

Medtronic

McGRATH™ MAC+ video laryngoscope

Specification guide



Video laryngoscope device

Size	190mm x 68mm x 110mm
Weight	0.172kg
Internally powered	McGRATH™ Rechargeable Battery *60 minutes of use on a full charge typically. Refer to the battery IFU. Note: This device is not compatible with the McGRATH™ 3.6V battery 340-000-000.
Protection	IP38 Pay attention to the effects of lint, dust, light (including sunlight), etc.
Light source	LED
Display	3" LCD colour display
Camera	CMOS
RFID	Transmitting frequency: 13.56MHz, Output power: -0.24dBμA/m
Electromagnetic emissions	ETSI EN 301 489-1 common technical requirements for ElectroMagnetic Compatibility ETSI EN 301 489-3 short range devices ElectroMagnetic Compatibility ETSI EN 301 489-17 broadband data transmission system ElectroMagnetic Compatibility Radiated RF emissions ISO 7137:1995 100MHz - 6GHz and applicable test methods as specified by each standard.
Electromagnetic immunity	Immunity limits established by the home healthcare environment IEC 60601-1-2:2014 Electrostatic Discharges ETSI EN 301 489-1 common technical requirements for ElectroMagnetic Compatibility ETSI EN 301 489-3 short range devices ElectroMagnetic Compatibility ETSI EN 301 489-17 broadband data transmission system ElectroMagnetic Compatibility and applicable test methods as specified by each standard. For more details about the radiation levels, refer to https://manuals.medtronic.com/manuals/main/region
Useful life	4 years or 2000 decontamination cycles.

*Where the ambient temperature is 20°C, battery life may vary where the ambient temperature is higher or lower. Do not store batteries or devices with batteries at more than 40°C (104°F). Doing so will shorten the life of the battery.

Disposable laryngoscope blade

Material	The blades are disposable, composed of medical grade optical polymer which have not been made with natural rubber latex and not made with DEHP. Blades are packaged individually in pouches that have not been made with natural rubber latex.
Applied part type	BF

Relay adjunct device

Internally powered	3.7V Lithium Ion Rechargeable Battery *Giving 2 hours of use on a full charge typically
Battery charging	5V, USB-C *Recharges depleted battery in less than 8 hours typically
Protection	IP33 Pay attention to the effects of lint, dust, light (including sunlight), etc.
Electromagnetic emissions	EN 55032 ElectroMagnetic Compatibility of multimedia equipment – emissions requirements ETSI EN 301 489-1 common technical requirements for ElectroMagnetic Compatibility ETSI EN 301 489-3 short range devices ElectroMagnetic Compatibility ETSI EN 301 489-17 broadband data transmission system ElectroMagnetic Compatibility and applicable test methods as specified by each standard.
Electromagnetic immunity	EN 55035 ElectroMagnetic Compatibility of multimedia equipment – immunity requirements ETSI EN 301 489-1 common technical requirements for ElectroMagnetic Compatibility ETSI EN 301 489-3 short range devices ElectroMagnetic Compatibility ETSI EN 301 489-17 broadband data transmission system ElectroMagnetic Compatibility and applicable test methods as specified by each standard. For details about the radiation levels, refer to https://manuals.medtronic.com/manuals/main/region
Useful life	4 years
I/Os	micro-HDMI, USB-C

Recommended streaming display specifications

Orientation, size	Portrait, up to 21" Landscape, up to 32"
Aspect ratio	16:9
I/Os	HDMI

Contact your local sales representative for additional supported display specifications.

Relay cables and adaptor cables

Power and data cable	USB-C male to USB-A male
Video cable	Micro-HDMI male to HDMI male

Note: Dispose of laryngoscope, blade, relay, cables and OEM screen according to local regulations.

Operating and transient conditions

Temperature	10°C (50°F) to 40°C (104°F)
Atmospheric pressure	620 hPa to 1060 hPa
Relative humidity	10% to 95% (non-condensing)

Storage and transportation

Laryngoscope and relay

Temperature -10°C (14°F) to 40°C (104°F)

Atmospheric pressure 620 hPa to 1060 hPa

Relative humidity 10% to 95% (non-condensing)

Stabilization time -10°C (14°F) to 10°C (50°F) 7 minutes

Blade

Blade temperature -10°C (14°F) to 70°C (158°F)

HC21

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