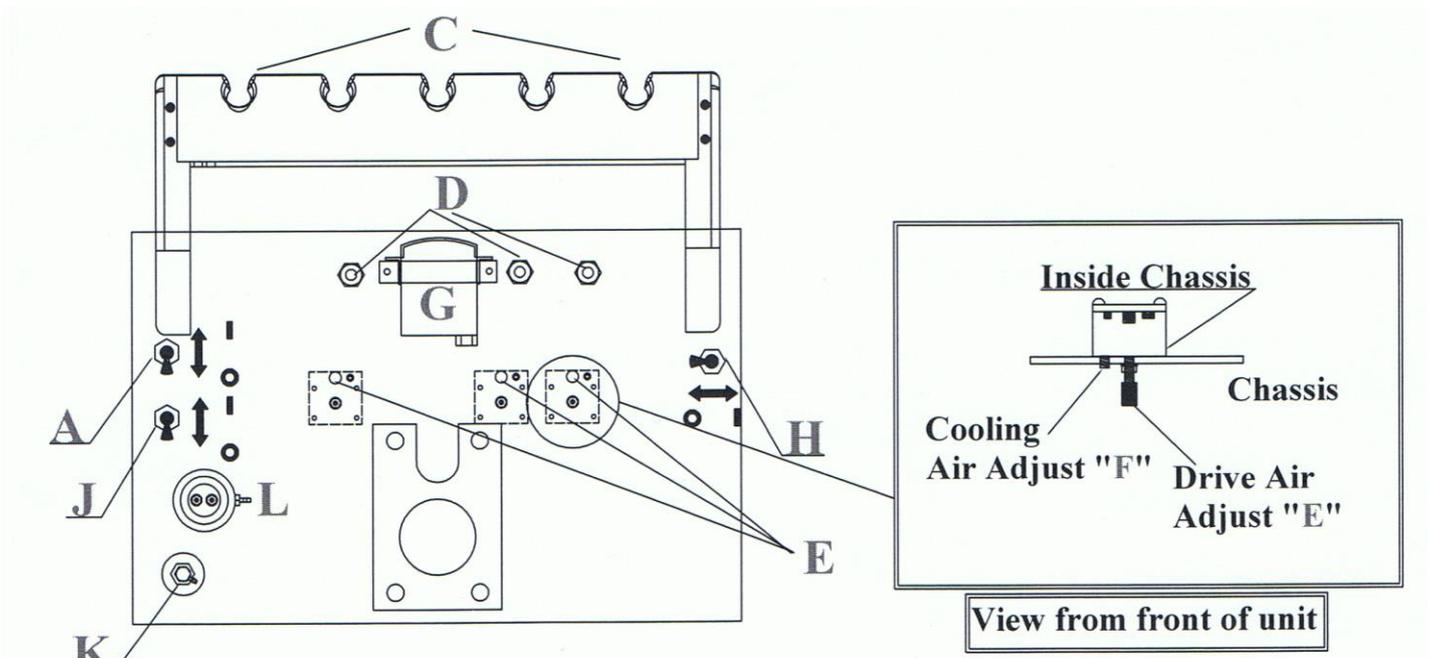


# PRO~S MOBILE DENTAL UNIT OPERATING INSTRUCTIONS

## COMPRESSED AIR SUPPLY

This is normally supplied from the compressor mounted on the base of the Unit but may be a separate and remotely located. (See separate Operating Instructions for the compressor). Before attempting to operate the Dental Unit ensure that the compressor is switched on, reservoir is full (the motor will have cut out) and normal line pressure of 80psi has been attained.

## OPERATING INSTRUCTIONS



## INTRODUCTION

The PRO-S Dental Handpiece Control Unit is designed to deliver air and water supplies to power dental handpieces and a syringe spray.

The PRO-S has three handpiece tubings each connected to its own control block. When one handpiece is removed from its holder the PRO-S automatically routes air and water supplies to it. The flow rates are pre set by the operator to match the handpiece and operators needs. The onset of movement, handpiece speed control and termination of movement are controlled by the operator using the foot control. An increasing amount of pressure increases the speed of the handpiece.

The control valves and switches are mounted under the base of the PRO-S control head. Diagram one shows the underside of the PRO-S and each control valve is identified by a reference letter.

The PRO-S control unit is mounted on a mobile cart frame. The front castors have brakes to protect against accidental movement. The cart has a height adjustment facility to ensure a comfortable working position.

**WARNING** – Please read this manual prior to using or making any adjustments to connected handpieces.

**WARNING** – Never exceed the handpiece manufacturer’s recommended pressures.

**WARNING** – Never run a handpiece without a bur/drill bit or manufacturer’s blank fitted.

### **A – MASTER ON/OFF SWITCH**

The PRO-S is unable to operate without activation of this switch. The switch has a positive ON/OFF action, and the toggle is grey.

Push the toggle to the rear of the PRO-S and the air and water supply valves will shut off in the service box.

Pull the toggle forwards and the air and water supply will be opened, allowing air and water to flow into the PRO-S pneumatic circuits. This circuit controls the switching air supply to the handpiece holders.

### **B – SYRINGE SPRAY**

The syringe is always located in the left holder on the holder bar. The syringe has two button valves, which when pressed release air or water. The left button supplies water and has a droplet legend. The right button has a cloud legend and supplies compressed air. The two buttons may be pressed together to provide a fine mist spray. The harder either button is pressed the more air or water will be released.

The syringe is supplied with ten quick release single-use tips. At the base of the tip is a locking chuck assembly that securely retains the tip.

To remove the tip, press and hold the outer ring at the base of the tip and gently remove the tip then release the ring.

To replace the tip, press and hold the ring in, insert the tip fully and release the ring. ALWAYS check that the tip is locked in place before using the syringe again.

### **C – HANDPIECE HOLDERS**

There are three handpiece holders, with tubings supplied to the requested configuration. When handpieces are connected and seated in their correct holder they are isolated from air and water supplies to operate them.

Remove one handpiece from the holder and supplies are automatically routed to it. The volume of these supplies are delivered to the handpiece are controlled by the operator using the foot control.

### **D – WATER FLOW CONTROL VALVES**

Three water flow control valves are provided, one for each handpiece outlet. They have a stainless steel knob fitted and are located behind its respective handpiece holder. Rotate anti-clockwise to reduce or shut off the water flow. Excessive force in this direction will cause damage to the water supply tubing.

Rotate clockwise to increase flow. Excessive rotation in this direction will cause the stem to be removed.



### **E – DRIVE AIR CONTROL STEM**

Three drive air control stems are fitted, one for each handpiece outlet. These are based under the PRO-S control head, inline and 65mm behind the water control valves.

This stem when rotated anti-clockwise reduces the maximum flow of drive air to the handpiece.

**WARNING** – tightening the stem into the block excessively will cause damage to the selector block.

When rotated clockwise the maximum flow available to the outlet is increased. Excessive rotation in this direction will cause the stem to be removed.

### **F – AIR COOLANT FLOW CONTROL**

Three air coolant flow controls are fitted, one for each outlet. This is a set-screw which is sited next to the drive air control stem and to the left.

A hexagonal key is provided to adjust the set-screw to the required level. Rotate the set-screw anti-clockwise to reduce the air coolant flow. Do not over tighten the set-screw as this will damage the valve.

Rotate the set-screw clockwise to increase the coolant air flow. Excessive rotation in this direction will cause the set-screw to come out of the control block.

### **G – HANDPIECE PRESSURE GAUGE**

The handpiece pressure gauge displays the pressure of the compressed air supplied from the PRO-S control head to a handpiece that is in use.

Set the drive air supply pressures in accordance with the manufacturer's recommendation for the handpiece to be used.

### **H – PURGE SWITCH**

The purge switch is a momentary switch (i.e. springs back on release) and is grey. It is located at the right hand side of the PRO-S control head, at the rear of the holder bar bracket.

The purge switch is used to run clean water through a handpiece outlet to reduce the risk of cross infection.

Remove a handpiece from its correct holder and gently pull the purge switch to the right and water will flow. Please note that water will not flow unless the water flow valve to the selected outlet is open.

Release the purge switch and water flow will stop.

## **I – FOOT CONTROL**

The foot control is connected directly to the PRO-S control head and controls two functions.

The large disc acts as a flow restrictor valve between the air supply from the service box and the selected handpiece.

The operator depresses the disc to increase the airflow and therefore speed of the handpiece. Removal of pressure slows or allows the handpiece to stop.

On the front of the foot control is a grey lever, which can be moved left or right. Moving the toggle right towards the blue dot sends an air signal to the PRO-S control head. This allows water to flow to the selected handpiece, however moving the toggle to the left cuts off water supply to the handpiece. Please note that water will not flow unless the water flow control valve to that handpiece is open.

## **J – BOTTLE WATER SWITCH**

The bottle water switch is mounted under the PRO-S control head at the left hand side behind the Master ON/OFF switch. This bottle water switch controls the supply of compressed air to the water bottle on the rear left side of the PRO-S control head.

Pull the bottle water switch forward and the bottle will pressurise. Push the bottle water switch towards the rear and the bottle will de-pressurise.

## **K – BOTTLE WATER FILTER**

As a precaution an inline filter is fitted to the rear of the bottle water holder to protect the water supply to the handpieces and syringe.

It is unlikely to become blocked but it is wise to check it is free of contaminants. The filter consists of two halves; the upper half is secured to the chassis. Hold the top half and to remove the bottom half, turn it clockwise. Now the filter element can be removed along with its sealing o-ring. Replace the filter element with a new one, then refit the o-ring seal and the bottom half of the filter housing.

## **L – BOTTLE, HOLDER AND GAUGE**

The PRO-S control unit head is fitted with a bottle holder with gauge and a thick wall bottle, which acts as a reservoir.

The bottle should be filled with drinking quality water and should be sediment free. Fill to within 5cms of the neck top.

Do not let the bottle become empty as it may cause air locking within the water system.

Do not remove the bottle when pressurised, always use the bottle water switch (J) to cut off the air supply.

Before removing the bottle, always check the pressure status at the gauge on the bottle holder. The bottle should always be removed slowly to allow any trapped air out through the vents in its thread. Always ensure the bottle you use is the manufacturer's original item and change once a year. (cont)



During normal use the gauge on the bottle holder should read 30 PSI. Do not under any circumstances alter the air supply regulator within the PRO-S control head.

### **HANDPIECE SETTINGS**

Check the handpiece manufacturer's requirements and run the handpiece with a bur fitted.

Press the foot control disc to maximum.

Set the maximum handpiece drive air by adjusting E and monitoring the supply with G.

It is advantageous if a pressure-testing gauge is fitted between the tubing terminal and the handpiece. More accurate results are achieved due to pressure drop between the control head gauge and the tubing terminal.

Set the Water Flow using D – Set the Coolant Air using F.

Please note – some air motors with external water spray pipes may require the coolant air supply to be completely restricted.

**WARNING** - Always shut the service supplies off when the PRO-S is unattended.

### **CLEANING**

Do not use alcohol based disinfectants regularly. When used, ensure only light application and preferably remove without delay. Do not use abrasive cleaning substances on any of the surfaces. Regular use of warm soapy water is the best method of cleaning. The use of personal barrier protection is recommended.

