

# Технические характеристики

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# Penlon Diamond Video Laryngoscope

## INTUBATION SOLUTIONS

- ◆ 3.5" TFT colour touchscreen
- ◆ High-definition camera
- ◆ Waterproof design
- ◆ Instant anti-fog technology
- ◆ Rechargeable lithium battery
- ◆ Intelligent power management system



# Penlon Diamond Video Laryngoscope

INTUBATION SOLUTIONS



The Penlon Diamond Video Laryngoscope provides clinicians with high-definition visualisation of the patient in a portable, compact and easy-to-use device

## Diamond Video Laryngoscope

The Penlon Diamond Video Laryngoscope features a moveable 3.5" colour touchscreen display, an ergonomic handle with an integrated image/video capture button and a high-quality camera. The laryngoscope is suitable for use with adults, children and infants.

## Touchscreen Display

The large 3.5" touchscreen display provides a clear view from the device's high-quality camera and is moveable through 270° horizontally and 140° vertically to aid intubation from different angles.

## Blades

Single-use, Macintosh style blades provide improved infection control and multiple options depending on the clinical requirements, including a special laryngoscope blade for difficult intubations. All laryngoscope blades share a general handle and instant anti-fog technology that does not require heating before use.

## Power

The rechargeable lithium battery, with an intelligent power management system, provides up to 4 hours of continuous use, with the remaining battery life displayed on the screen.

- ◆ Large 3.5" TFT colour touchscreen display
- ◆ Rechargeable lithium battery provides up to 4 hours use
- ◆ Five Macintosh style blade size available including special blade for difficult intubations
- ◆ USB-C connectivity as standard
- ◆ Bright, white LED light
- ◆ Waterproof design
- ◆ Instant anti-fog technology
- ◆ Optional WiFi and HDMI connections available

## 1 3.5" touchscreen display

A large capacitive touchscreen display provides a clear view from the high-quality camera, device status information and access to the media library and device settings.

## 2 Video output to an external display

When connected to an external display via the HDMI socket, the Diamond Video Laryngoscope can output video in real time.

## 3 Photo and video capture

The dedicated photo and video capture button on the handle enables users to record up to 10,000 photos or 120 minutes of video to the internal storage system.

## 4 Waterproof design

IP66 ingress protection rating facilitates easy and efficient cleaning and disinfection.



# Penlon Diamond Video Laryngoscope

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## All the features and options you need to meet to your requirements

- 1 3.5" TFT colour touchscreen display
- 2 Intelligent power management system
- 3 Dedicated image capture button
- 4 Rechargeable lithium battery
- 5 High-definition camera
- 6 Instant anti-fog technology
- 7 Five Macintosh style blade size available including special blade for difficult intubations
- 8 Bright, white LED light
- 9 Waterproof design system
- 10 Optional WiFi and HDMI connections
- 11 USB-C connectivity as standard

# The Penlon Diamond Video Laryngoscope provides clinicians with high-definition visualisation of the patient in a portable, compact and easy-to-use device

Clinician-focused choices and benefits, including intuitive 3.5" high-definition touchscreen with instant anti-fog technology and intelligent power management system.



## Visualisation and Control

3.5" high-definition touchscreen display is moveable through 270° horizontally and 140° vertically.



## Anti-fog Technology

Instant anti-fog blade and camera technology with no heating time required.



## Power Management

Intelligent power management provides real-time situation awareness and remaining time count down.



## Patient Profiles

Suitable for adult, paediatric and neonatal patient profiles.



## Waterproof Design

IP66 ingress protection rating facilitates easy and efficient cleaning and disinfection



## Video Output

Output video in real time to an external display via optional HDMI or WiFi connection.



## Electrical Power

Choice of territory-specific electrical power adapter.



## Lithium Battery

Rechargeable lithium battery provides power for up to 4 hours of continuous use.



## Media Capture

Record up to 10,000 photos or 120 minutes of video to the internal storage system.



## Macintosh Style Blades

Single-use blades provide improved infection control and multiple options, including for difficult intubations.



## Maintenance and After-Sales Support

Comprehensive warranty provides peace of mind and after-sales support. Additional services and warranties can be purchased to meet your particular needs.



## Standards Compliant

Compliant to IEC 60601-1, IEC 60601-1-2, IEC 60601-18, IEC 62304 and RED 2014/53/EU.

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# Penlon Diamond Fibrelight Laryngoscope Range

The Diamond Fibrelight range is a fully interchangeable, internationally compatible laryngoscope system that provides brighter light, premium quality and performance for life<sup>1</sup>.

All handles and blades are interchangeable with other ISO 7376/3 'Green' System fibrelight components.

- ◆ Excellent fibreoptics and gold switch contacts - ability to withstand repeated autoclave treatment
- ◆ Five year guarantee on light guide, and lifetime guarantee<sup>1</sup> on all blades and handles
- ◆ Removable light guide design - extends blade life, and allows easier cleaning and polishing
- ◆ Quality you can trust
- ◆ Superior polished finish - easy to clean and sterilise
- ◆ Cool, bright LED light - no risk of tissue burns from hot lamps during lengthy intubations
- ◆ Convenient single size standard Penlon lamp for all handle sizes
- ◆ Smaller environmental footprint than single use laryngoscopes<sup>2,3</sup>



# Penlon Diamond Fibrelight Laryngoscope Handles

The bulb is located in the handle

- ◆ The Penlight handle gives improved balance with smaller blades
- ◆ The Stubby handle is designed to facilitate difficult intubation on a short neck or a barrel-chested patient
- ◆ Lifetime guarantee<sup>1</sup> on all handles
- ◆ Smaller environmental footprint than single use laryngoscopes<sup>2,3</sup>



Penlight

Standard

Stubby

# Penlon Diamond Fibrelight Laryngoscope Sets

Penlon laryngoscope sets provide the clinician with a complete intubation solution in an attractive, protective case

- ◆ Macintosh size 3 and 4 blades, Seward size 1 blade, and a standard handle in a case
- ◆ Macintosh size 1, 2, 3, and 4 blades, and a standard handle in a case
- ◆ Lifetime guarantee<sup>1</sup> on all blades and handles
- ◆ Smaller environmental footprint than single use laryngoscopes<sup>2,3</sup>

**Custom Sets**

- ◆ Any handle and two to four blades in a case



## Penlon McCoy Laryngoscope Range

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The original levering tip laryngoscope for difficult intubation, now with over twenty years refinement and experience, guarantees performance you can trust

- ◆ Available for Diamond ISO 'Green' System Laryngoscopes
- ◆ Unique, high quality levering tip
- ◆ Elevation of the epiglottis with less overall movement
- ◆ Lifetime guarantee<sup>1</sup>
- ◆ All size 1 and 2 blades are Seward style
- ◆ All size 3 and 4 blades are Macintosh style
- ◆ All McCoy blades come in an attractive presentation case

The McCoy provides the clinician with greater flexibility and improved control in a wide selection of difficult intubation cases, such as:

- ◆ Forward displacement of the larynx
- ◆ Forward or prominent upper teeth
- ◆ Backward displacement of the tongue
- ◆ Decreased neck movement
- ◆ Cervical spine injuries
- ◆ Decreased mouth opening
- ◆ Recessive mandible



## Crystal<sup>®</sup> Metal Disposable Laryngoscope Blade

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Penlon Crystal<sup>®</sup> Metal disposable laryngoscope blades are low cost, superior solutions designed to prevent cross-infection without affecting the clinician's intubation technique

- ◆ Low cost, easy to use
- ◆ Unique heel design prevents contact between the handle and the blade tip
- ◆ Strong stainless steel blade is ideal for difficult intubations
- ◆ True Macintosh and Miller profiles
- ◆ Manufactured from recyclable materials
- ◆ Fits all European ISO 'Green' System handles
- ◆ Available in size: Macintosh sizes 1, 2, 3, 4 and 5; Miller sizes 00, 0, 1, 2, 3 and 4



## Penlon Disposable Laryngoscope Handle (Single Use)

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The bulb is located in the handle

- ◆ Single use metal handle
- ◆ Compatible with ISO 'Green' System Fibrelight blades
- ◆ Can be used with Crystal<sup>®</sup> Metal blades
- ◆ Requires 2 x LR14 (U11 or C) batteries
- ◆ Available in boxes of 20 handles

# Lifetime Guarantee<sup>1</sup> and Maintenance

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**Total peace of mind with a lifetime guarantee<sup>1</sup>. With 80 years of manufacturing heritage, Penlon has a wealth of experience and skill to draw upon.**

Penlon's quality-led manufacturing processes ensure products are certified to the latest standards and fully ISO 13485:2016 and USFDA 21 CFR part 820 compliant. You can be confident that your laryngoscope will provide reliability for life.

Total peace of mind is provided by Penlon's lifetime guarantee<sup>1</sup> which offers a replacement for any mechanical malfunction due to defects in design, materials or workmanship.

## Laryngoscope Maintenance

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### Spares and Repairs

Penlon supply spares and repairs for your blades and handles, including replacement bulbs for your Fibrelight (LED and Xenon)

### Batteries

To ensure optimum performance use alkaline manganese batteries. Penlon Penlight and Stubby handles require 2 x LR6 batteries. Penlon Standard handle requires 2 x LR14 batteries.

For more details on laryngoscope maintenance, please contact the sales or service departments, details are overleaf.



<sup>1</sup> For further information about Penlon's laryngoscope guarantee please visit the website. Fibrelight guides are guaranteed against light failure within a period of five years. However, note that with multiple sterilisations the light output of the fibre bundle may decrease. The guarantee does not apply to lamps or batteries.

<sup>2</sup> Financial and environmental costs of reusable and single-use anaesthetic equipment  
McGain, F et al.  
British Journal of Anaesthesia, Volume 118, Issue 6, 862 - 869

<sup>3</sup> Reusable Versus Disposable Laryngoscopes: Environmental and Economic Considerations  
Jodi D. Sherman, M.D., et al.  
Yale, New Haven, Connecticut, United States. ASA 2014



# Penlon MRI Green System Laryngoscope Range

## INTUBATION SOLUTIONS

- ◆ Designed for use in the MR environment
- ◆ Safe at the 1000 gauss line
- ◆ Tested in 1.5 and 3.0 Tesla MRI scanners
- ◆ Macintosh, Miller, Robertshaw, Seward and McCoy blade styles
- ◆ Standard size handle
- ◆ High intensity LED light bulb
- ◆ MR-conditional batteries



# Penlon MRI Green System Laryngoscope Range

INTUBATION SOLUTIONS



## Use your Penlon MRI Green System laryngoscope safely in MR conditions with a static magnetic field of 1000 gauss/cm or less

The Penlon MRI Green System Laryngoscope Range has been developed through research into the requirements of both diagnostic and interventional Magnetic Resonance (MR) intubation.

Clinicians can intubate in the MR environment safe in the knowledge that the MRI Green System Range has been independently tested and certified to be MR-Conditional in a static magnetic field of 1000 gauss/cm or less.

### LED lamp

The laryngoscope's high-intensity LED lamp provides a clear, bright and cool light output via the fibre optic light guide, and is powered by replaceable MR-conditional alkaline batteries (C size).

### Non-magnetic battery

The MR-conditional alkaline batteries provides equivalent performance compared to standard batteries normally used in intubation instruments, and contains no lithium.

### Blades and handles

The fibre optic laryngoscope blades are available in a range of sizes in Macintosh, Miller, Robertshaw and Seward patterns, including the McCoy range. The laryngoscope handle is available in standard configuration.

The range of handle and blades means that clinicians in the MR environment have easy access to laryngoscopes suited to their requirements for the patient profile.

- ◆ Independently tested and certified to be MR-conditional in 1.5 and 3 Tesla MRI scanners
- ◆ Blade and handle combinations for the majority of patient profile groups
- ◆ LED lamp delivers a high intensity, cool, light beam
- ◆ MR-conditional alkaline batteries

- 1 Macintosh blades**  
Available in sizes 0, 1, 2, 3, 4 and 5
- 2 Miller blades**  
Available in sizes 00, 0, 1, 2, and 3
- 3 Robertshaw blades**  
Available in sizes 0 and 1
- 4 Seward blades**  
Available in sizes 1 and 2



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