C-MAC® for Neonatology and Pediatrics
The Premium Class for pediatric airway management
When you are looking for solutions that fit...

Children are not small adults. Anatomical and physiological differences between infants, children and adults make even the normal pediatric airway difficult for the inexperienced intubator. So adequate experience as well as the right instrument is needed for airway management in the pediatric population.

The new C-MAC® Premium line from KARL STORZ, one of the leading companies in the field of airway management, provides a custom-fit solution that meets the most stringent demands in pediatrics and neonatology. The continuous expansion of the product portfolio and the realization of a universal C-MAC® system interface supports the system approach of the new Premium line. In the field of pediatrics, this also leads to a fully flexible intubation platform for anesthesiology and emergency medicine in the clinical setting.

No matter if it is a routine, anticipated difficult, or unanticipated difficult intubation – the intubation instruments from KARL STORZ offer the right solution to the daily challenges encountered in airway management. Five different blades are now available for video laryngoscopy in pediatrics and neonatology: MILLER 0 and 1, MACINTOSH 0 and 2 as well as the D-BLADE Ped. The latter was especially designed for managing difficult airways in children and closes the gap between MACINTOSH video laryngoscopes and flexible endoscopes. In addition to various Flexible Intubation Video Endoscopes (FIVE) in small sizes, retromolar intubation endoscopes can also be used for patients with a small mouth opening.

The C-MAC® monitor, which allows the simultaneous connection of several endoscopes at the same time, offers the possibility to plan and execute intubation with one central system.
The C-MAC® Monitor: The Heart of the C-MAC® System

- System open to all C-MAC® components (forward and backward compatibility)
- 7" TFT wide viewing angle (160°) with enhanced image quality
- Rapid toggling between video sources possible -> “plan B” is already connected
- HDMI output for connecting an external monitor
- Documentation and display of images and videos in real time
- Easy data backup to USB flash drive for quality control
- System can be used while charging
Heart of the C-MAC® System

Flexible Intubation Video Endoscopes

Intubation Fiberscopes

Retromolar Intubation Endoscopes
The C-MAC® Pocket Monitor: The Emerge

- 3.5" OTI™ (Open To Intubate) display with wide view angle (160°)
- High-contrast image even in bright daylight
- Universal C-MAC® system interface, tailored to your airway management
- Real-time documentation for quality assurance
- Exchangeable, rechargeable battery – always ready for use
- Completely watertight (IPX8)
- C-MAC® PM connecting cable allows optimal visualization coupled with a well-balanced C-MAC® video laryngoscope

C-MAC® Video Laryngoscopes
- Standard MACINTOSH and MILLER video laryngoscopes for the safe intubation of infants and children
- D-BLADE Ped. with strong curvature for the particularly difficult airway

C-MAC® S Video Laryngoscopes
- Single-use video laryngoscopes for optimal protection against cross-contamination
The C-MAC® Pocket Monitor: The Emergency Tool for Time-critical Situations

**OTI™ (Open To Intubate) Display**
- The video laryngoscopes are ready for immediate use after starting the monitor

**Real-time Documentation for Quality Assurance**
- BlueButton enables images and videos to be recorded to internal memory and retrieved via the USB data cable

**Intelligent Battery Management**
- Uninterrupted readiness at no extra cost thanks to exchangeable and rechargeable battery

**C-MAC® PM Connecting Cable**
- The C-MAC® PM connecting cable enables flexible positioning of the monitor for difficult-to-access patients
The C-MAC® Video Laryngoscope for Pediatrics

Large selection for small patients

- Robust and light: High stability and shock resistance; light alloy design
- Particularly flat model, especially suited for pediatrics and neonatology
- Straightforward plug & play thanks to universal C-MAC® system interface
- BlueButton: Documentation via innovative multifunctional button
- Reprocessing up to 93 °C
- Ergonomic handle designed to meet requirements in pediatrics
- For routine clinical use and training

C-MAC® MACINTOSH #2 and #0

C-MAC® MILLER #1 and #0

Low blade height: 11.5 mm

Shorter distance between the camera and the distal tip: 19.5 mm

C-MAC® D-BLADE Ped.
The C-MAC® S Pediatric IMAGER

The ideal solution with single-use video laryngoscope blades

The pediatric single-use video laryngoscope blades form a perfect symbiosis with the C-MAC® S Pediatric IMAGER and meet the highest hygiene standards.

- Blade and handle form one continuous piece: Risk of cross-contamination is drastically reduced
- Exchange of C-MAC® S video laryngoscopes within seconds
- BlueButton: Documentation via innovative multifunctional button
- Straightforward Plug & Play thanks to universal C-MAC® system interface
- Extremely safe and break-resistant C-MAC® S video laryngoscopes
- Ergonomic handle designed to meet requirements in pediatrics
- For direct and indirect laryngoscopy with MILLER blades

C-MAC® S Pediatric IMAGER

Top view:
C-MAC® system interface

C-MAC® S MILLER #1 and #0
NEW

The New Gold Standard: FIVE 3.0 for the Unexpected Difficult Airway

Fine, fast, focused – the new visualization in flexible intubation

With the 3.0 x 51.5 and 4.0 x 65 Flexible Intubation Video Endoscopes (FIVE), KARL STORZ once again sets a new direction in airway management. Similar to the C-MAC® video laryngoscopes, the FIVEs deliver clear, pixel-free images without a Moiré effect.

The new FIVE 3.0 has a shortened working length, which was specially adapted to the anatomy of pediatric and neonatal patients and the absence of a working channel makes instrument cleaning extremely easy and fast.

- Compatible with the C-MAC® monitor and the C-HUB® camera control unit
- Compact design and ergonomic handle shape
- High image resolution and video imaging in 4:3 format
- Integrated LED light source
- Greater sheath stiffness for controlled handling
The Retromolar Intubation Endoscope

The visualization solution for the unexpected difficult airway

Retromolar intubation endoscopes feature a distally angled, rigid telescope that serves as a guide rod for endotracheal intubation and can easily displace soft tissue. Combined with the C-CAM® camera head, these instruments are further components within the C-MAC® system.

• Outer diameter of 2 mm or 3.5 mm for pediatrics and neonatology
• Continuous O₂ flow available via the tube adaptor extends the time window for intubation
• Intubation possible within seconds using retromolar or medial intubation techniques
• Connecting and intubation is independent of stationary light sources thanks to the portable LED “Power of Light” light source
• Suitable for clinical emergency situations and for patients with a limited mouth opening (> 1 cm)
• Suitable and validated for standard low-temperature reprocessing methods
Impressive Brightness!

Cold light laryngoscopes for pediatrics and neonatology

KARL STORZ offers a wide range of blades in every size. All laryngoscope blades conform to ISO 7376 and are autoclavable without any significant reduction in light output. Standard as well as slim and stubby handles are available with LED technology (optional). Straight blades are preferred in pediatrics and neonatology as lifting the epiglottis provides a direct and better view of the vocal cords. KARL STORZ offers three types of straight blades: MILLER, PHILIPS and specially designed laryngoscope blades for pediatrics.

Overview

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<th>Blade Shape</th>
<th>MILLER Laryngoscope Blade</th>
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<th>Laryngoscope Blade for Pediatrics</th>
<th>MACINTOSH Laryngoscope Blade</th>
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<tr>
<td>Size</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>2</td>
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<tr>
<td></td>
<td>8537 C</td>
<td>8537 D</td>
<td>8537 E</td>
<td>8535 C</td>
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LARYNGOBLOC

The LARYNGOBLOC is a cold light laryngoscope for single use. Thanks to its monoblock design, it features very high tensile strength. The entire laryngoscope can be discarded along with the handle. The reusable LED battery insert included with the laryngoscope can be grasped with a protective cap and features extremely bright, white light. This enables optimal illumination of the oral cavity during direct laryngoscopy. The LARYNGOBLOC is available in various standard laryngoscope sizes and shapes as well as different handle types.

Special Features:

- Blade and handle are made from one piece so that the LARYNGOBLOC is more robust than conventional laryngoscopes for single use
- No disposal of environmentally critical materials after each application – only the LARYNGOBLOC including protective cap requires disposal
- The risk of cross-contamination is greatly reduced as all contaminated parts can be discarded and replaced
- Available in five sizes and three laryngoscope shapes (MACINTOSH, MILLER and OXFORD) as well as three handle types (standard, slimline and short)

Overview

<table>
<thead>
<tr>
<th>Blade Shape</th>
<th>MACINTOSH LARYNGOBLOC</th>
<th>MILLER LARYNGOBLOC</th>
<th>LARYNGOBLOC OXFORD Model</th>
<th>LED Battery Insert</th>
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<tr>
<td>Size</td>
<td>2</td>
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<td>Standard</td>
<td>8512 C</td>
<td>8530 C</td>
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<td>Slimline</td>
<td>-</td>
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<td>8530 DN</td>
<td>8530 EN</td>
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<tr>
<td>Short</td>
<td>8512 CS</td>
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Accessories: Little things that make work easier

We do not stop working when our products are finished – because we want to make life easier for you...

How are flexible fiberscopes and rigid eyepiece endoscopes connected to the monitor?
With C-CAM®.

And how are instruments stored?
In addition to the unobtrusive C-MAC® protective cover and the well-organized C-MAC® PM bag...

...we can also offer mobile airway management solutions.
Instruments

8403 ZXK  **C-MAC® Monitor for CMOS Endoscopes**, screen size 7” with 1280 x 800 pixel resolution, two camera inputs, a USB and a HDMI port, optimized user interface, video and image capture in real time on SD card, playback of recorded video clips and still images, data transfer from SD card to USB flash drive possible, splash-proof according to IP54, suitable for wipe disinfection, shock-resistant ABS plastic housing, intelligent power management with rechargeable Li-Ion batteries, VESA 75 mounting option, power adaptor for EU, UK, USA and Australia, power supply 110-240 VAC, 50/60 Hz, for use with CMOS video endoscopes including:
- Protection Cap
- VESA 75 Quick Clip
- Mains Adaptor Set

8403 X  **C-MAC® Connecting Cable**, with C-MAC® system interface, for C-MAC® Monitor 8403 ZXK or C-HUB® II 20290301, length 200 cm, for use with C-MAC® Video Laryngoscopes 8403 xxx

8403 XDK  **C-MAC® POCKET MONITOR Set**, unit with LCD monitor and power supply for all C-MAC® video laryngoscopes, with C-MAC® system interface, screen size 3.5”, documentation of images and video sequences saved on internal memory, monitor movable via two rotation axes, rechargeable Li-Ion battery, 1 h operation time, exchangeable battery pack, 2 h charging time, power management with capacity indicator, protection class IPX8, for use with C-MAC® Video Laryngoscopes 8403 xxx including:
- Battery, rechargeable
- USB Data Cable

8403 XDP  **C-MAC® PM Connecting Cable**, for the transmission of digital signals from C-MAC® PM 8403 XD to C-MAC® Video Laryngoscopes 8403 xxx (C-MAC® system interface), length 50 cm
8403 XDL  **Charging Unit**, for one rechargeable battery 8403 XDA for C-MAC® POCKET MONITOR 8403 XD, with power supply and mains adaptor for EU, UK, USA and AUS, power supply 100-240 VAC, 50/60 Hz, suitable for wipe disinfection, for use with battery for C-MAC® PM

8403 XDA  **Battery**, rechargeable Li-Ion battery for power supply of C-MAC® PM 8403 XD, charging via Charging Unit 8403 XDL, optimal operation time of 60 min, suitable for wipe disinfection

8403 XDD  **USB Data Cable**, USB 2.0 port, for data transfer from C-MAC® PM 8403 XD to a computer, length 200 cm

20290132  **C-CAM® Camera Head**, 8-pin, one-chip CMOS camera head, resolution 640 x 480, focal length f = 20 mm, for use with C-HUB® 20290101 and C-HUB® II 20290301 as well as C-MAC® Monitors 8402 ZX/8403 ZX

809120  **MAGILL Forceps**, for children, modified, length 20 cm, suitable for endoscopic foreign body removal, for use with video laryngoscopes sizes 1 and 2

11301 ABXK  **Flexible Intubation Video Endoscope Set 3.0 x 51.5**, CMOS technology, for use with C-MAC® Monitor 8403 ZX and C-HUB® II 20290301,
- Deflection up/down: 140°/140°
- Direction of view: 0°
- Angle of view: 100°
- Working length: 51.5 cm
- Total length: 72 cm
- Distal tip outer diameter: 3 mm

11302 BDXK  **Flexible Intubation Video Endoscope Set 4.0 x 65**, CMOS technology, with suction valve, for use with C-MAC® Monitor 8403 ZX and C-HUB® II 20290301,
- Deflection up/down: 140°/140°
- Direction of view: 0°
- Angle of view: 100°
- Working length: 65 cm
- Total length: 93 cm
- Distal tip outer diameter: 4 mm
8403 DXC  **C-MAC® Video Laryngoscope MIL #0,**
CMOS technology, with MILLER laryngoscope blade,
size 0, with C-MAC® system interface, documentation
of images and video sequences via the BlueButton, for
use with C-MAC® Connecting Cable 8403 X for C-MAC®
Monitor 8403 ZXK or C-HUB® II 20290301 as well as
C-MAC® PM 8403 XD

8403 GXC  **C-MAC® Video Laryngoscope MIL #1,**
CMOS technology, with MILLER laryngoscope blade,
size 1, with C-MAC® system interface, documentation
of images and video sequences via the BlueButton, for
use with C-MAC® Connecting Cable 8403 X for C-MAC®
Monitor 8403 ZXK or C-HUB® II 20290301 as well as
C-MAC® PM 8403 XD

8403 EXC  **C-MAC® Video Laryngoscope MAC #0,**
CMOS technology, with MACINTOSH laryngoscope blade,
size 0, with C-MAC® system interface, documentation
of images and video sequences via the BlueButton, for
use with C-MAC® Connecting Cable 8403 X for C-MAC®
Monitor 8403 ZXK or C-HUB® II 20290301 as well as
C-MAC® PM 8403 XD

8403 KXC  **C-MAC® Video Laryngoscope MAC #2,**
CMOS technology, with MACINTOSH laryngoscope blade,
size 2, with C-MAC® system interface, documentation
of images and video sequences via the BlueButton, for
use with C-MAC® Connecting Cable 8403 X for C-MAC®
Monitor 8403 ZXK or C-HUB® II 20290301 as well as
C-MAC® PM 8403 XD

8403 HXP  **C-MAC® Pediatric Video Laryngoscope D-BLADE,**
CMOS technology, for difficult intubation in children, with
C-MAC® system interface, documentation of images and
video sequences via the BlueButton, for use with C-MAC®
Connecting Cable 8403 X for C-MAC® Monitor 8403 ZXK
or C-HUB® II 20290301 as well as C-MAC® PM 8403 XD
8403 XSPK  **C-MAC® S Pediatric IMAGER, Set**, with C-MAC® system interface, for manual and mechanical disinfection up to 65 °C and High Level Disinfection (HLD) acc. to US standards, including Pressure Compensation Cap 11025 E and Leakage Tester 13242 XL, for use with C-MAC® Connecting Cable 8403 X, C-MAC® Monitor 8403 ZX, C-MAC® POCKET MONITOR 8403 XD or C-HUB® II 20290301 and single-use C-MAC® S Video Laryngoscopes 051110-10, 051111-10

051110-10*  **C-MAC® S Video Laryngoscope MIL #0**, for single use, package of 10, for use with KARL STORZ C-MAC® S Pediatric IMAGER 8403 XSP

051111-10*  **C-MAC® S Video Laryngoscope MIL #1**, for single use, package of 10, for use with KARL STORZ C-MAC® S Pediatric IMAGER 8403 XSP

10332 BK1  **Retromolar Intubation Endoscope**, with movable eyepiece, outer diameter 3.5 mm, for ETT 4-5.5 mm, usable sheath length 35 cm, distal bending 40° including tube holder, for tube fixation and O₂ application

11605 CK  **Intubation Endoscope**, with eyepiece, outer diameter 2 mm, for ETT 2.5-3.5 mm, usable sheath length 22 cm, distal bending 40°, angle of view 80°, for use with LED Battery Light Sources (11301 D1, D3, D4, DE, DF), 20290132 C-CAM® Camera Head, 8-pin
8403 YD  **Protective Bag, blue, for the C-MAC® system,** made of water-resistant and sturdy material, washable, separate compartments for the monitor and three C-MAC® video laryngoscope blades with electronic module, for use with C-MAC® Monitor 8401 ZX/8402 ZX/8403 ZX, Electronic Module 8401 X/8402 X, power supply and 3x C-MAC® video laryngoscopes

8403 YE  **Bag for Intubation Set -C22-,** ULM model, made of water-resistant and sturdy material, washable, separate compartments for C-MAC® video laryngoscopes with C-MAC® POCKET MONITOR and for conventional laryngoscopes, for use with C-MAC® POCKET MONITOR 8401 XDK/8403 XDK, C-MAC® Video Laryngoscopes 8401 xxx/8403 xxx and conventional laryngoscopes

11301 D1  **Battery Light Source LED for Endoscopes,** with fine screw thread, boost mode for temporary increase in brightness, burning time > 120 min, weight approx. 78 g, for use with KARL STORZ endoscopes

11301 D3  **Battery Light Source LED for Endoscopes,** with coarse thread, boost mode for temporary increase in brightness, burning time > 120 min, weight approx. 78 g, for use with KARL STORZ endoscopes

11301 DE  **Battery Light Source LED for Endoscopes,** rechargeable, with click connection, boost mode for temporary increase in brightness, color temperature 5500 K, lithium-ion batteries, charging time 60 min, burning time at 100% brightness 40 min, weight approx. 150 g, suitable for wipe disinfection

11301 DF  **Same,** with fast screw thread

11301 DG  **Charging Unit,** for two LED battery light sources, with fixed integrated power supply and adaptor for EU, UK, USA and Australia, power supply 110-240 VAC, 50/60 Hz, suitable for wipe disinfection, for use with Battery Light Sources LED 11301 DE and 11301 DF
8547 **Handle Sleeve**, with green silicone coating, ISO 7376, autoclavable, slender handle, for use with battery insert set LED, slim 8547 LDX, battery inserts Xenon, slim 8547 A, 8547 B and cold light laryngoscopes

8547 A **Battery Insert**, Xenon, slim, length 12 cm, without battery and Xenon lamp, for use with Handle Sleeve 8547 and cold light laryngoscopes

8547 B **Battery Insert**, Xenon, slim, rechargeable, length 12 cm, for use with Handle Sleeve 8547 and cold light laryngoscopes

8547 LDX **Battery Insert Set LED**, slim, length 12 cm, with high-power LED, burning time at 100% brightness > 120 min, for use with Handle Sleeve 8547 and cold light laryngoscopes

8548 **Handle Sleeve**, with green silicone coating, ISO 7376, autoclavable, short handle, for use with Battery Insert Set LED 8548 LDX1 and cold light laryngoscopes

8548 LDX1 **LED Battery Insert Set**, length 6 cm, with high-power LED, > 56 lm/> 100 klx, burning time at 100% brightness > 120 min, for use with Handle Sleeve 8548 and cold light laryngoscopes including: **Photo Battery**, CR 123 A Cap

8546 LE1 **Inductive Charging Unit**, for two battery inserts with handle sleeve (chrome-plated and with green silicone coating), with fully integrated mains adaptor and power adaptor for EU, UK, USA and Australia, power supply 110-240 VAC, 50/60 Hz, suitable for wipe disinfection, suitable for use with Battery Inserts (8546 LD1 / 8544 B / 8545 B / 8547 B)

8546 R **Reduction Sleeve**, aid for optimal loading of narrow battery inserts, for use with Battery Inserts 8545 B and 8547 B and Inductive Charging Unit 8546 LE

11301 DH **Holder**, for Charging Units 11301 DG, 8546 LE/LE1 and 8401 XDL
Equipment Cart, narrow, tall, rides on 4 antistatic dual wheels equipped with locking brakes, mains switch on cover, central beam with integrated electrical subdistributors with 12 sockets, grounding plugs, Dimensions in mm (w x h x d):
Equipment Cart: 660 x 1474 x 730,
Shelf: 450 x 25 x 510, caster diameter: 150 mm, including:
- Base Module, equipment cart, narrow
- Cover, equipment cart, narrow
- Beam Package, equipment cart, large
- 3x Shelf, narrow
- Drawer Unit with Lock, narrow
- 2x Equipment Rail, long
- Camera Holder
  - 5x Mains Cords, length 100 cm

Equipment Cart, narrow, small, rides on 4 antistatic dual wheels equipped with locking brakes, mains switch on cover, energy beam with integrated electrical subdistributors with 6 sockets, grounding plugs, Dimensions in mm (w x h x d):
Equipment Cart: 660 x 1265 x 730,
Shelf: 450 x 25 x 510, caster diameter: 150 mm, including:
- Base Module, equipment cart, narrow
- Cover, equipment cart, narrow
- Beam Package, equipment cart, small
- 2x Shelf, narrow
- Drawer Unit with Lock, narrow
- 2x Equipment Rail, long
- 5x Mains Cords, length 100 cm

Clamp, VESA 75 standard, for fixation of C-MAC® monitor to round profile with diameter 20-43 mm and square profile with diameter 16-27 mm, for use with Monitors 8401 ZX/8402 ZX/8403 ZX

Crossbar, for Stand 8401 YA, 70 cm x diameter 25 mm, for positioning C-MAC® Monitors 8401 ZX, 8402 ZX and 8403 ZX, for use with VESA 75 Quick Clip 8401 YCA and Clamp 8401 YB

Bracket, for mounting standard bars (diameter 25 mm) to equipment rails, package of 2

Multifunctional Holder, 2-part, for mounting poles, diameter 25 mm, package of 2, for use with Equipment Carts UGxxx
8401 YA*  **Stand**, for C-MAC® monitor, height 120 cm, rollable with five feet and antistatic castors, crossbar 25 cm x diameter 25 mm for positioning the monitor, with tray, dimensions (w x d x h): 30 x 20 x 10 cm, for use with Crossbar 8401 YAA and Crossbar 8401 YAB

* The displayed instruments are not included with the stand.

8401 YH  **Holder for C-MAC®,** consisting of two parts: 1 holder for five C-MAC® video laryngoscope blades and 1 holder for one electronic module, made of thermoplastic material, wipe disinfection, to be fixed to a tray

11301 BC  **ProShield Protective Tube,** for flexible telescopes, unsterile, for single use, package of 10, distal closed, for use with Holder for Flexible Endoscopes 29005 IFH

29005 IFH  **Holder for Flexible Endoscopes,** for mounting to standard tubes, incl. installation accessories
**TROLL-E Airway Mobile Stand**, rides on 4 antistatic dual wheels, 2 equipped with locking brakes, for mounting monitors with VESA 75/100 connection, integrated cable conduit in vertical beam and cable manager, load capacity for monitor: max. 15 kg,
Dimensions:
Mobile stand: 670 x 1660 x 670 mm (w x h x d),
Caster diameter: 100 mm
Trolley is delivered unassembled.
including:
**Subrack**, for mobile stand
**Beam Module**, with tube
**Drawer**
**Equipment Rail**
**Cross Tube Adaptor**
**Stainless Steel Round Pipe**, length 25 cm

**C-MAC® TROLL-E Mobile Stand**, rides on 4 antistatic dual wheels, 2 equipped with locking brakes, with stainless steel tube,
Dimensions:
Mobile stand: 670 x 1500 x 670 mm (w x h x d),
Caster diameter: 100 mm
Trolley is delivered unassembled.
including:
**Subrack**, for mobile stand
**Top Cover**, with guide sleeve
**Stainless Steel Tube**, length 135 cm
**Equipment Rail**
**Cross Tube Adaptor**
**Stainless Steel Round Pipe**, length 25 cm

*It is recommended to check the suitability of the product for the intended procedure prior to use.*