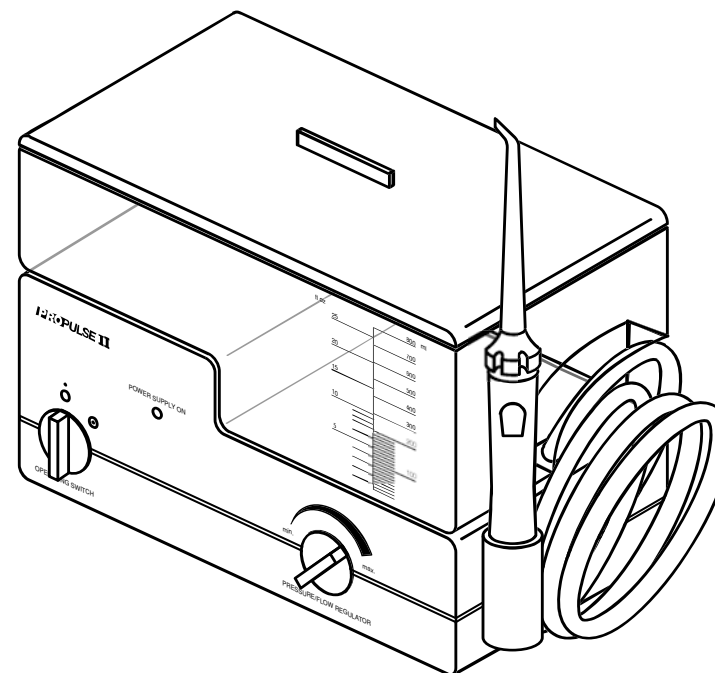


# Propulse II Electronic Ear Irrigator User Manual

## EAR CARE TRAINING

Ear Care Training is available and can be purchased  
Further details are available from Mirage on **0845 130 5440**



### Mirage Health Group Ltd

12 Singer Way, Woburn Road Industrial Estate, Kempston,  
Bedfordshire MK42 7AE UK

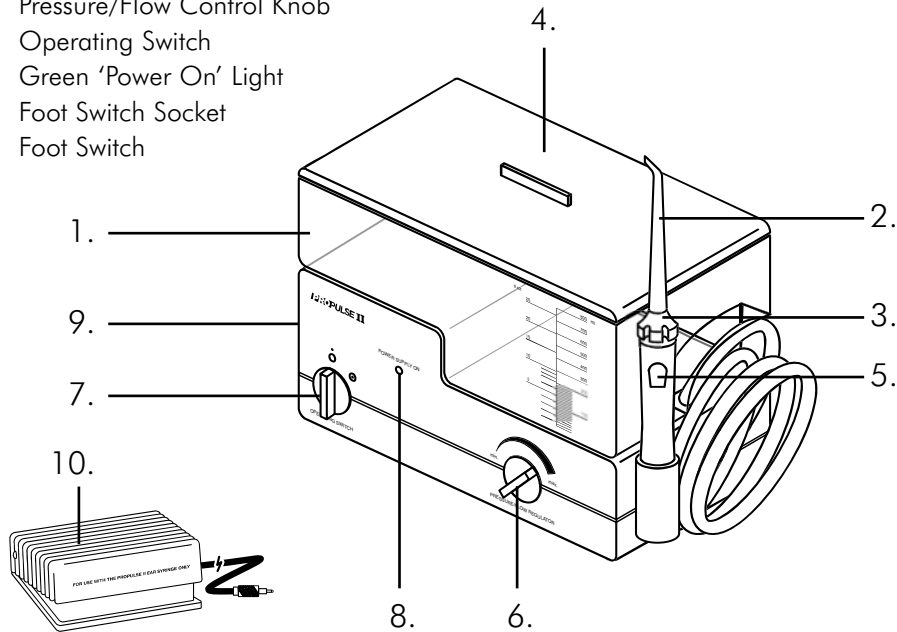
**Tel: 0845 130 5440 Fax: 0845 130 6440**

Overseas Tel: +44 1234 856008 Fax: +44 1234 840157

**[www.miragehealthgroup.com](http://www.miragehealthgroup.com)**

email: [uksales@miragehealthgroup.com](mailto:uksales@miragehealthgroup.com)  
[Internationalsales@miragehealthgroup.com](mailto:Internationalsales@miragehealthgroup.com)

1. Water Container / Reservoir
2. Disposable "One Use" Jet Tip
3. Jet Tip Holder
4. Lid
5. Water Jet 'Stop Button'
6. Pressure/Flow Control Knob
7. Operating Switch
8. Green 'Power On' Light
9. Foot Switch Socket
10. Foot Switch



## IMPORTANT INFORMATION

*It is important that you read this user manual before using the Propulse II Ear Irrigator.*

The Propulse II Ear Irrigator is a medical device intended for the removal of cerumen, keratin and/or foreign bodies from the human ear by irrigation. **The manufacturer cannot accept responsibility if it is used for any other purpose.**

**It is strongly recommended that the Propulse II Ear Irrigator is only used by suitably trained clinicians.** Details of training resources are available from Mirage

**NB The cost of training is NOT included in the cost of the irrigator.**

The Propulse II Ear Irrigator must only be used with the footswitch with which it is supplied. **The manufacturer cannot accept responsibility if any other footswitch is used, neither can it accept responsibility if the footswitch supplied is used for any other purpose.**

The Propulse II Ear Irrigator must not be immersed in water. Cleaning should be done by hand, wiping with a damp cloth only (see cleaning guidelines).

The Propulse II Ear Irrigator is not user repairable and must be returned to the manufacturer for repair. The address is:

### **MIRAGE SERVICE DEPARTMENT**

53 Purbeck Drive, Lostock, Bolton, Lancashire BL6 4JF

Tel: 0845 130 5445

*It is recommended that copies of this User Manual, supplies of disposable "one use" jet tips and Propulse Cleaning tablets are available at all points of use of the Propulse II Ear Irrigator.*

Additional user manuals are available from Mirage Health Group Ltd.

Technical support and advice is available from the Mirage Service Department at the above address.

**Please note:** this product is fitted with a safety fuse to protect the product from overheating, and will cut out if the following occurs:

- 1) The product is left switched on at the mains when not in use.
- 2) **CONTINUOUS** water flow of more than 10 minutes - note this should not prohibit normal operation of the product, see 'Using the Propulse II'

Should the fuse cut out, please contact Mirage Service Department on the above number.

## TECHNICAL DATA

Voltage rating	220 to 240 V AC
Power rating	20 VA
Frequency	50 to 60 Hz
Static Pressure (with 'stop button' closed):	
Minimum setting	0.27 bar (27 kpa) to 1.11 bar (111 kpa)
Maximum setting	1.35 bar (135 kpa) to 3.45 bar (345 kpa)
Water jet pulses	(at 50 Hz) :1200 ~ (at 60 Hz) :1440
Maximum operating time	10 minutes (with a recommended rest time of 2 hours)
Storage temperature range	-5°C to 65°C
Storage relative humidity	Up to 80%

### Guide to safety symbol:



Class II Equipment



Attention Consult Accompanying Documents



Type B. F. Equipment

**IPX4** Protected Against Splashing Water

## SAFETY INFORMATION

The Propulse II is CE marked for and complies with:

Medical Devices Directive - CE 0499

Electrical Safety - EN60601-1

EMC Safety - EN55014;- EN61000;- EN60601

## DESCRIPTION

The Propulse II Ear Irrigator consists of:

- a) The main body** - containing the motor and pump, a power cord terminating in a UK standard 13 amp mains plug, (or appropriate overseas plug) a green 'power supply on' indicator (8) and user controls.

Note: *The green 'power supply on' light indicates that the device is connected to the mains power supply only. It does not indicate that the operating switch is in the ON (⊙) position.*

User Controls are:

- i) An operating switch (7) - this switch powers the equipment on (⊙) and off (⊖) in conjunction with the footswitch. (See 'd' next page).
- ii) A pressure/flow control knob (6) that determines the pressure and flow of the water at the water jet tip.
- iii) A water jet stop button (5) (see water jet tip holder next page).

- b) the water container / reservoir (1)** - the clear plastic container and it's detachable lid is removable for filling and cleaning.

- c) **the water jet tip holder (3)** - is attached to the main body of the device by a coiled tube. **This tube is not detachable.**

The water jet tip holder accommodates disposable “one use” jet tip applicators. Only disposable “one use” jet tip applicators designed for the Propulse II Ear Irrigator must be used. **The manufacturer cannot accept responsibility for damage or injury, however caused, through the use of non-approved jet tip applicators.**

The water jet tip holder incorporates a water jet stop button (5). This button will stop the flow of water when it is pressed fully in. The pressure/flow set by the pressure/flow control knob will be resumed upon release of the water stop button, or by pressing or depressing the footswitch.

- d) **the foot switch (10)** - attached to the main body by a detachable socket connection. **The device will only function if the foot switch is connected and the operating switch is in the ON (⊕) position.**

Pressing the footswitch causes the device to produce water at the water jet tip applicator at the pressure/flow set by the pressure/flow control knob.

## SETTING - UP PROCEDURE

### Initial cleaning

Although the device has been thoroughly cleaned after manufacture it is recommended that it is cleaned and sterilised prior to use. (See Cleaning Guidelines).

The Propulse II Ear Irrigator must only be used with a mains power supply that is the same as that indicated on the data panel on the base of the device.

**The manufacturer cannot accept responsibility for damage or injury, however sustained, from connecting the device to a non-compatible power supply.**

**Adapters should not be used when connecting the device to the power supply.**

**Caution:** The product is not permanently disconnected from the mains in the off (⊖) position. **Please remove the plug from mains when not in use to prevent overheating.**

## Filling the water container

Although the mains voltage is isolated from exposed wiring in the device, it is recommended that:

- i) The water container / reservoir (1) is removed from the device for filling and that the lid is always in place when the water container is in-situ on the device.
- ii) The water container is not overfilled.
- iii) The water used to fill or clean the water container does not exceed normal body temperature.

## Fitting the disposable “one use” jet tip applicators

The Propulse II Ear Irrigator is supplied with ten disposable “one use” jet tip applicators (2) – use **one** disposable “one use” jet tip **per** patient.

To remove a jet tip applicator pull the jet tip applicator directly from the jet tip holder body, without using a sideways movement.

To fit, or change, a jet tip applicator reverse the above procedure.

**Disposable “one use” angled jet tips are available in boxes of 100 individually wrapped tips from your normal Propulse supplier or from Mirage direct.**

## USING THE PROPULSE II EAR IRRIGATOR

The clinical criteria for use of the Propulse II should be noted before treatment is commenced.

- 1) Follow the setting up procedure.
- 2) Make sure the Foot Switch plug is fully inserted into the foot switch socket (9).
- 3) Set the Pressure/Flow control knob (6) to it’s lowest setting (fully anti-clockwise).
- 4) Switch the Operating Switch (7) from ⊕ to ⊖.
- 5) Press the Foot Switch (10).
- 6) Turn the Pressure/Flow control knob slowly clockwise from the MIN position until the pressure/flow of the water is compatible with the treatment requirements and patient comfort.
- 7) Follow the Cleaning Guidelines.

- 8) Carry out the treatment as detailed in the sections:
- Guidelines for ear irrigation.
  - Equipment.
  - Procedure.

## **GUIDELINES FOR EAR IRRIGATION USING THE PROPULSE II ELECTRONIC EAR IRRIGATOR**

### **PRINCIPLES - Irrigating the ear is carried out to:**

- Facilitate the removal of cerumen and foreign bodies which are not hygroscopic, from the external auditory meatus.
- Remove discharge, keratin or debris from the external auditory meatus.

We recommend this procedure is only carried out by a trained nurse or doctor.

### **REASONS for using this procedure**

In order to:

- Correctly treat an ear infection or otitis externa where the meatus is obscured by debris and is too painful to toilet.
- Improve conduction of sound into the ear, where impacted wax is believed to be the cause of a hearing defect.
- Examine the external auditory meatus and the tympanic membrane.
- Remove a cause of discomfort.

### **DO NOT IRRIGATE the ears when:**

- There has been a past history of ear problems such as tympanic membrane perforation.
- There is a recent history of otalgia, or recent past, or present middle ear infection.
- There have been untoward experiences following this procedure in the past.
- There is a healed old perforation. Irrigate with care as the healed area is more susceptible to rupture.
- Grommets are in place (except in certain circumstances).
- NEVER** irrigate mastoid cavities.
- The patient has a cleft palate (repaired or not).

## **Equipment**

- Waterproof cape and towel.
- Auriscope.
- Propulse Head Lamp or Head mirror and light and spare batteries
- Propulse machine (with foot control).
- Jug containing tap water to 40 degrees C.
- Noots tank.
- Jobson Horne probe and cotton wool.
- Tissues and receivers for dirty swabs and instruments
- Sufficient disposable "one use" jet tips for the treatment programme.

**This procedure should be carried out with both participants seated and under direct vision, using a headlight or head mirror and light source throughout the procedure.**

## **PROCEDURE**

- Check whether the patient has had his ears irrigated previously, or if there are any contraindications why irrigation should not be performed.
- Explain the procedure to the patient and ask the patient to sit in an examination chair with the head tilted towards the affected ear. (A child could sit on an adults knee and the child's head held steady).
- Inspect the ear to be irrigated with the auriscope.
- Place the protective cape and towel in position and ask the patient to hold the noots tank under the ear.
- Check your Propulse Headlamp is in place. Check the temperature of the water and fill the reservoir of the Propulse machine. Set the pressure at minimum, remember any variation by more than a few degrees from 38 may cause the patient to feel dizzy. If this occurs, stop irrigating and ask the patient to stare at a fixed object for a few minutes until the dizziness passes.
- Connect a new disposable "one use" jet tip applicator to the jet tip holder of machine with firm push action. Push until 'click' is felt.

- 7) Direct the irrigator tip into the noots tank and switch on the machine for 10-20 seconds in order to circulate the water through the system and eliminate any trapped water air or cold water. This also enables the noise of the machine to be more easily accepted by the patient and the initial flow of water is discarded, thus removing any static water remaining in the tube. Ensure the light from the headlight is shining over the ear throughout the whole procedure.
- 8) Twist the jet tip so that the water can be aimed in the right direction.
- 9) Gently pull the pinna upwards and backwards to straighten the meatus. (Directly backwards in children).
- 10) Place the tip of the nozzle into the external auditory meatal entrance. Warn the patient that you are about to start and that he/she may feel a little dizzy, but the procedure will be stopped if he/she feels dizzy or has any pain. Switch on the machine (using the foot control) and direct the stream of water along the roof of the meatus and towards the posterior wall eg '5 to' and '5 past' clock positions, right and left ears respectively. Increase the pressure switch as determined by the aural condition. It is advisable that a maximum of 2 reservoirs of water are used in any one procedure.
- 11) Periodically inspect the meatus with the auriscope and inspect the solution running into the receiver.
- 12) After removal of wax or debris, dry mop excess water from meatus under direct vision using the Jobson Horne probe and best quality cotton wool, because stagnation of water and any abrasion of skin during the procedure predisposes to otitis externa or possible pseudomonal infection.
- 13) Examine ear, both meatus and tympanic membranes and treat as required or refer to doctor if necessary.
- 14) Remove and discard disposable "one use" angled jet tip.

Record all findings and treatments according to UKCC guide on accountability.

Give advice regarding ear care and any relevant information.

**NB: Irrigating may cause discomfort but should never cause pain.**

**If patient complains of pain - STOP IMMEDIATELY.**

*Instructions and guidelines reproduced by kind permission of the Primary Ear Care Centre.*

## **CLEANING GUIDELINES**

- **Disinfecting Tablets for the Propulse II Ear Irrigator** – the importance of using the correct strength cleaning solution cannot be overstated. A solution that is too strong will in time damage the Propulse and one that is too weak will fail to provide the correct level of cleaning and disinfecting. To this end the manufacturer has introduced a specific strength disinfectant tablet to clean the Propulse correctly.
- **Propulse II Electronic Ear Irrigator cleaning & disinfecting instructions**

**To clean the Propulse each day PRIOR to use:**

- 1) Simply place one tablet into the reservoir, fill with warm water to the 500ml mark on the reservoir and wait for tablet to completely dissolve.
- 2) Run the Propulse II Electronic Ear Irrigator for a few seconds to fill the pump and flexible tubing.
- 3) **Leave to stand for 10 minutes.**
- 4) Empty the reservoir of the solution, then fill the reservoir with cool boiled water and flush through the whole system to ensure no cleaning solution is left.
- 5) This cleaning & disinfecting procedure should be used prior to each days usage of the ear irrigator.
- 6) **DO NOT** leave the solution in the unit for longer than as stated.

***Simple to use and effective in use***

*These tablets are available direct from your normal Propulse supplier or from Mirage direct.*

**ALWAYS USE A NEW JET TIP FOR EACH PATIENT.**

**Please note:** Damage caused to your Propulse II ear irrigator by not using the recommended cleaning agent may invalidate your warranty.