifold and screw together. The bottle will be pressurised when the toggle switch is re-selected in the downwards direction. The clean water system also provides the mechanism for applying Biofilm removal process. Refer to the section on Biofilm removal.

1.3.3 Compressed Air Reservoir

The Vacu-Jet Duo is fitted with a 3 litre Stainless Steel air reservoir which is situated behind the water bottle. This reservoir is filled with compressed air from the internal compressor. The air pressure inside of the reservoir varies from 60 -80 psi.
The air reservoir can be drained of any excess moisture that may have collected due to humid environments. The **drain tap** for the air reservoir is fitted on the same panel as the gauges and water bottle toggle. Open the tap until only dry air and no fluid is released from the drain tube. The drain tube is a blue soft tubing that can be directed outside of the Vacu-Jet DUO and into a cup for the collection of fluids. The valve should be operated once a week to clear any excess moisture.
Under normal operation the air tank need not be removed however this can be done if required by unscrewing in the same manner as the water bottle.

Important: Do not switch off the Vacu-jet DUO unit mains power when the compressor is running as this may cause damage and overheating of the compressor.

1.3.4 Emptying waste tank

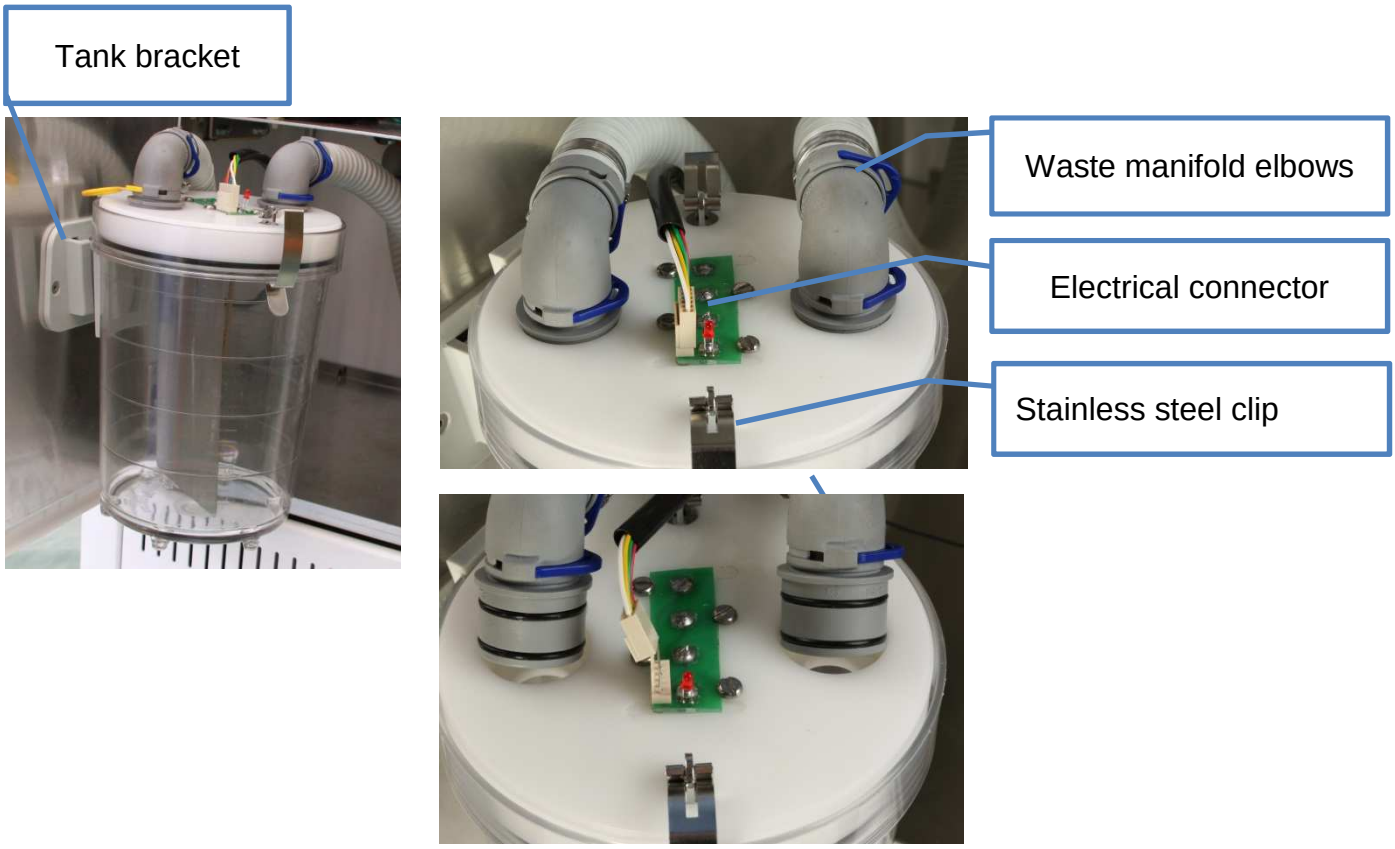
When the waste tank is 90 % full, the Vacu-Jet DUO will indicate that the waste tank requires emptying by flashing the Red LED on the control panel marked "TANK FULL". The suction will continue to operate for an additional 30 sec until the Red LED comes on in a steady state. The Suction motor will now not operate until the tank is emptied.

If there is additional fluid that is still in the suction tubes the Vacujet DUO can be forced into running the suction motor for an additional 10 seconds. This is done by turning off the main power switch and turning it back on to clear any fluids still in the suction lines. This can only be done once. The waste tank can be found on the inside of the door panel of the Vacu-Jet DUO for ease of access.
When the waste tank requires emptying, please follow the following instructions.

- Switch off the mains power switch. (located in the bottom of the rear panel)
- Remove the hoses from the waste manifold mounted on the waste tank plastic top.
- Unplug the 6 way electrical connector with harness from the waste tank top.(This electrical connection has no voltage so there is no risk of electric shock)
- Carefully, raise the waste tank out of the bracket mounted on the inside of the Vac-Jet DUO door.

- Open the stainless steel clips holding the waste tank plastic top and the suction jar.
- Remove the plastic top of the suction jar.
- Empty the waste tank suction jar, clean and reassemble.
- Clean the inside of the Vacu-Jet DUO body (if necessary).
- Slide the waste tank suction jar onto the bracket inside the door
- Insert the harness plug on the electrical connector of plastic top.
  Important: If the electrical connector is not re-connected the suction motor will not run. This is a safety mechanism to avoid damage to the suction motor.
- Fit the waste manifold elbows onto the plastic top. Replace the hoses.
- Ensure that all the parts are located correctly and aligned before switching on the unit.

When the tank has been emptied, the suction motor will be operational again and the Red LED light should be off.
If the light remains on the tank may have water on the electrical connectors, disassemble clean and try again.
If the problem persists please call for technical assistance.



***Note**: It is important to remember that the content of the tank is contaminated and suitable personal protection equipment should be worn when performing this procedure.*

1.4 Standard Instruments

1.4.1 Brushless MCX micro motor:

The MCX is the smallest and lightest brushless micro motor ever designed by Bien-Air. Use it with the new Bien-Air Micro-Series instruments for a micro motor/instrument assembly that's even smaller than a turbine, guaranteeing unbeatable performance. The MCX is a unique brushless micro motor.
This means the MCX delivers precise, constant power without the slightest jolt.
The MCX benefits include:

- Autoclavable
- No wear
- Longevity
- Low maintenance costs
- Ultra-precise control
- Step-less, vibration-free
- High and constant torque

Cleaning:
The external surface of the motor must be cleaned to remove impurities as follows

- Hold the motor by the nose under running water (< 38ºC)
- With the aid of a soft bristled brush, clean the external surface of the motor.
- Avoid allowing water to enter internally into the motor either by the nose or hose connector.

Disinfection:

- Carefully rub the external surfaces of the motor, for approximately one minute, with a soft bristle brush impregnated with a detergent or disinfectant solution

Suitable detergents

- Detergent or detergent-disinfectant (pH 6- 9.5) recommended for cleaning-disinfection of dental or surgical instruments.
- Quaternary ammonium- and/or enzyme-based surfactants.
- Do not use solutions that are corrosive or contain chlorine, acetone aldehydes or bleaches.
- Do not soak in physiological liquid (NaCl).

Sterilisation:

- Sterilize with steam after fractioned initial vacuum phase, Class B cycle acc. to EN13060. The procedure has been validated according to ISO 17664. Nominal temperature: 134°C. Duration: 3 or 18min. according to the national guidelines in force.

Important: The quality of the sterilisation depends very much on the cleanliness of the device. Only perfectly clean devices may be sterilised. The instrument will function in excess of 500 sterilisations

Lubrication:

Important: The Bien-Air Dental micro motors MCX LED and MCX are maintenance free. Do not spray any lubricant or cleaning solution into the motor.

Maintenance:
Should water or air leakage occur, replacement of O-rings on the nose cone is recommended: with the aid of a pin, pull out the old O-rings and insert the new ones (Part No: 1300967-001)
Never disassemble the electric micro motor.
For all major repairs, we recommend that you contact William Green Pty Ltd. We recommend that all dynamic instruments be checked or inspected at least once a year by an authorised service agent.

Specifications:

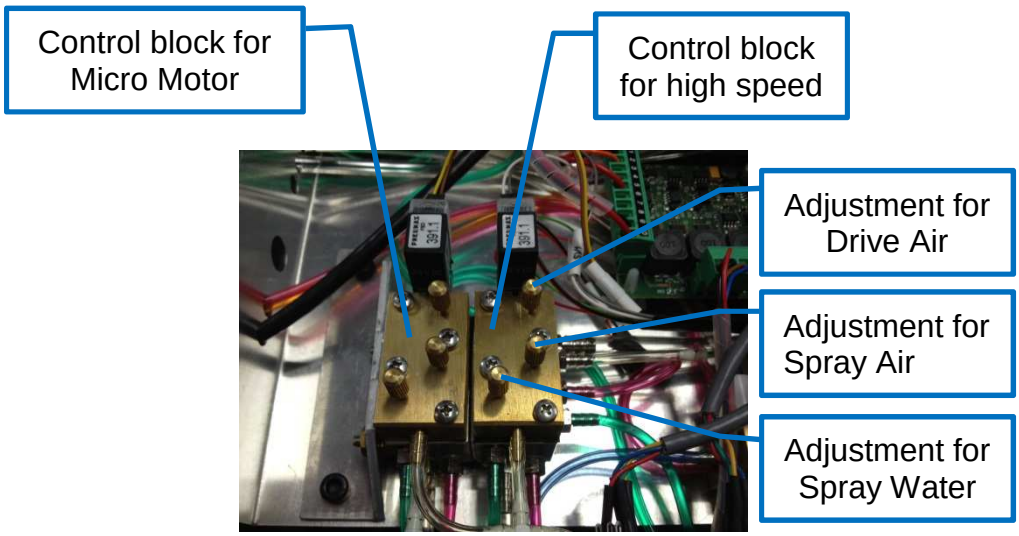
- Speed range 1000 – 40 000 rpm
- Max torque 2.5 Ncm
- Dimensions Ø 21 x 42 mm
- Weight 78 g
- Autoclavable
- Warranty 24 months

1.4.2 High Speed Fibre Optic Line

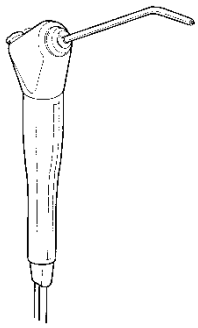
The Vacu-Jet DUO comes standard with one high speed fibre optic line. The high speed line is configured for standard "Four port mid-western" Handpieces. This is the standard configuration of almost all modern high speed handpiece couplings. If required adaptor couplings can be requested for older handpieces such as Borden.
The high speed line is fully adjustable for user preferences through the use of a control block located underneath the tray table work surface (a special tool, supplied, is required to remove the tray top for adjusting the high speed pressures.)
The adjustable parameters are:

- Drive air Pressure (this setting is specified by the manufacturer of the handpiece)
- Spray air pressure
- Spray water pressure

Spray air and spray water should be adjusted together to set the required mist for cooling the handpiece burr.

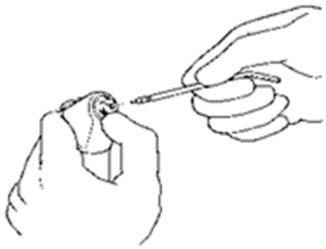


1.4.3 DCI autoclavable syringe



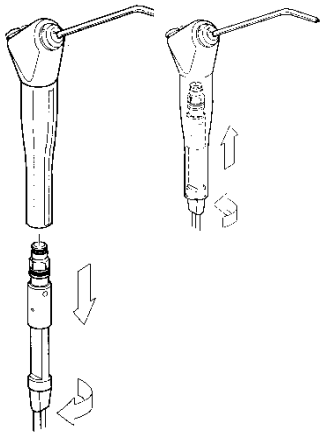
Syringe Features – The Syringe from DCI represents the highest level of engineering achievement in dental syringes. This 3-way syringe gives precise fingertip control of water, mist or dry air for rinsing, cooling or drying the preparation area. The syringe is totally autoclavable, up to 135°C, and features DCI's patented Quick-Change tip system for maximum patient safety. With proper care and a minimum of maintenance, this syringe will provide a lifetime of dependable service.

System Pressures – This syringe is engineered to operate with air pressure of 60-80 psi and water pressure of 30-40 psi. The Vacu-Jet Duo is pre-set in the factory to provide the best performance for the syringe.



Symbols – The syringe head is imprinted with symbols indicating the button functions. The button on the left is water, and the one on the right is air. Press both buttons simultaneously for a steady, uniform mist.

Changing the tip – A sterile syringe tip should be installed for each patient. To prevent contamination, sterile tips should be handled with a sterile gauze pad.
To remove the syringe tip, press down on the large collar. When you feel a soft 'click', the tip may be pulled straight out. Hold the collar down and insert the new tip. Be sure to press it all the way in, then release the collar.
Test the installation by giving a firm pull on the tip, to assure that it is inserted all the way and that the locking mechanism is fully engaged.

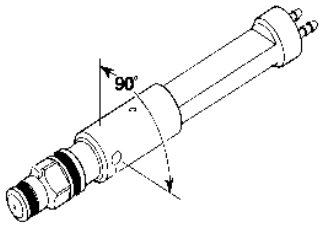


Syringe removal and replacement – The syringe is engineered for quick, easy removal for cleaning and sterilisation. The quick disconnect feature incorporates an internal shut-off valve that prevents leakage when the syringe is removed, even if the dental unit remains on.
To remove the syringe, grip the dark grey sleeve at the base of the handle and turn it counter clockwise a quarter turn until it stops. Pull the syringe away from the QD cartridge.

Important: Note the white sleeve around the syringe tubing. This is furnished to protect the QD cartridge while the syringe is away for sterilisation. After removing the syringe, slide the sleeve up the tubing until the QD rests in it, and then place it in the syringe holder. This minimizes the risk of damage to the QD cartridge or of inadvertently opening the air and water shut-off valve in the QD.

To install the syringe, slip the QD cartridge all the way into the syringe handle, then turn it clockwise a quarter turn until it stops. This will turn the air and water on, making the syringe operational.

If the QD cartridge does not slip easily into the syringe handle, it could be caught on the locking balls, it means that the shut-off valve has been rotated. **Do not** try to force the cartridge in. Remove the QD cartridge and turn the hexagonal-shaped portion counter clockwise as far as it goes (a quarter turn) to close the valve and allow installation of the syringe.



Cleaning – Clean the external surfaces of the syringe using a solution of mild detergent and warm water. A soft-bristled brush may be used to clean around the buttons and tip collar. Thoroughly rinse the syringe with clear water, and then dry it with a clean, soft lint-free cloth.

Important: Never use powdered cleansers, scouring pads or abrasive scrubbers, as they will damage the surface finishes of the syringe. Stubborn debris can usually be removed easily after soaking in warm water.

Disinfecting – The use of chemical disinfecting agents is not necessary if the syringe is going to be sterilized. While their use may be easy and quick, it is important to know the effectiveness of any chemical disinfectant against the various agents of infection that may be encountered.

Sterilization – The Autoclavable syringe is specifically designed to be removed from the supply tubing for sterilization and should be sterilized after each patient.

The Quick Change syringe tips should always be replaced with sterile ones before each patient.

Procedures given here apply equally to the tips and the whole syringe. There are several methods of sterilization that may be used. It is important to remember, however, that regardless of the method you choose, **temperatures should never exceed 138°C (280°F).**

Any of the following sterilisation methods may be safely used on the syringe and the syringe tips:

- Steam Autoclavable
- Ethylene Oxide Gas
- Chemical Vapour Process (see note)

Dry heat sterilization is not recommended because of the difficulty in maintaining the precise temperature control necessary to prevent damage to the syringe and syringe tips.

Note: When using the chemical vapour process, it is essential to first rinse all cleaning agents from all surfaces with clear water. This is particularly critical for the syringe tip. The internal orifices of the syringe tip must be thoroughly purged of all residual cleaning agents by flushing with water and then isopropyl alcohol. This will prevent clogging of the tips caused by reactions between the chemical vapour solutions and cleaning agents.

1.4.4 Suction Hoses

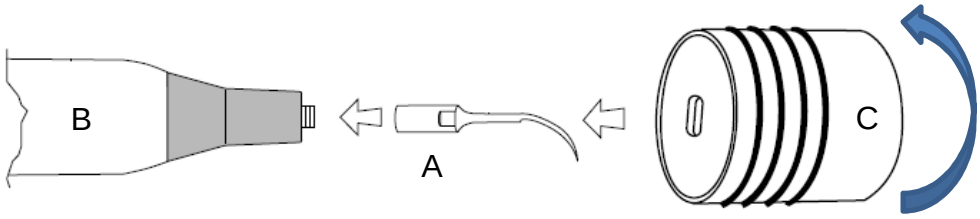
The Vacu-Jet Duo is fitted with two evacuation lines serviced by a powerful side channel blower.
The suction lines consist of one high velocity evacuation line with a 16mm terminal and one low velocity evacuation line with an 11mm suction terminal.
The 16mm terminal can be fitted with a plastic spittoon bowl allowing for patient rinsing.

1.5 Options available

1.5.1 Built In Mectron Ultrasonic Scaler

Description of the appliance:
The Compact Piezo is a modern ultrasonic piezoelectric scaler that exploits the ultrasound technology in dentistry.
The automatic tuning circuit compensates for the wear of the inserts, achieving the best working conditions and the maximum set power.
The handpiece, with a titanium resonator which can be sterilised in the autoclave at 135° C

Instructions for use:



- Fit the selected insert (A) on the scaler handpiece (B) using the locking tool (C) and tighten firmly.
- Check that the scaler handpiece is connected properly to the cord.
- The intensity of the Scaler is set by selecting the "+" and "-" buttons on the control panel of the unit.
  The faster the flash of the LED the higher the intensity setting of the scaler.
- If the treatment with spray is required, turn the water function on; this is activated by pressing the "Spray" button. Solid Green LED indicates water on, No light indicates water off.
  To adjust the water flow, turn the water adjustment knob anti clockwise to increase water flow, clockwise will decrease water flow.
  The water adjustment knob is located underneath the hanger for the scaler on the left hand side.
- To operate the scaler simply depress the foot pedal, the scaler will operate at the pre-set intensity regardless of the pressure input from the foot control.

- This appliance has a very sophisticated electronic circuit that makes it possible for the scaler to compensate for wear of the insert, thus maintaining the high performance of the ultrasound generator.

How to keep the appliance efficient:

- Check the wear of the insert regularly; changing it whenever you notice its performance is dwindling.
- Do not change the shape of the insert by bending or filing it.
- Change the insert if it has been knocked or is bent.

- Always make sure that the threaded parts and contact surfaces match perfectly.
- If the insert is badly worn, the scaler itself will stop functioning.

Cleaning:
Always clean the appliance after use paying particular attention to the following:
- The end of the scaler handpiece, thread and gap.
- Do not spray liquids directly onto the appliance but dampen a cloth with a mild detergent or disinfectant that has a neutral pH (7 pH).

Sterilising the handpiece in an autoclave:
- After the handpiece has been cleaned, dry the electrical contacts by blowing air with the syringe.
- Seal each handpiece (without the tip inserted) in its own autoclave bag. If you do not have enough bags you can use the aluminium-box provided with the appliance.
- The handpiece can be sterilised in an autoclave for 20 minutes at a maximum temperature of 135°C.
- After the handpiece has been sterilised in the autoclave, wait for it to cool down completely before using it again.
- Before connecting the handpiece to the cord, make sure the electrical contacts are thoroughly dry. If necessary, dry them with the syringe.

Sterilising the inserts in an autoclave:
- Seal the inserts singularly in disposable bags. If you do not have enough disposable bags you can use the aluminium box provided with the appliance.

1.5.2 Built in EMS piezon Scaling System

When requested the Vacu-jet DUO can be fitted with an EMS scaler.

The EMS scaler is controlled in the exact same way as the Mectron Scaler. For operation please see "Controls" section

Important: For all Piezo Scalers - Do not sterilize the handle with the scaler tip inserted

1.5.3 Built in Mectron LED Curing Light

This option can be fitted to the hanger set. It is advisable to have this option fitted at factory level.

Description of the appliance:
The Mectron LED Curing Light is a modern, stream lined and light-weight unit.
The curing light has two modes:

1. The "Fast" function, lasting 10 seconds, at the maximum light intensity, with acoustic signals at the start and the end of each exposure cycle.
2. The "Slow Rise" functions, lasting 20 seconds, with a gradual increase of the light intensity during the first 3 seconds, up to the maximum intensity, with acoustic signals after 10 seconds and at the end of the exposure cycle. This cycle can be stopped at any time by pressing the start button.
   The handpiece, excluding the optical fibre, is covered by a 36 months warranty.

How to keep the appliance clean and working efficiently:

- The fibre optic rod must be kept clear of composite and bonding material to allow the maximum light emission and penetration.
- Do not use instruments to remove the excessive composite or bonding material that will scratch and damage the fibre.
- The fibre should be sterilised in an autoclave after each patient at a maximum 135°C.
- The fibre rod must not be bent or dropped as this will damage it and reduce the amount of light emitted.
- To reduce the risk of cross contamination the handle should be covered with a plastic sheath. The sheath should then be removed and discarded after treatment and the handle wiped over after use with a disinfecting solution. A new sheath should be placed over the handle for the next patient.

1.5.4 Luzzani minimate syringe

Designed to supply air & water (separately or combined) to keep the operating field constantly clean & dry.
The tip and handpiece are easily removed for perfect disinfection and sterilisation in the autoclave at 135^0C.
Handpieces of different shapes are available; angled or straight.

After each use on a patient, the syringe must be cleaned and sterilised to guarantee the maximum hygiene. For this purpose, proceed as follows:

- Detach the tip (by unscrewing the tip retaining terminal) and/or the complete handpiece (by pressing the button on the lower part of the handpiece and pulling upwards).
- Wipe with a clean cloth to remove any stains
- Place in steam autoclave at 135^0C for recommended settings of steam sterilisation.

1.5.5 TKD Electric micro motor

As covered in the previous section of this manual, the electric micro motor is controlled by the foot control.
The electric micro motor is automatically selected when it is lifted out of the hanger and will respond when the foot control is pressed, depending on the speed you require.
To attach the electric micro motor, insert the coupling into the back of the motor and then tighten the coupling nut.

Important: Liquid or spray must not be allowed to penetrate inside the motor, due to risk of irreversible damage. Never mount an instrument on a rotating motor.

Maintenance:
Should water or air leakage occur, replacement of O-rings on the nose cone is recommended: with the aid of a pin, pull out the old O-rings and insert the new ones (Part No: 001.89.01 – Black O'rings & 001.98.01 – Blue O'rings) on the corresponding grooves.
Never disassemble the electric micro motor.
For all major repairs, we recommend that you contact William Green Pty Ltd. We recommend that all dynamic instruments be checked or inspected at least once a year by an authorised service agent.

Cleaning and disinfection:
After each treatment, clean and disinfect the device immediately. Observing this procedure can easily eliminate any residues of blood, saliva, cooling spray or other. The exterior body of the micro motor can be cleaned with a disinfectant containing: glutaraldehyde up to 3% , O-phenylphenol , alcohols based and ethanol Disinfectants containing chlorine, acids or solvents are not recommended.
Important: The device is not sterilisable and should not be immersed in any kind of liquid

Specifications:
- Speed range 2,000-40,000 rpm
- Max Torque 3.3 Ncm
- Dimensions ⌀ 21.5 x 77.3 cm
- Weight 90 g
- Not autoclavable
- Warranty 24 months

1.5.6 Carry Case Option

A toughened carry case is available.
The Vacujet DUO is split in to the two components, each component can then be placed in its individual carry case for storage or when being transported, reducing the possibility of damage.

2. Maintenance

Following these basic cleaning and maintenance procedures can reduce downtime and prevent equipment failures.
The procedures are presented in sections relevant to the equipment concerned.

William Green Pty Ltd recommends the use of Beviston products; we have found that some other brands can cause cracking and failure of the plastic components within the dental unit

***Important: Warranty can become VOID if the correct cleaning procedures and products are not adhered to*.**

All of the external surfaces of the Vacu-Jet DUO should be wiped down once a day. William Green Pty Ltd recommends the use of Beviston Bevistocryl cleaning solution. Bevistocryl is a ready-to-use hygienic cleaning foam, especially suitable for the surfaces of medical products that are sensitive to alcohol.
NOTE: Using cleaners that are based on the following can cause damage to the paint finishes on the equipment.

- Phenolic alcohol
- Glutaraldehydes
- Alcohols based on ethanol or methanol
- Acetone
- Chlorine

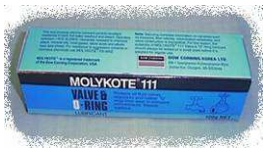
To clean the unit using Bevistocryl. (Part No: BH004)

- Cover the surfaces and objects to be cleaned using a wipe covered with foam from the foam dispenser.
- Leave to soak for 1 minute
- Wipe down with a disposable cloth.

Note: Avoid contact with skin and eyes. Gloves should be worn when performing this task.
Do not mix with any other disinfectants or domestic general purpose cleaning agents.

Hand piece Connections:

It is important to remove the handpiece couplings for lubrication at least monthly. This includes the syringe, micro motor and high speed couplings.
Before replacing the coupling, lightly grease all threads and O-rings to ensure they stay in good condition.
William Green recommends the use of quality silicone grease such as Molykote (Part Number 900.152)



Following this regime will minimise the incidence of couplings seizing in the coupling nuts on the handpiece lines.

Electric micro motor:

The Vacu-Jet DUO is fitted with a brushless micro motor which is virtually maintenance free.
The maintenance required for your electric micro motor is as per the operating instructions covered earlier in the manual. It is recommended that any major maintenance or repairs on electric micro motors be carried out by an authorised dealer or returned to William Green.

Handpiece Lines:

The handpiece lines should be cleaned after every use with the Bevistocryl product to avoid cross contamination.
If the handpiece lines are not used for any extended period of time or if you are preparing to

transport the Vacu-Jet DUO; you must drain all fluids from the handpiece lines to avoid the build-up of Biofilm or spilling fluids in the transportation vessel.
To drain the handpiece lines of water, first empty the clean water reservoir. Replace the water bottle without fluid. You will then need to run all necessary handpiece lines individually until no water is coming out of the line.

Suction system and Waste tank:
The suction terminals should be dismantled and cleaned at the completion of treatments each day to avoid a build-up of aspirated fluids. The unit is to be transported and stored with this waste canister empty. It is recommended that the slide valves of the suction terminals be greased with the silicone grease on a weekly basis to avoid them jamming and reduce the frequency with which they require replacement.
The suction system should be flushed and cleaned every day after use.
We recommend using **Beviston W1** (Part No: BH002) to keep the suction system clean and odour free.

Mix 1 litre of Beviston W1 as a 5% solution (50ml into 950ml of warm water<40ºC>) in a suitable container. Lift both suction hoses from their holders, with the valves open. Introduce the ends to the solution, such that a mixture of air and solution is taken up, about 300ml should be drawn up then the hoses returned to their holders allowing the solution to sit for 5 minutes. This allows the solution to react with the protein coating the interior of the hoses. Repeat the process of drawing up 300ml of solution, as described above allowing for a further 5 minute soaking. Draw up the remainder of the solution and allow soaking again for 5 minutes. Finally flush the system with clean water.
This process should be conducted on a **daily basis.**

Bevistion W2 (Part No: BH003)
This is applied in the same manner as Beviston W1 **and mixed as a 2% solution**, but on alternate **weeks basis,** or when there is a high protein build-up or foaming occurs. After completing the W2 treatment, flush with clean water.

For further information refer to the manufactures recommendations on the use of the chemicals.

Clean Water System:
William Green Pty Ltd recommends the use of distilled water in the clean water system.

Alpron (Part No.154.125) should be added to the clean water whenever the bottle is filled. Alpron prevents the build-up of bio-film in the water lines. The dilution of the Alpron solution is 1%, further instructions for mixing are found on the Alpron bottle or in the applicable MSDS.

Should a build-up of Bio-film occur, the use of an Alpron BRS (Part No. 154.130)removal kit may be required. Instructions on the use of the kit are included.
Care should be taken when removing the water bottle to ensure the

bottle is discharged from air through the toggle switch.
From time to time the water bottle reservoir may need replacement due to the threads stripping on the PET water bottle. A replacement water bottle can be purchased through William Green Pty Ltd (Part No: 122.006)

DCI Syringe:
The DCI syringe should be disassembled from its coupling at least once a month and the O-rings should be greased with silicone grease.
Further instructions on the maintenance of the syringe are included in the "standard instruments" section

Air Receiver:
The Vacu-Jet DUO has a built in compressed air receiver. It is possible (particularly in humid environments) that a small amount of moisture can build up in the receiver. For this reason there is a drain valve that should be operated once a week to avoid a build-up of excess fluid that may affect the performance of the instruments that require compressed air.
To drain the air receiver, turn the knob next to the air gauges in an anti-clockwise direction until you can hear air leaking from the small blue air tube next to the gauge bracket. It may be necessary to empty the expired water into a cup to avoid fluid on the floor.
Once only air is coming out of the blue tube, tighten the knob on the valve again.