

Double Phantom Head (TORSO UNIT)

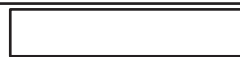
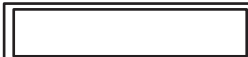


Operation Manual



RELIABLE TECHNOLOGY

CONFIDENT DENTAL EQUIPMENTS LTD.
BANGALORE INDIA.



Double Phantom Head (TORSO UNIT)

INTRODUCTION

The purpose of this manual is that of providing the user with instruction for the safe and efficient operation of the apparatus.

The apparatus must be used in accordance with the procedures included in the manual and never for purposes different from those for which it has been designed.

The apparatus can only be operated by qualified personnel with the necessary know-how.

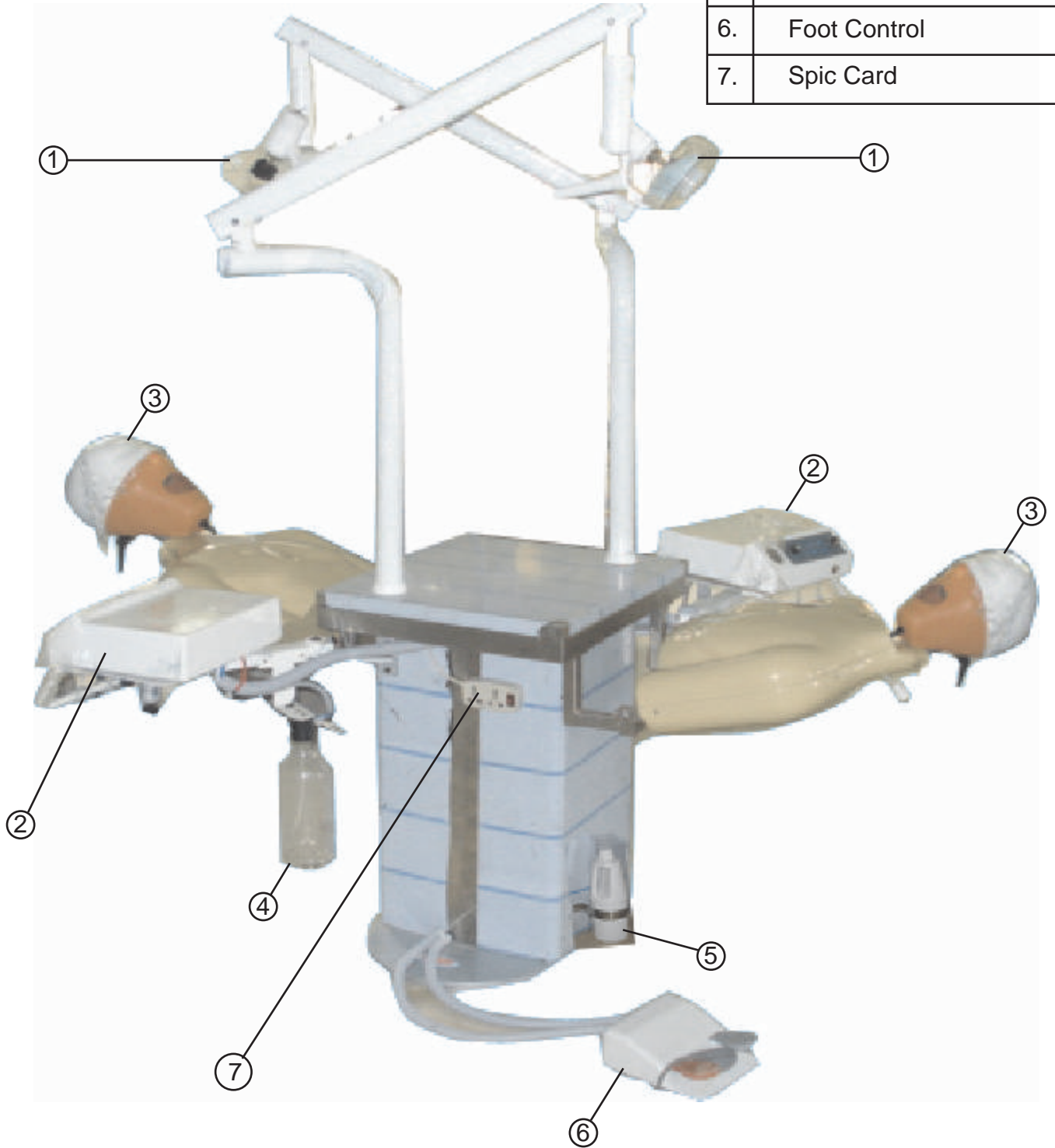
The user is responsible for everything that concerns the legal fulfillment relative to installation and operation of the actual apparatus.

If the apparatus is not operated correctly or suitable maintenance is not carried out, the manufacturer can not be considered responsible for any injuries, faulty operations, and break downs.

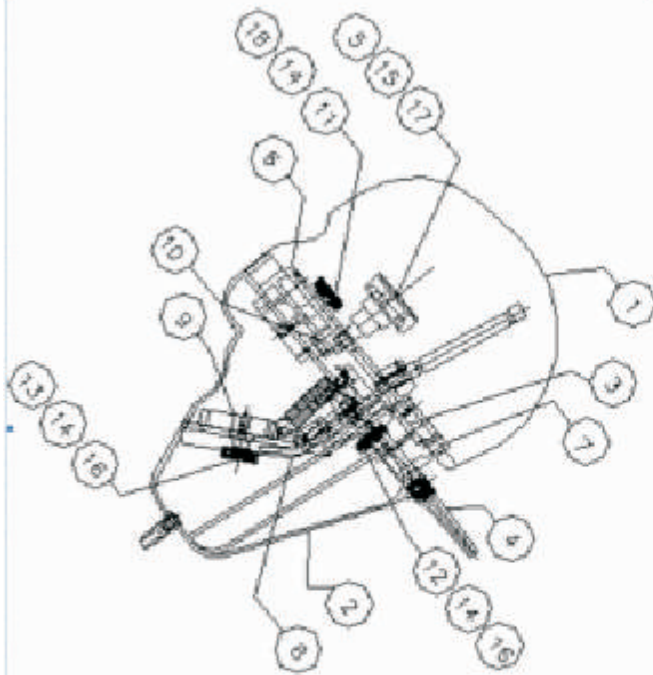
Only stabilised voltage obtained from a Servo controlled voltage stabilisers should be supplied to this equipment.

This Document covers comprehensively all details required for the efficient operation of the equipment. Any other information, which you may find it necessary to be elaborated, pertaining to this equipment, may please be obtained from our factory.

1.	Dental Light
2.	Trolley
3.	Phantom Head
4.	Water Booster
5.	Waste Collection Bottel
6.	Foot Control
7.	Spic Card



PHANTOM HEAD



PART	No. QTY	DESCRIPTION
01	01	MOULDED HEAD
02	01	MASK ASSEMBLY
03	01	BOTTOM PLATE ASSEMBLY
04	01	P.H HANDLE
05	01	KNOB-3/8" FOR BOTTOM PLATE FIXING
06	01	TOP PLATE ASSEMBLY
07	01	HOUSING ASSEMBLY
08	02	JAW MOUNT ASSEMBLY
09	01	LOWER JAW
10	01	UPPER JAW
11	01	UPPER JAW HOLDING KNOB
12	02	KNOB-SINGLE GROOVE
13	01	LOWER JAW HOLDING KNOB
14	08	PLAIN WASHER 1/4"(6.35x12.7x1)
15	02	PLAIN WASHER M10(10.5x20x1)
16	03	CIRCLIP-4 MM E-TYPE
17	01	CIRCLIP-7 MM E-TYPE

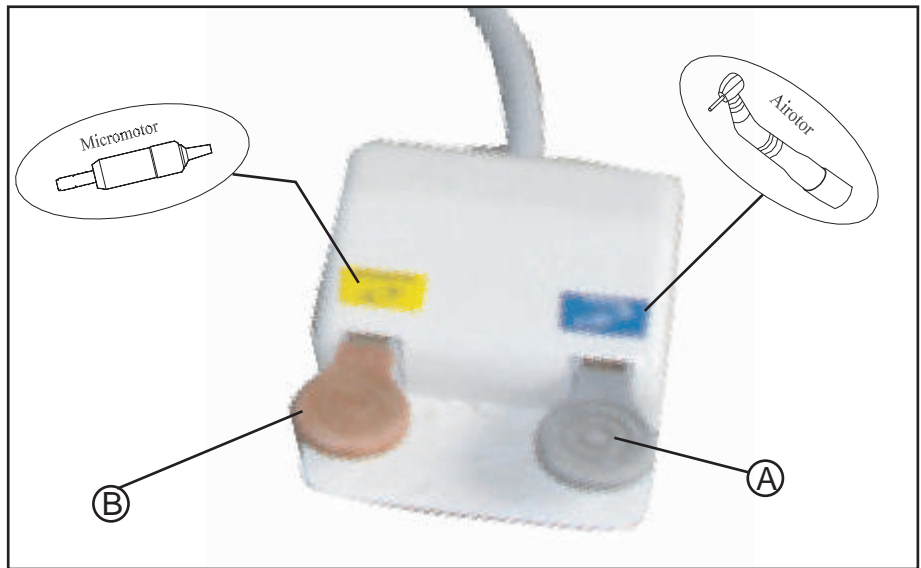
ANGULAR MOVEMENT OF THE HEAD

FOR ANGULAR MOVEMENT OF HEAD CAN BE ADJUSTED BY USING P.H HANDLE . BY PULLING HANDLE KNOB AND MOVE TOWARDS DOWN SIDE AND ADJUSTED THE HEAD FOR REQUIRED ANGLE, THEN TIGHTENED THE KNOB PUSHING AND MOVING UP SIDE .

STRAIGHT MOVEMENT OF THE HEAD

UP AND DOWN MOVEMENT OF THE PHANTOM HEAD CAN BE MADE BY PULLING AND PUSHING HEAD MANUALLY

Foot Control Unit



Foot control unit

Foot control unit consists of 2 levers to control the operation of micromotor & airtor. The operations of the individual switches are explained below.

Switch

Operation

A

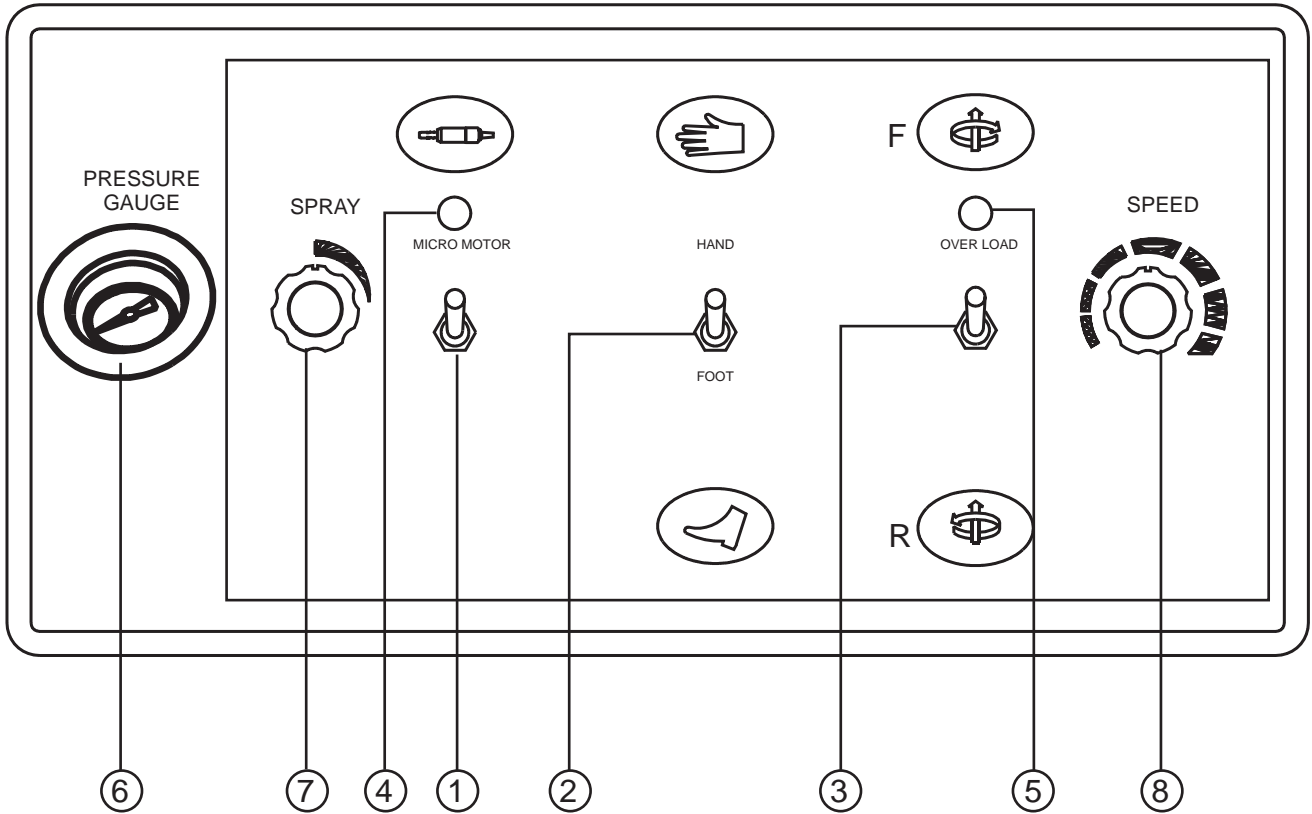
The airtor starts operating as this foot lever 'A' is pressed down fully (I.e.. The Compressed air is supplied to airtor). Never press the Lever half way as the air would leak and air pressure will not be enough to drive the hand piece to its full speed. As the lever is released the airtor stops operating.

B

Select Micro Motor mode by pushing the toggle switch (1), on the trolley Unit, up and then choose "forward" or "Reverse" operation by operating Toggle Switch(3) on the Trolley unit. The Foot lever 'B' actuates the Micro Motor when it is pressed.

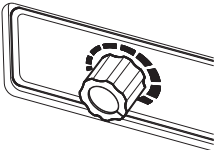
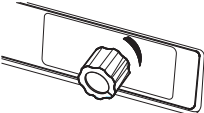


Note: Foot control surfaces should be periodically wiped & cleaned with cleaning agents specially designed for the purpose.

TROLLEY SYSTEM

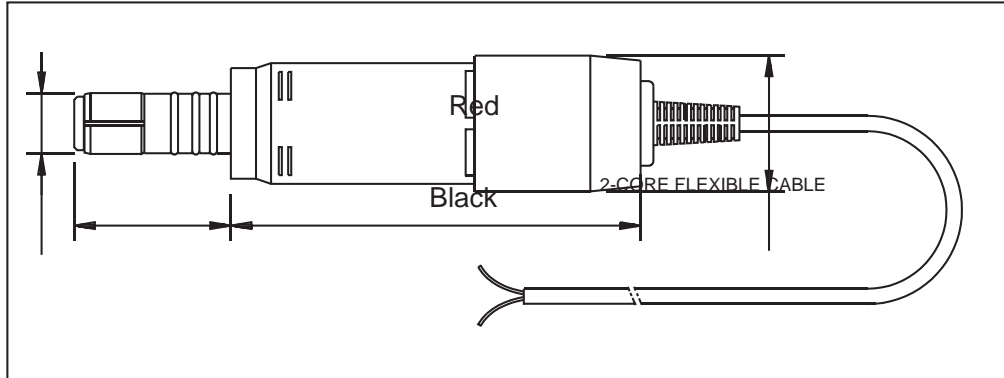


1. Micro Motor On
2. Hand/Foot
3. Forward/Reverse selection.
4. Micro Motor ON LED.
5. Over Load LED.
6. Pressure Gauge
7. Spray Control Knob.
8. Speed Control Knob.

**Trolley System
Check List**

Sl.	Item	Operation	Check
1.	Toggle Switch	Switch for selection of Micromotor	<input type="checkbox"/>
2.	LED	Micromotor ON Indicator	<input type="checkbox"/>
3.	Toggle Switch	Selection Switch for 'HAND' or 'FOOT' operation	<input type="checkbox"/>
4.	Toggle Switch	Selection Switch for 'Forward' or 'Reverse' rotation of Micromotor	<input type="checkbox"/>
5.	LED	Micromotor Over Load Indicator LED	<input type="checkbox"/>
6.	Control KNOB (Motor Speed)	Adjustment for Speed control of Micromotor # Clockwise rotation of this Knob increases the speed. # Counter-clockwise rotation decreases the speed.	<input type="checkbox"/>
			
7.	Control KNOB- (Water Spray)	Adjustment of Water Spray Flow # Clockwise rotation of this Knob decreases water flow (spray control) # Counter-clockwise rotation increases the water flow	<input type="checkbox"/>
			
8.	Pressure Control Knob	Set suitable air pressure using the Knob (located beneath Trolley Unit)	<input type="checkbox"/>
9.	Air Filter	This filters air supplied to Airotor (to 5-microns purity) (located beneath Trolley Unit)	<input type="checkbox"/>
10.	2-Pin DIN Connector (Male)	Plug-in Micromotor for connecting it to the Trolley (located beneath Trolley Unit)	<input type="checkbox"/>
			
11.	Pressure Gauge	Air pressure indicator Set suitable pressure using the Regulator located on the Trolley	<input type="checkbox"/>
			

**Micromotor
Specification, Features and Operation**








Specification:

Input voltage: 30 VDC (Max)
 Dimensions: Ref. Above fig.
 Weight: 150 g (including cord)
 Speed: 40,000 rpm (\pm 5%)

Features:

- * The Micromotor is ideally suited for Clinical work.
- * High Torque from Low to High Speeds.
- * Automatic Safety Device, stops micromotor automatically on overload. An "Over load" red LED glows indicating overload. The micromotor restarts again automatically once it is normal.
- * Forward & Reverse Rotation by Selection Switch.
- * Flexible Cord for smooth manoverability of Micromotor.

Operation:

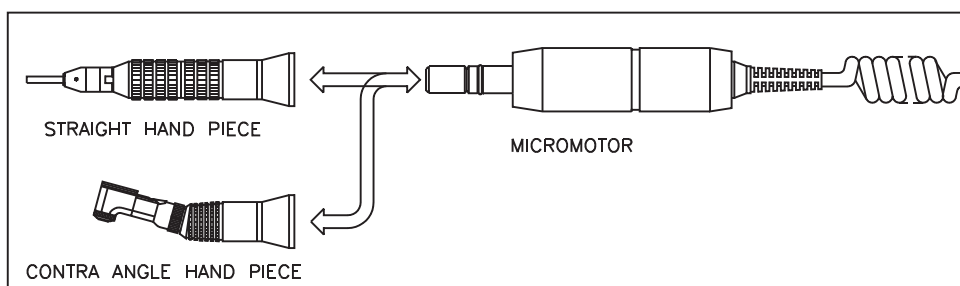
- 1.Micromotor ON Switch:**  Select Switch(No.1) on the Trolley Unit for ON/OFF operation of the Micromotor.
- 2.Control:**  Select switch(No.2) on the Control box for Hand or Foot ON/OFF operation of the Micromotor.
- 3.Direction**  FORWARD
 REVERSE
 Micromotor rotates on both forward and reverse directions. Operate, 3-position switch (No.3) on the Control Box, to get forward or reverse rotation.Middle position of Switch turns-off the Micromotor.
- 4.Speed Control:**  SPEED
 Speed of Micromotor can be controlled by hand using Knob (No.4), on Control Box.

Micromotor Operation, Cautions & Tips

Caution:

*The Micromotor needs proper care and handling for its long & trouble free service. A few **cautions & tips** are given below.*

- # Push the Handpieces on Micromotor shaft completely.
- # Do not apply excessive pressure while operating. This will damage the motor.
The cutting action is through speed and not by pressure. The 'OVER LOAD' red LED glows indicating that the motor is being over loaded. The micromotor stops automatically, to avoid damage. After a few seconds the LED goes off and the micromotor starts operating again.
- # Do not use bent, off-centered, blunt, damaged, or unsized Burs. This will damage both the Micromotor and the Handpiece
- # **Never fix or remove Handpiece when the motor is running. Never turn the Bur Locking Ring of the Handpiece when Micromotor is running.**
- # **Allow Micromotor to come to dead stop before changing the direction of rotation.**
- # Micromotor cannot be autoclaved.
- # After the day's work put off the main Control Switch of the Micromotor.

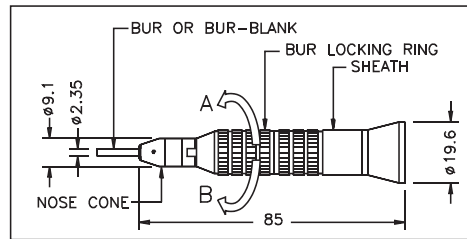


Trouble Shooting Of Micromotor:

Check the following aspects, when the Motor and Handpiece do not run, before sending the instrument for repair.

	Check point	Reason	Trouble Shooting
Supreme Micro Motor Does Not run	Lamp Indicator does not glow when Main Switch is ON.	Power Cable is not plugged properly.	connect Power Plug.
		Fuse is blown.	replace the Fuse if blown out. (fuse rating- 2Amps)
	Lamp Indicator lights up but Motor does not run when Forward / Reverse Switch is selected or Foot Switch is pressed.	Motor Connector has discontinuity.	check connector.
		Foot Control Cable/ connector has discontinuity.	check connector & Cable.
		Motor Cord open/ damaged.	Replace with new Motor Cord.
		Forward/Reverse selector Switch is at Neutral position.	Push the Forward/Reverse Switch to either forward or reverse position.
		PCB might have failed.	Replace PCB.
	Motor retarding in high speed.	Potentiometer faulty.	Replace if found defective.
		Regulator faulty (mounted on aluminium heat-sink plate)	Replace if found defective.
	Motor running normally but the bur is not rotating, even though the handpiece is in good condition	E-Joint Problem	E-Joint should be replaced at service center

E-Type Straight Handpiece



Specification:

1. Maximum Allowable Speed: 40,000rpm.
2. Dimensions: Ref. above fig.
3. Weight: 56gm.
4. Bur Diameter: 2.35mm.Ø

Features:

Straight Handpiece (or Nosecone) has the following features which contribute for its lasting service.

- # Dust Shield (Labyrinth Shield) is installed inside to prevent oral fluids from being sucked into the Handpiece.
- # Highly concentric & precision spindle ensures smooth and vibration free operation.
- # The heat is well dissipated and the temperature is controlled within reasonable limits, even while in an extended use.
- # Straight Nosecone is autoclavable at the max. temperature of up to 135° C or 275°F.

Mounting of Burs:

- Step 1: Turn the Bur Locking Ring all the way in the direction of arrow 'A'.
- Step 2: Insert a Bur into the Chuck.
- Step 3: Turn the Bur Locking Ring back in the direction of arrow 'B', until a click sound is heard indicating positive locking of the Bur.

Caution:

- # Never use a bent, off-centered, blunt, damaged or unsized Bur.
- # Always insert the Bur all the way into the chuck before locking. This will prevent Bur-Walk-Out.
- # Never operate a Handpiece without a Bur or a Bur-Blank securely fixed in Place.
- # Always keep a Bur Or Bur-blank in chuck even while the Handpiece is not in use.
- # Never turn the Bur Locking Ring while the Handpiece is running.
- # Do not drop down a Handpiece. This will cause damage the delicate parts and cause malfunction.

Important Note:

Whenever a Straight Handpiece is used for surgery (or ENT cases), after the surgery is over the Handpiece should be thoroughly cleaned and sprayed with enough oil, and then it should be run in forward & reverse direction two to three times, spray oil again before storing it. This procedure is absolutely essential to avoid clotting of blood inside the handpiece, at the end of each operation (surgery).

If this procedure is ignored then the Handpiece will get damaged in a single surgery itself.

Handpiece Sterilization & Lubrication

Cleaning & Sterilization:

1. Cleaning of Handpiece:

Wipe clean the Handpiece sheath with a soft tissue or cotton dipped in alcohol. **Never clean the Handpiece in boiling water or in chemicals or brush with wire-brush.**

2. Sterilization:

Autoclaving is recommended for Handpieces

a) Clean the Handpiece Sheath as described above.

b) Lubricate the Handpiece with Pana-Spray.

c) Pack Handpiece into autoclaving pouch and seal it in accordance with instructions on the pouch.

d) Autoclaving time and temperature:

Max. Temperature: 121° C for 20 minutes

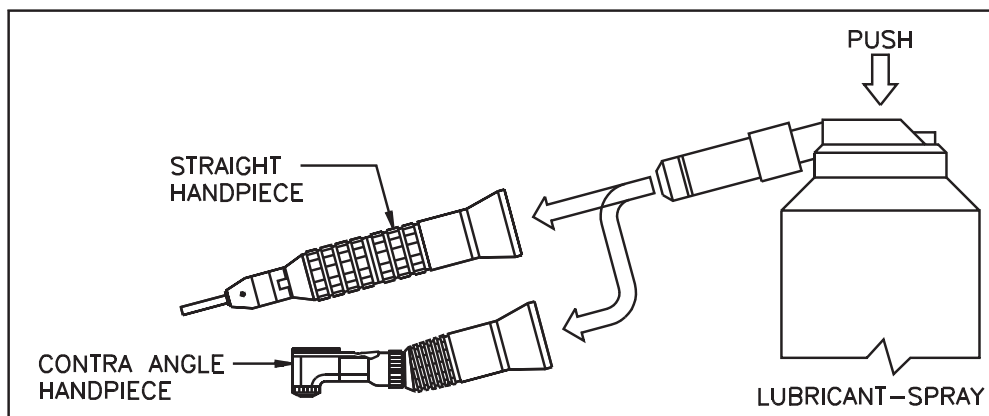
Max. Temperature: 132° C for 15 minutes

Lubrication:

Regular Lubrication (with recommended oil) of Handpieces will give a reliable service and enhances their life expectancy.

Lubrication is required at least once in a day. Use any recommended Lubricating oil.

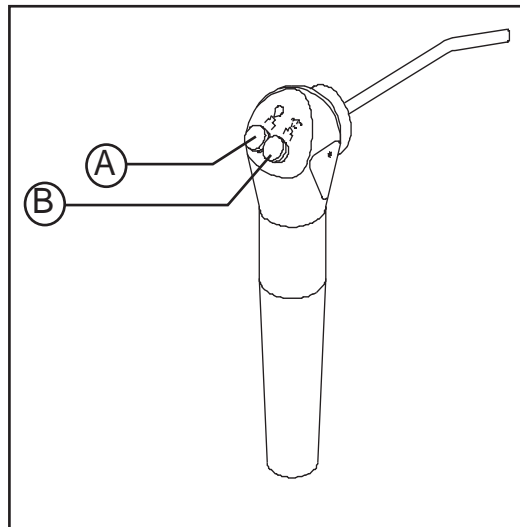
Lubrication by Spray:
Install E-Type Nozzle screwing into oil outlet of the Can and spray through Handpiece. Push spray button (See fig. below)



Warning:

Dry-heat sterilization is not allowed under any circumstances. Do not run the cartridge immediately after washing or lubricating with Aerosol cleaner or lubricant, as its Ball Bearings would have frozen and may get damaged if operated. The cartridge may be operated after 2 or 3 minutes.

3-Way Syringe



OPERATOR'S 3-WAY SYRINGE:

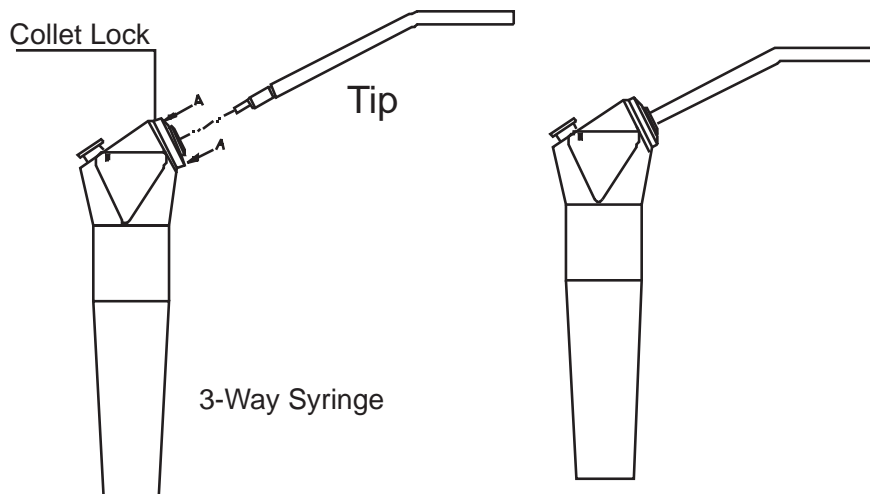
3-way syringe is used to clean the oral cavity after the clinical work. It is used to spray
a) Water, b) Blow Air, c) spray a mixture of air & water through the Tip of the syringe.

Procedure:

- # Press the water knob "A" to obtain water spray through the nozzle. If the applied pressure is released water rushing out will stop immediately.
- # Press the air knob "B" to blow the air through the nozzle.
- # Press both the knobs (A & B) simultaneously to obtain water & air in a spray

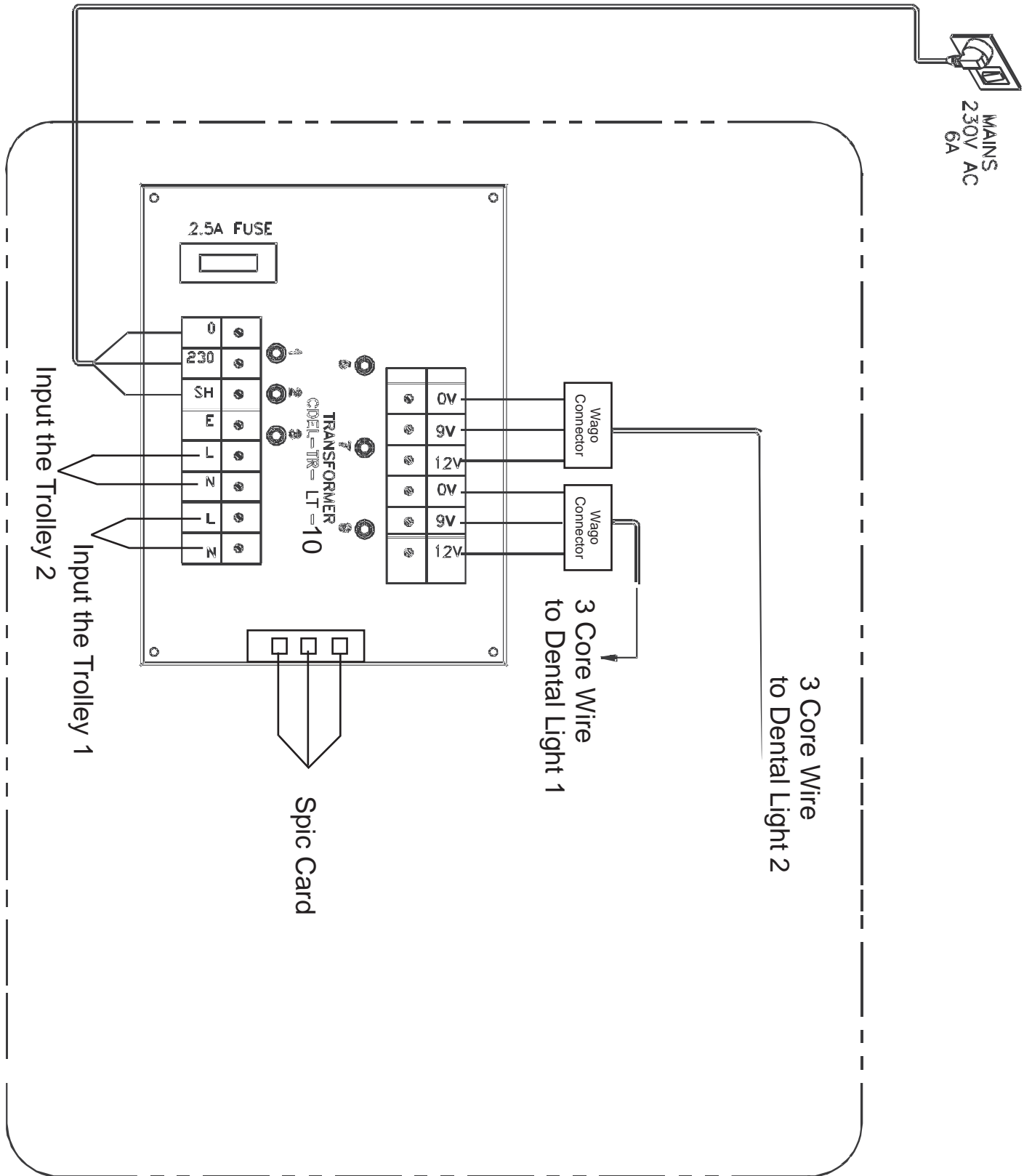
Method of assembling Tip:

- # Press Collet Lock in the direction of arrow X X and insert Tip into the 3-Way Syringe Collet. The Tip gets locked inside the Collet (when the Collet Lock returns back to its original position).
- # Tip can be rotated around its axis for 360°
- # Tip is Auto clavable



3-Way Syringe
Assembled with Tip

Electrical Circuit diagram
Mains & Transformer.



Electrical Circuit Diagram trolley Unit Micro Motor

