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Any assumptions that competitors' endoscopes and accessories are acquired from the same suppliers as the KARL STORZ products are not correct. Moreover, endoscopes and instruments provided by competitors are not manufactured according to the design specifications of KARL STORZ. This means it cannot be assumed that these endoscopes and accessories – even if they look identical on the outside – are constructed in the same manner and have been tested according to the same criteria.

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KARL STORZ participates both in national and international bodies involved in the development of standards for endoscopes and endoscopic accessories. Standardized design and development therefore have long been implemented consistently by KARL STORZ. The user can rest assured that all products by the KARL STORZ group have been designed and constructed not only in compliance with strict internal quality guidelines, but also with international standards. All data relevant for safe use, such as viewing direction, sizes and diameters, or notes regarding sterilization of telescopes, are applied to the instruments, have been formulated according to international standards, and therefore provide reliable information.

As we constantly seek to improve and modify our products, we reserve the right to make changes in design that vary from catalog descriptions.

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LARYNGOSCOPY
TRACHEOSCOPY
CCD Video Rhino-Laryngoscope
for use with IMAGE1, TELECAM SL II, TELECAM DX II,
TELE PACK and TELE PACK X

Special Features:
- Large viewing angle and movable distal tip facilitates orientation
- Waterproof, fully immersible for cleaning and disinfection
- Sterilizable with EtO-Gas, Sterrad® 100S and Steris® System 1/System 1E
- Excellent optical quality – of both lens system and video chip
- Superior life span due to robust mechanical design
- Sensitive and stable control via ergonomic handle
- Short insertion tip with smooth-running and non-twisting angle mechanism
- Optimally matched, non-rotational insertion sheath
CCD Video Rhino-Laryngoscope

for use with IMAGE1, TELECAM SL II, TELECAM DX II, TELE PACK and TELE PACK X

11101 VP  **CCD Video Rhino-Laryngoscope, PAL**, for use with IMAGE1, TELECAM SL II, TELECAM DX II, TELE PACK and TELE PACK X
Direction of view: 0°
Angle of view: 85°
Deflection up/down: 140°/140°
Working length: 30 cm
Outer diameter: 3.7 mm

11101 VN  **Same**, color system **NTSC**

Following accessories are included:
- 27677 VC  **Case**
- 13242 XL  **Leakage Tester**, with bulb and manometer
- 11025 E  **Pressure Compensation Cap**, for ventilation during gas sterilization

**Note:** The video connecting cables are not included in the set and must be ordered separately!

- 22 2000 77  **Video Endoscope Adaptor**, color systems **PAL/NTSC**, length 90 cm, for use with GI CCU and IMAGE1
  or
- 22 2001 77  **IMAGE1 Video Endoscope Adaptor**, color system **NTSC**, length 90 cm, for use with all KARL STORZ video endoscopes
- 20 2130 70  **Video Connecting Cable**, for all KARL STORZ video endoscopes and TELECAM SL II, TELECAM DX II, TELE PACK or TELE PACK X, length 60 cm
TELE PACK X is a compact, portable and flexible system that can be used for a wide range of applications from the doctor's office through to the emergency room.

To enable swift and easy work, TELE PACK X combines all that is needed: monitor, camera and light source.

Consideration has also been given to documentation: Integrated data management enables comprehensive recording of medical examinations or surgical interventions. Multiple USB ports and an SD card slot are available to store the data.

Crystal clear display
- 15” LCD display
- Image rotation
- 24-bit color intensity for natural color rendition
- DVI-D video output for connecting HD monitors

Flexible storage possibilities
- SD card slot for high storage capacity
- USB ports for external hard drives, USB flash drives and post-script printers
- Picture gallery for records
- Playback of saved videos
- Print-ready patient report documentation

Natural illumination
- HiLux 50 Watt high-performance light source
- Natural colour rendition close to daylight with a color temperature of 5700 K
- Up to 1000 hours lamp operating time

Easy control combined with highest safety
- Membrane keyboard for wipe-down disinfection
- Hot keys for rapid and direct adjustment
- Arrow keys for intuitive control
- Connection socket for pedal control

Additional information
- Sturdy, portable housing
- Ergonomically designed handle for convenient transport
- Universal power supply unit: 100 – 240 VAC, 50/60 Hz
- Dimensions (w x h x d): 450 x 350 x 150 mm
- Weight: 7 kg

endoscopic video unit for use with TELECAM one-chip camera heads and video endoscopes, incl. 50 W HiLux light source, 15” LCD TFT screen, USB/SD memory module, color systems PAL/NTSC, with integrated Image Processing Module, power supply 100 – 240 VAC, 50/60 Hz

including:
- USB Silicone Keyboard, with touchpad, US character set
- USB Flash Drive, 4 GB
- Mains Cord
- Mains Cord, US version

Technical information see catalog TELEPRESENCE
Components/Spare Parts see chapter 16
Laryngo-Fiberscopes

Special Features:
- Large viewing angle and movable distal tip for better orientation
- Waterproof, fully immersible for cleaning and disinfection
- Simple leakage test takes only a few minutes and requires no additional accessories.
- Sterilizable with EtO-Gas, Steris® and Sterrad®
- Exceptional optical quality of both lens and fiber optic image transmission bundle
- Resistant construction and robust mechanical components ensure long life of the instrument
## Laryngo-Fiberscopes

### Overview

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<tr>
<td>2.5 x 370 mm</td>
<td>11101 SP</td>
<td>0°</td>
<td>90°</td>
<td></td>
</tr>
</tbody>
</table>

**Accessories included:**

- 27677 BB: Case
- 27677 RR: Case
- 11025 E: Pressure Compensation Cap, for ventilation during gas sterilization
- 13242 XL: Leakage Tester, with bulb and manometer
- 13272: Mouthpiece
<table>
<thead>
<tr>
<th>Working Length</th>
<th>Working Channel Inner Diameter</th>
<th>Distal End Outer Diameter</th>
<th>Case</th>
<th>Pressure Compensation Cap</th>
<th>Leakage Tester</th>
<th>Mouth Piece</th>
<th>Cleaning Brush</th>
<th>Biopsy Forceps</th>
<th>Grasping Forceps</th>
</tr>
</thead>
<tbody>
<tr>
<td>34 cm</td>
<td>1.5 mm</td>
<td>3.5 mm</td>
<td>27677 BB</td>
<td>11025 E</td>
<td>13242 XL</td>
<td>13272</td>
<td>27651 AK</td>
<td>11003 KA</td>
<td>11003 KB</td>
</tr>
<tr>
<td>23 cm</td>
<td>2.3 mm</td>
<td>5.2 mm</td>
<td>27677 RR</td>
<td>11025 E</td>
<td>13242 XL</td>
<td>13272</td>
<td>27651 B</td>
<td>11001 SL</td>
<td>11002 SS</td>
</tr>
<tr>
<td>30 cm</td>
<td>–</td>
<td>3.5 mm</td>
<td>27677 RR</td>
<td>11025 E</td>
<td>13242 XL</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>27 cm</td>
<td>–</td>
<td>2.5 mm</td>
<td>27677 RR</td>
<td>11025 E</td>
<td>13242 XL</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>37 cm</td>
<td>–</td>
<td>2.5 mm</td>
<td>27677 RR</td>
<td>11025 E</td>
<td>13242 XL</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

**Accessories included:**

- **27651 AK** Cleaning Brush, round, flexible, outer diameter 2 mm, for working channel diameter 1.2 – 1.8 mm, length 75 cm
- **27651 B** Cleaning Brush, flexible, for working channel diameter 1.8 – 2.6 mm, length 100 cm
- **11003 KA** Biopsy Forceps, flexible, double action jaws, oval, diameter 1 mm, length 60 cm
- **11001 SL** Biopsy Forceps, flexible, double action jaws, oval, 5 Fr., length 60 cm
- **11003 KB** Grasping Forceps, flexible, double action jaws, diameter 1 mm, length 60 cm
- **11002 SS** Grasping Forceps, flexible, double action jaws, diameter 1.7 mm, length 60 cm
Additional Accessories for Laryngo-Fiberscopes

Forceps, Grasping and Biopsy, flexible for Laryngo-Fiberscopes:

<table>
<thead>
<tr>
<th>Distal Tip</th>
<th>Order No.</th>
<th>Article Description</th>
<th>Diameter</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11003 KA</td>
<td>Biopsy Forceps, double action jaws, oval</td>
<td>1 mm</td>
<td>60 cm</td>
</tr>
<tr>
<td></td>
<td>11001 SL</td>
<td></td>
<td>1.7 mm</td>
<td>60 cm</td>
</tr>
<tr>
<td></td>
<td>11003 KB</td>
<td>Grasping Forceps, double action jaws</td>
<td>1 mm</td>
<td>60 cm</td>
</tr>
<tr>
<td></td>
<td>11002 SS</td>
<td></td>
<td>1.7 mm</td>
<td>60 cm</td>
</tr>
</tbody>
</table>

Leakage Tester, with bulb and manometer
Pressure Compensation Cap, for ventilation during gas sterilization
To freeze the moment
The system offers the following features and benefits:

- Compact unit and footswitch design
- Low energy consumption and no lamp change required thanks to cutting-edge LED technology
- No difference between strobe and continuous light in terms of brightness and color temperature
- Powerful flash even with thin and flexible endoscopes
- No noise generation
- Lightweight
- Text overlay on video image possible
- Display in musical notation

With its high-performance LED, the stroboscope PULSAR II generates light for convenient stroboscopy. The frequency of the pulsating light can also be set to continuous light so that it can be used as a position light.

Convenient image documentation involves connecting a camera head to the respective telescope in conjunction with the KARL STORZ documentation system.
System components included:
- LED light source with integrated microphone: In a microphone integrated in the handle, the audio signal is recorded, amplified and analyzed to then synchronize the stroboscope with vocal fold vibration.
- Contact microphone: Alternatively, the contact microphone can be used to perform the functions described above.
- Footswitch: The footswitch controls phase synchronization in still image mode and slow motion function. It can also be used to control the optional documentation unit.

Additionally available system components
- Camera Control Unit (CCU) and camera heads from KARL STORZ
- Documentation units from KARL STORZ
- Audio equipment for amplification or recording
- KARL STORZ monitors

The system components described above feature these additional functions:
- Automatic brightness control
- Text/data overlay to video image

40 1601 01 PULSAR II Stroboscope Set, power supply 100 – 240 V, 50/60 Hz including:
- Mains Cord
- LED Stroboscopy Light Source
- Footswitch
- Contact Sound Microphone, with clip

Specifications:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>100-240 V, 50/60 Hz</td>
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<tr>
<td>Dimensions w x h x d</td>
<td>305 x 74 x 233 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>2.5 kg</td>
</tr>
<tr>
<td>Certified to</td>
<td>IEC 601-1, CE acc. to MDD</td>
</tr>
<tr>
<td>Power Input</td>
<td>20 VA</td>
</tr>
<tr>
<td>Flash light energy level</td>
<td>2.5 Ws (pulse energy)</td>
</tr>
<tr>
<td>Triggerable frequency</td>
<td>80 – 1400 Hz</td>
</tr>
<tr>
<td>Slow motion frequency</td>
<td>0.5 – 2.5 Hz</td>
</tr>
<tr>
<td>Phase shift</td>
<td>0 – 360°</td>
</tr>
<tr>
<td>Flash performance</td>
<td>3.5 Ws</td>
</tr>
<tr>
<td>Protection class</td>
<td>I</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>10° – 40°</td>
</tr>
<tr>
<td>Humidity</td>
<td>5% – 95%</td>
</tr>
<tr>
<td>Temperature</td>
<td>20° – 60°</td>
</tr>
<tr>
<td>Classification</td>
<td>IIa</td>
</tr>
</tbody>
</table>

Components/Spare Parts see chapter 16
With the sensational µ-PULSAR, the smallest miniature stroboscopy unit in the world, KARL STORZ offers an “all-in-one” concept for laryngology.

“All-in-one” because, in addition to stroboscopy, it can also be used for documentation; the features of large, cumbersome stroboscopes are complemented by the mobile version; and it’s even considerably more cost-efficient.

Image documentation can normally be carried out by connecting a camera head to the respective telescope in conjunction with the KARL STORZ TELE PACK.

The system, which is based on state-of-the-art microsystem and semiconductor light source technology, can be connected directly to KARL STORZ laryngoscopes independent of the power supply. One of the most important advantages of the power system is therefore its mobility. The small, lightweight and compact KARL STORZ µ-PULSAR can easily be carried in a lab coat and breast pockets or stored in any drawer.

Quality/comfort:
- Simple, ergonomic use
- Lightweight (180 g)
- Powerful LED ensures outstanding brightness

Unrestricted mobility:
- Compact, small, lightweight and portable
- Simple charging system
- Device locks directly onto the endoscope’s light port

Operative efficiency:
- Considerably more cost-efficient to purchase than a larger system
- Low energy consumption
- No need to change lamp
Special Features:

- Easy to operate
- Very good image quality
- Noiseless
- Documentation possible
- Robust housing
- Ideal for consultation work
- Lightweight

- High light intensity
- No separate light source required
- No separate light cable required
- Rechargeable lithium-ion batteries free from memory effect
- All KARL STORZ loupe laryngoscopes can be used

**40 1500 01**  KARL STORZ µ-PULSAR, for laryngeal stroboscopy including:

- NEW  Leather Bag for µ-PULSAR

Components/Spare Parts see chapter 16
HOPKINS® Telescopes
for Laryngo-Pharyngoscopy

Direction of View 90°

8700 DKA
Tele-Laryngo-Pharyngoscope, with integrated HOPKINS® lateral telescope 90°, diameter 5.8 mm, length 20 cm, autoclavable, fiber optic light transmission incorporated, color code: blue

8700 H
Handle, for use with Tele-Laryngoscope 8700 CP, 8700 CKA, 8705 CKA and 8700 DKA

8707 DA
Tele-Laryngo-Pharyngoscope, with integrated HOPKINS® lateral telescope 90°, 4x magnification focusing device, diameter 10 mm, length 15 cm, autoclavable, fiber optic light transmission incorporated, color code: blue

Please note: For instruments for indirect laryngoscopy see pages 363-366
**Direction of view 70°**

- **8700 CKA**
  - BENJAMIN Tele-Laryngoscope, with integrated HOPKINS® lateral telescope 70°, angle of view 50°, diameter 5.8 mm, length 19 cm, autoclavable, fiber optic light transmission incorporated, color code: yellow

- **8700 H**
  - Handle, for use with Tele-Laryngoscope 8700 CP, 8700 CKA, 8705 CKA and 8700 DKA

- **8705 CKA**
  - BENJAMIN Slimline Tele-Laryngoscope, with integrated HOPKINS® lateral telescope 70°, angle of view 50°, diameter 4 mm, length 18 cm, autoclavable, fiber optic light transmission incorporated, color code: yellow

- **8700 H**
  - Handle, for use with Tele-Laryngoscope 8700 CP, 8700 CKA, 8705 CKA and 8700 DKA

- **8706 CA**
  - Strobo-Laryngoscope, with integrated HOPKINS® lateral telescope 70°, oval sheath, 7.2 x 9.3 mm, working length 17 cm, autoclavable, fiber optic light transmission incorporated, color code: yellow

**Please note:** For instruments for indirect laryngoscopy see pages 363-366
Endoscopic procedures in general, including techniques carried out in the office and microlaryngoscopy, only enable the observation of the larynx along a vertical axis. This imposes limitations on the diagnosis and physiopathological interpretation of diseases, as well as on treatment and follow-up. Research work on laryngeal microanatomy conducted by the authors reinforced the need to assess the larynx from different perspectives in order to improve the evaluation of pathological findings. This led to the systematic use of rigid endoscopes with different angles of vision (0°, 30°, and 70°) during endotracheal intubation. Rigid Endoscopy associated with Microlaryngeal Surgery (REMS) significantly enhances the ability to assess the larynx and offers high quality imaging, even of regions that are traditionally difficult to explore, such as the inferior surface and free border of the vocal cords, the anterior commissure, the ventricles and the subglottis. Parameters considered important for the evaluation of premalignant and malignant lesions can be analyzed in greater detail, due to the multiperspective assessment offered by the excellent optical quality of the HOPKINS® II telescopes. REMS is also beneficial for the assessment of benign pathological indications of the vocal cords and for subsequent excision. REMS is easy to perform and, apart from the rigid telescopes which were specifically designed for this application, it requires no equipment other than that which is required for conventional laryngeal endoscopy.

Prof. M. ANDREA, M. D. and Prof. O. DIAS, M. D., Universidade de Lisboa, Servicio de Otorrinolaringologia, Lisbon, Portugal

Multiperspective assessment of a vocal cord polyp using rigid endoscopes 8712 AA/BA/CA (0°, 30° and 70°). The diameter and length of these endoscopes allow observation of all regions of the larynx with regular endotracheal intubation.
HOPKINS® II Telescopes
for Rigid Endoscopy associated with Microlaryngeal Surgery (REMS),
Prof. ANDREA and Prof. DIAS

HOPKINS® II Straight Forward Telescope 0°,
enlarged view, diameter 5 mm, length 24 cm,
autoclavable, fiber optic light transmission incorporated,
color code: green

8712 AA

HOPKINS® II Forward-Oblique Telescope 30°,
enlarged view, diameter 5 mm, length 24 cm,
autoclavable, fiber optic light transmission incorporated,
color code: red

8712 BA

HOPKINS® II Lateral Telescope 70°,
enlarged view, diameter 5 mm, length 24 cm,
autoclavable, fiber optic light transmission incorporated,
color code: yellow

8712 CA

HOPKINS® II Straight Forward Telescope 0°,
enlarged view, diameter 5 mm, length 29 cm,
autoclavable, fiber optic light transmission incorporated,
color code: green

8713 AA

8713 AA
Accessories
for HOPKINS® Telescopes

Antifog Solution
15006 B  “ULTRA STOP” Antifog Solution,
          25 ml, pipette bottle
15006 C  “ULTRA STOP” Antifog Solution,
          30 ml, sterile, pierce bottle
15006 D  “ULTRA STOP” Antifog Solution,
          15 ml, atomizer bottle

Fiber Optic Light Cables
495 NL   Fiber Optic Light Cable,
         diameter 3.5 mm, length 180 cm
495 NA   Same, length 230 cm

Fluid Light Cables
495 FO   Fluid Light Cable,
         diameter 3 mm, length 180 cm
495 FP   Same, length 250 cm

Trays for telescopes see catalog HYGINENE
White Light Endoscopy (Microlaryngoscopy) vs. Autofluorescence

**Diagnosis:**

**White Light**

Keratinizing squamous cell carcinoma on the left, with moderately dysplastic ramifications towards the right vocal cord

**Autofluorescence**

Focal squamous epithelium dysplasia of moderate degree (concomitant with epidermization and focal leukoplakia) only visible in the autofluorescence image by way of the fluorescence reduction in the marked area (2 patients)
HOPKINS® Telescopes
for Autofluorescence/Photodynamic Diagnosis (PDD)
during Direct Laryngo-Pharyngoscopy

HOPKINS® II Straight Forward Telescope 0°, enlarged view, for autofluorescence/photodynamic diagnosis (PDD), diameter 5 mm, length 24 cm, autoclavable, fiber optic light transmission and filter exchanger incorporated, color code: green

HOPKINS® II Forward-Oblique Telescope 30°, enlarged view, for autofluorescence/photodynamic diagnosis (PDD), diameter 5 mm, length 24 cm, autoclavable, fiber optic light transmission and filter exchanger incorporated, color code: red

HOPKINS® II Lateral Telescope 70°, enlarged view, for autofluorescence/photodynamic diagnosis (PDD), diameter 5 mm, length 24 cm, autoclavable, fiber optic light transmission and filter exchanger incorporated, color code: yellow

Fluid Light Cable, diameter 3 mm, length 250 cm

Fluid Light Cable, diameter 5 mm, length 250 cm

Fluid Light Cable, diameter 5 mm, length 250 cm
HOPKINS® Telescopes
for Autofluorescence/Photodynamic Diagnosis (PDD)
during Indirect Laryngo-Pharyngoscopy

**Tele-Laryngoscope**, with integrated HOPKINS® lateral telescope 70°, for autofluorescence/photodynamic diagnosis (PDD), angle of view 50°, diameter 5.8 mm, length 20 cm, **autoclavable**, fiber optic light transmission and filter exchanger incorporated, color code: yellow

**Handle**, for use with Tele-Laryngoscope 8700 CP, 8700 CKA, 8705 CKA and 8700 DKA

**Tele-Laryngo-Pharyngoscope**, with integrated HOPKINS® lateral telescope 90°, for autofluorescence/photodynamic diagnosis (PDD), 4x magnification, focusing device, **autoclavable**, diameter 10 mm, working length 15 cm, fiber optic light transmission and filter exchanger incorporated, color code: blue

**Fluid Light Cable**, diameter 3 mm, length 250 cm
HOPKINS® Telescopes for ICG angiography

8710 AGA

**HOPKINS® Straight Forward Telescope 0°**, for perfusion assessment, autofluorescence and white light diagnosis, diameter 5.8 mm, length 19 cm, **autoclavable**, fiber optic light transmission and filter exchanger incorporated, color code: green

8711 AGA

**HOPKINS® Straight Forward Telescope 0°**, enlarged view, for perfusion assessment, autofluorescence and white light diagnosis, diameter 10 mm, length 20 cm, **autoclavable**, fiber optic light transmission and filter exchanger incorporated, color code: green

For further informationen and instruments for ICG angiography see chapter 13, FLUORESCENCE
The HAVAS video laryngoscope from KARL STORZ is a significant step forward in endoscopic laryngeal surgery.

The HAVAS operating laryngoscope comprises the following components:

- Video laryngoscope
- Integrated light carrier/telescope holder
- Telescopic sheath protector

The laryngoscope enables an optimal visualization of the supraglottic and glottic airway. Furthermore, the angulation of the tip provides a view of areas that are difficult to see such as the anterior commissure and the anterior part of the laryngeal ventricles.

The cut-out lateral ports at the proximal end of the laryngoscope enables the introduction of standard instruments or the new malleable HAVAS LaryngoFIT® instruments for microsurgery. This facilitates endoscopic bimanual surgery using a monitor rather than an operating microscope.

T. HAVAS
MB. BS (SYD), MD. (UNSW) FRCSE FRACS FACS
A/Professor Conjoint UNSW
Suite 506, 1 Newland Street
Bondi Junction, NSW, Australia

Dimensions in mm:
proximal and distal

8790 A

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 x 23</td>
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</tr>
<tr>
<td>36.5</td>
<td></td>
</tr>
<tr>
<td>22.5</td>
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</tbody>
</table>

8790 B

<table>
<thead>
<tr>
<th>Dimension</th>
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<tbody>
<tr>
<td>18 x 23</td>
<td></td>
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<tr>
<td>32.5</td>
<td></td>
</tr>
</tbody>
</table>

8790 A/B

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8790 A</td>
<td>HAVAS Operating Laryngoscope, with extra light handle, large model, length 17 cm, with connector for Light Carrier 497 HC</td>
</tr>
<tr>
<td>8790 B</td>
<td>HAVAS Operating Laryngoscope, with extra light handle, medium model, length 17 cm, with connector for Light Carrier 497 HC</td>
</tr>
</tbody>
</table>
The combination of a light carrier with integrated telescope holder facilitates the introduction of the laryngoscope with excellent illumination. The telescopic sheath protector enables the introduction of any 4 mm standard telescope (0/30/45/70/90/120°). The telescope is inserted in the sheath and then anchored in the integrated light source/telescope holder. This enables detailed endoscopic examination of all parts of the larynx, such as the laryngeal ventricles or the anterior commissure.

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A/Professor Conjoint UNSW
Suite 506, 1 Newland Street
Bondi Junction, NSW, Australia

497 HC
HAVAS **Light Carrier**, with integrated telescope channel diameter 5 mm, for proximal illumination, for use with Laryngoscope 8790 A/B

497 HCS
**Telescope Protective Sheath**, outer diameter 5 mm, length 20 cm, for use of Light Carrier 497 HC with Telescopes 7230 AA, BA, CA, DA, EA, FA
Special Features:
- Malleable distal end enables adjustment of the working end according to individual needs
- Can be completely dismantled
- Well-balanced handle with ergonomic design
- Inserts can be locked into three different positions
- Easy and efficient cleaning by means of a Luer connector

Working Attachment

<table>
<thead>
<tr>
<th>LaryngoFIT® HAVAS Forceps, malleable</th>
</tr>
</thead>
<tbody>
<tr>
<td>8791 AZ</td>
</tr>
<tr>
<td>8793 AZ</td>
</tr>
<tr>
<td>8793 GHZ</td>
</tr>
</tbody>
</table>

LaryngoFIT® HAVAS Scissors, malleable

| 8794 AZ | straight |

Please note:
Metal Handle 550000 is not included in delivery. Please order separately.
Advantages of video-laryngoscopes compared to operation microscopes:

- Greater depth focus
- No need to adjust focus
- The laryngoscope spatula does not restrict the field of vision
- The wide angle of view of the HOPKINS® telescope provides a larger overview behind the distal end of the laryngoscope
- No surgical microscope is required

Advantages:
With this method the binocular operation microscope is replaced by the KARL STORZ video system. This system guarantees excellent conditions for:
- operating
- documentation
- teaching of microlaryngological operation techniques

When connected to a video printer, this system enables high quality instant printouts to be made as a source of information for:
- physician referral
- radiologists
- oncologists

For Video Documentation Systems and Light Sources see catalog TELEPRESENCE
KANTOR-BERCI Video-Laryngoscopes

Model IV

8575 AV

HOPKINS® Straight Forward Telescope 15°, diameter 4 mm, length 17 cm, autoclavable, 45° angled eyepiece, fiber optic light transmission incorporated, color code: green

8590 JV

KANTOR-BERCI Video-Laryngoscope, model IV, for adults, length 18 cm, enlarged proximal opening, curved distal tip especially designed to elevate the epiglottis and for optimal placement of the anterior commissure, flattened surface of the blade prevents damage to teeth, telescope guide tube integrated inside the lumen, with adaptor for HOPKINS® Telescope 8575 AV, for use with distal Fiber Optic Light Carrier 8590 GF or proximal Light Clip 497 AC, Vapor Suction Tube 8590 M and Laryngoscope Holder 8575 K or 8575 KC

Same, for adolescents and adults, length 17 cm, for use with proximal Light Clip 497 AC and Laryngoscope Holder 8575 K or 8575 KC

Accessories for KANTOR-BERCI Video-Laryngoscopes see page 584
For use with KANTOR/BERCI Video-Laryngoscopes, Model IV

Special feature of the miniature forceps with cupped jaws and scissors:

- Distal end with 10° upwards curve provides better access to anterior commissure

**8591 BV**

8591 AV  **KLEINSASSER Spoon Forceps**, 2 mm, straight, sheath conically reinforced from distal to proximal end, distal end curved upwards 10°, with cleaning connector, working length 23 cm

8591 BV  **Same**, curved upwards 45°

8591 CV  **Same**, curved to right

8591 DV  **Same**, curved to left

**8594 CV**

8594 AV  **KLEINSASSER Scissors**, straight, sheath conically reinforced from distal to proximal end, distal end curved upwards 10°, with cleaning connector, working length 23 cm

8594 BV  **Same**, curved upwards 45°

8594 CV  **Same**, curved to right

8594 DV  **Same**, curved to left

**8602 KV**

8602 KV  **KLEINSASSER Suction Tube**, ball end, curved upwards, outer diameter 2 mm, working length 23 cm

8603 KV  **Same**, outer diameter 3 mm
A complete set of laryngoscopes for adults and children are available. These laryngoscopes allow an excellent view of the laryngeal area, even under difficult anatomical conditions, such as limited oral aperture and short, thick, stiff necks. Uniform pressure distribution with reduced danger of tooth damage is provided by the flat support area of the laryngoscope against the teeth. A tooth guard to help protect the teeth and gums is also available. The laryngoscopes have smooth surfaces and are easy to clean and sterilize.

The specially designed laryngoscope holder and chest support can be placed directly against the thorax without affecting respiration. Special tables and support devices are not required with this chest support.

Precision, small diameter grasping and cutting instruments are available. These instruments have a thin, but very rigid sheath which allows excellent control during surgery within the laryngeal area.
Full size illustration:
inner diameter in mm proximal and distal

8590 A KLEINSASSER Operating Laryngoscope, for adults, extra large, length 17 cm
8590 B Same, large
8590 C Same, medium (most commonly used model)
8590 DN Same, small, length 18 cm (for particularly difficult anatomical circumstances)
8590 J Same, medium, length 18 cm (for anterior commissure)
8590 JL Same, medium, length 22 cm (for especially long neck)
8590 K Same, for children, small, length 15 cm
8590 L Same, for infants, small, length 13 cm
497 AC Clip, for proximal illumination
8590 GF Fiber Optic Light Carrier, for distal illumination, working length 14 cm, for use with Laryngoscopes 8590 A – JL
8590 HF Fiber Optic Light Carrier, for distal illumination, working length 7.5 cm, for use with Laryngoscopes 8590 K – L
8590 KC Injection Cannula, for positive pressure assisted ventilation, working length 8.5 cm, for use with Laryngoscopes 8590 A – L
8590 M Suction Tube to remove vapor, for LASER treatment, diameter 3 mm, working length 12.5 cm, for use with Laryngoscopes 8590 A – JL
8590 N Suction Tube, to remove vapor, for LASER treatment, diameter 3 mm, working length 9 cm, for use with Laryngoscopes 8590 K – L
Special Features:
- Proven conical KLEINSASSER design
- Modified by RUDERT with right and left lateral outer channels used for smoke evacuation and/or for fiber optic light carrier
- Full lumen working capacity, unobstructed view, operating instruments cannot get caught

Full size illustration:
inner diameter in mm proximal and distal

8590 AL
KLEINSASSER Laryngoscope, extra large, modified by RUDERT for CO₂ LASER surgery, with lateral outer channels for suction tube to remove vapor and/or for fiber optic light carrier, length 17 cm
8590 BL
Same, large
8590 CL
Same, medium
8590 DL
Same, small, length 18 cm
8590 JA
Same, medium, length 18 cm, for anterior commissure
8590 KL
Same, for children, length 15 cm
8590 LL
Same, for infants, length 13 cm
8574 JH
Fiber Optic Light Carrier, for distal illumination, length 12 cm, for use with Laryngoscopes 8574 J/JP and 8590 LL
8574 LF
Same, length 16 cm, for use with Laryngoscopes 8590 AL/BL/CL/DL/JA and 8589 B/C
8574 LG
Same, length 14 cm, for use with Laryngoscope 8590 KL
8574 JK
Suction Tube, to remove vapor, for LASER treatment, length 12 cm, for use with Laryngoscopes 8574 J/JP and 8590 LL
8574 LM
Same, length 16 cm, for use with Laryngoscopes 8590 AL/BL/CL/DL/JA and 8589 B/C
8574 LN
Same, length 14 cm, for use with Laryngoscope 8590 KL
Most laryngoscopes have a round or oval distal opening, which is not optimally suited to the triangular shaped glottis (Fig. 1, left). It is therefore frequently not possible to focus on the anterior commissure with these laryngoscopes. The so-called “anterior commissure tubes” with upturned distal end shift the larynx and thus the anterior third of the glottis forwards out of the field of view. In addition to this, the curve of the tube end impedes the view of the anterior commissure (Fig. 2).

Taking up the idea of Vaughan, we developed a laryngoscope for examining the anterior commissure. Its distal end is not upturned, but is shaped like the ridge of a roof. The triangular shape means that the distal opening exactly fits into the similarly triangular shape of the glottis (Fig. 1, right). The laryngoscope offers a good view of the glottis from the anterior commissure right to the arytenoid region.

The laryngoscope is available in 2 sizes. The smaller one is the universal tube. The larger one is suitable for large larynxes in adults with edentulous upper jaws.

Prof. emer. H. RUDERT, M. D.,
Universitätsklinik Kiel, Germany

**Fig. 1.** Focus of distal laryngoscope on the glottis: the oval or round laryngoscope (left), our triangular shaped laryngoscope for the anterior commissure (right).

**Fig. 2.** The upturned distal end of the so-called “anterior commissure tube” impedes the view of the anterior commissure.

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**8589 B**
RUDERT Anterior Commissure Laryngoscope, large, triangular spatula-shaped, with lateral outer channels for Fiber Optic Light Carrier 8574 LF or Suction Tube to remove vapor 8574 LM, length 17 cm, (version with wide lumen for special cases)

**8589 C**
Same, medium, universal size, (most commonly used model)

**8574 LF**
Fiber Optic Light Carrier, for distal illumination, length 16 cm, for use with Laryngoscopes 8590 AL/BL/CL/DL/JA and 8589 B/C

**8574 LM**
Suction Tube to remove vapor, for LASER treatment, length 16 cm, for use with Laryngoscopes 8590 AL/BL/CL/DL/JA and 8589 B/C
**Special Features:**
- The DEDO laryngoscope enables a view of the glottis from the anterior commissure right to the arytenoid region.
- Thin tube diameter allows universal use in adults.
- The distal end of the laryngoscope is shaped like a rounded “V” for optimal visualization.
- Proximal design provides an excellent view of the anterior commissure.
- Comfortable handle design and low overall weight enables convenient handling.

**Dimensions in mm:**
- Proximal: 13.5 x 27
- Distal: 13.5 x 27

8890 A

**8890 A DEDO Operating Laryngoscope,**
with extra light handle, length 18 cm

8574 LG

**Fiber Optic Light Carrier,** for distal illumination, length 14 cm, for use with Laryngoscope 8890 A

8574 LN

**Suction Tube to remove vapor,** length 14 cm, for use with Laryngoscope 8890 A
STEINER **Distending Operating Laryngoscopes**

for Transoral LASER Microsurgery

---

Outer dimensions in mm:
- **proximal**
- **distal**

<table>
<thead>
<tr>
<th>Component</th>
<th>Proximal Dimensions</th>
<th>Distal Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>8661 AN</td>
<td>Width of valves: max. 35, min. 19</td>
<td>Width of valves: max. 50, min. 19</td>
</tr>
</tbody>
</table>

**8575 K**

8575 K STEINER **Distending Operating Laryngoscope**, for adults, lightweight construction, with antireflex coating for LASER treatment, channel removing vapor integrated in handle and blade, length 18 cm, for use with Clip, for proximal illumination 497 AC and Laryngoscope Holder 8575 K/KC

**Laryngoscope Holder and Chest Support**, GÖTTINGEN model, with adjustment wheel including:
- **Support Rod**, movable, with metal ring, diameter 9 cm, length 34 cm
- **Clip**, for proximal illumination

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Components/Spare Parts see chapter 16
STEINER Distending Operating Laryngoscope and Oropharyngoscope for Transoral LASER Microsurgery

STEINER Distending Operating Laryngoscope, for adults, lightweight construction, with antireflex coating for LASER treatment, with right and left side wings to prevent the tongue/soft tissue from obstructing the lumen, channel removing vapor integrated in handle and blade, length 18 cm, for use with Clip, for proximal illumination 497 AC and Laryngoscope Holder 8575 K/KC

STEINER Distending Operating Oropharyngoscope, for adults, lightweight construction, with antireflex coating for LASER treatment, with right and left side wings to prevent the tongue/soft tissue from obstructing the lumen, channel removing vapor integrated in handle and blade, length 14 cm, for use with Clip, for proximal illumination 497 AC and Laryngoscope Holder 8575 K/KC

Outer dimensions in mm:

<table>
<thead>
<tr>
<th>Model</th>
<th>Proximal Width</th>
<th>Distal Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>8666 AN</td>
<td>36 mm</td>
<td>27 mm</td>
</tr>
<tr>
<td>8666 DN</td>
<td>27 mm</td>
<td>27 mm</td>
</tr>
</tbody>
</table>

Width of valves: max. 30, min. 19

Width of valves: max. 43, min. 21
STEINER Operating Laryngoscopes
for Transoral LASER Microsurgery
with integrated channel to remove vapor

8661 CN
STEINER Operating Laryngoscope, medium-large, for adults, with antiflex coating for LASER treatment, with integrated channel to remove vapor, outer diameter proximal 26 x 18 mm, length 18 cm

8661 DN
STEINER Operating Laryngoscope, small, for adults with difficult anatomical circumstances and for children, with antiflex coating for LASER treatment, with integrated channel to remove vapor, outer diameter proximal 23 x 15 mm, length 19 cm

8661 EN
STEINER Operating Laryngoscope, extra small size, for difficult anatomical circumstances, with antiflex coating for LASER treatment, flat, outer diameter proximal 24 x 13 mm, length 20 cm, for use with Suction Tube 8661 M/N

8661 M
Suction Tube to remove vapor, for LASER treatment, outer diameter 3 mm, working length 16 cm, for use with operating laryngoscopes and Adaptor 8661 P

8661 N
Same, working length 20 cm

8661 P
Adaptor, for Suction Tube 8661 M/N, attachable to the laryngoscope’s proximal end, allows continuous adjustment of the suction tube within the laryngoscope

497 AC
Clip, for proximal illumination
WEERDA Distending
Operating Laryngoscopes

Special Features:
- Two adjustment screws enable maximal distending and exact adaptation to every anatomy, providing excellent viewing conditions. Lateral adjustment screw allows the lumen to be expanded by 38 – 30 mm. Front adjustment screw enables maximal distal distending of the lower spatula blade.
- Small dimensions of laryngoscope when spatula are closed ease introduction
- Wide lateral slots provide largest possible working area for micro surgical instruments
- Use of additional suction tubes to remove vapor during laser surgery ensures that overview is not obstructed.

Outer dimensions in mm:

| 8588 A | distal width of valves: max. 30, min. 18 |
| 8588 B | 16 |
| 8588 C | 12 |
| 8588 A | width of valves: max. 65, min. 15 |
| 8588 B | 17 |
| 8588 C | 13 |
| 8588 A | 35 |
| 8588 B | 28 |
| 8588 C | 17.5 |
| 8588 A | 22 |
| 8588 B | 17 |
| 8588 C | 14 |
| 8588 A | 8588 B |
| 8588 A | 8588 C |

8588 A 

8588 B 

8588 C 

WEERDA Distending Operating Laryngoscope, large, for adults, length 18 cm

Same, for adolescents and adults

WEERDA Distending Operating Laryngoscope, for children, length 13.5 cm

Fiber Optic Light Carrier, for use with Laryngoscopes 8588 A/B

Same, for use with Laryngoscopes 8588 C

Injection Cannula, for positive pressure assisted ventilation, for use with 8588 A/B/BV

Suction Tube to remove vapor, for LASER treatment, for use with Laryngoscopes 8588 A/B/BV

Same, for use with Laryngoscope 8588 C
Transoral partial laryngectomy and pharyngectomy using the WEERDA distending video-laryngoscope

With conventional microlaryngeal surgery, because surgical procedures are performed through a narrow laryngoscope under the guidance of a surgical microscope, the visual field is limited and working space is narrow. In addition, the visual field is often blocked when two hands are used. These disadvantages have limited its indications.

In order to resolve these issues, we have been performing surgery using KARL STORZ’s WEERDA distending video laryngoscope (conventional WEERDA distending laryngoscope and HOPKINS® telescope) and the Endovision® TELECAM SL/IPM camera system to achieve a larger visual field and sufficient working space.

Characteristics of the WEERDA distending video-laryngoscope

With the present system, because the laryngeal/hypopharyngeal region can be widely opened, a sufficient working space and a wide visual field can be achieved. As a result, surgical procedures that used to require tracheostomy or external cervical incision can now be performed transorally. Supraglottic laryngectomy and partial hypopharyngectomy can be performed with less invasiveness. In addition to such surgical procedures for laryngeal and hypopharyngeal cancers, the present system is useful for various procedures in the laryngeal, hypopharyngeal and lingual root regions. Hence, it is a powerful tool to make surgery in these regions less invasive.

A. SHIOTANI, M. D.,
Professor and Chairman,
Department of Otolaryngology-Head and Neck Surgery,
National Defense Medical College,
Saitama, Japan
Original LINDHOLM and BENJAMIN-LINDHOLM Operating Laryngoscopes

Special Features:
- Unique design particularly suitable for laryngeal surgery
- Panoramic overview of the laryngopharynx
- Exceptional view of the epiglottis, arytenoids, posterior commissure, pyriform sinuses and cricoid region
- Excellent inspection of areas mentioned above with operation microscope

Full size illustration: inner diameter in mm proximal and distal

- 8587 A/AA/KK
- 8587 GF
- 8587 A
- 8587 AA
- 8587 KK
- 8587 N
- 8587 P
- 8587 GF
- 8587 PF
- 8587 K
- 8587 M/MK
- 8587 PM

- LINDHOLM Operating Laryngoscope, large, for adults, inner proximal end 39 x 24 mm, distal end width 18 mm, length 15 cm
- Same, length 17 cm
- Same, for children, inner proximal end 30 x 20 mm, distal end width 16 mm, length 11 cm
- BENJAMIN-LINDHOLM Operating Laryngoscope, for children, inner proximal end 30 x 18 mm, distal end width 20 mm, length 11.5 cm
- BENJAMIN-LINDHOLM Operating Laryngoscope, for newborn babies and infants, inner diameter proximal end 26 x 16 mm, distal end 14 x 11 mm, length 9.5 cm

- Fiber Optic Light Carrier, for distal illumination, length 7.5 cm, for use with Laryngoscopes 8587 A/AA/KK
- Same, length 6.5 cm, for use with Laryngoscopes 8587 N/P
- Injection Cannula, for positive pressure assisted ventilation, length 8.5 cm, for use with Laryngoscopes 8587 A/AA/KK
- Suction Tube to remove vapor, for LASER treatment, length 8.5 cm, for use with Laryngoscopes 8587 A/AA
- Same, length 7 cm, for use with Laryngoscope 8587 KK
- Same, length 6.5 cm, for use with Laryngoscope 8587 N/P
Original BENJAMIN and BENJAMIN-PARSONS
Slimline Operating Laryngoscopes and Subglottiscopes

Special Features:
- Appropriate for patients whose larynx is difficult to inspect
- For micro surgery and LASER surgery
- Light clip for proximal illumination
- Quickly and easily attachable to the laryngoscope

8574 SL

8574 SLS

8574 SSL

8574 SL  
BENJAMIN Slimline Operating Laryngoscope and Subglottoscope, for adults, slender, length 17 cm, for use with Clip 497 AC

8574 SLS  
BENJAMIN-PARSONS Slimline Operating Laryngoscope and Subglottoscope, for adults, slender, right-hand side slotted for the introduction of bronchoscopes and tracheal tubes, length 17 cm, for use with Clip 497 AC

8574 SSL  
BENJAMIN-PARSONS Super-Slimline Operating Laryngoscope and Subglottoscope, for adults, extra slender, flat model, for particularly difficult anatomical circumstances, length 17 cm, for use with Clip 497 AC

497 AC  
Clip, for proximal illumination

8574 GY  
BENJAMIN Injection Cannula, for positive pressure assisted ventilation, malleable, diameter 2 mm, working length 13.5 cm

8574 GZ  
Same, diameter 3 mm

Full size illustration: inner diameter in mm proximal and distal.
**Original PARSONS**

**Adult Operating Laryngoscopes**

**Special Features:**
- Wide proximal end – highly suitable for binocular inspection
- Superior surface of size 4 and 5 is rough to prevent tongue from sliding into the lumen.
- Easy use of instruments
- Maximum illumination of operation area

**8576 AA**

PARSONS Operating Laryngoscope, size 6, for adults, large, for anterior commissure, wide proximal opening suitable for binocular viewing, right-hand side slotted for introduction of broncho-oesophagoscopes and operating instruments, left-hand side with insufflation channel for oxygen supply, anesthetic gas or for jet ventilation, length 18 cm, for use with Clip 497 AC for proximal illumination

**8576 A**

Same, size 5, for adolescents and adults, medium-large, length 16.5 cm

**8576 B**

Same, size 4, for children up to age 12, medium, length 14.5 cm

**497 AC**

Clip, for proximal illumination
Original PARSONS Pediatric Laryngoscopes
with Proximal Illumination

Special Features:
- Enlarged proximal end enables binocular viewing
- Lateral insufflation channel for anesthetic gas and oxygen supply
- Also appropriate for jet ventilation
- Wide lateral slit allows introduction of bronchoscopes and esophagoscopes and enlarges the lumen of the laryngoscope for better binocular inspection
- Flat anterior tip enables better positioning in the anterior commissure or vallecula. Simultaneous use of a telescope enables excellent panoramic view
- Superior surface is rough to prevent tongue from sliding into the lumen, thereby ensuring an unobstructed view of supraglottic structures
- Complete set in 3 sizes for premature babies, newborn babies and infants up to 4 years old

8576 C
PARSONS Laryngoscope, size 3, for toddlers, flat distal end for anterior commissure, wide proximal opening enable binocular viewing, right-hand side slotted for introduction of broncho-oesophagoscopes and operating instruments, left-hand side with insufflation channel for oxygen supply, anesthetic gas or jet ventilation, for use with Prismatic Light Deflector 10101 FA/JA/JUA and Laryngoscope Holder 8574 KT/KW, length 11 cm

8576 D
Same, size 2, for neonates, length 9 cm

8576 E
Same, size 1, for premature infants, length 8 cm

10101 FA
Prismatic Light Deflector, autoclavable, with connection to fiber optic light cable (not to be used with 8574 K/KB/KT/KW)

8574 KW
BENJAMIN-PARSONS Laryngoscope Holder and Chest Support, GÖTTINGEN model, with adjustment wheel including:
BENJAMIN-PARSONS Support Rod, movable, with metal ring, diameter 12 cm and 2 lateral set screws, length 34 cm

Pediatric Laryngoscopes 8574 B – G and 8576 C – E are for use with the Laryngoscope Holders 8574 KT/KW only.

Components/Spare Parts see chapter 16
Original BENJAMIN and BENJAMIN-PARSONS
Pediatric Operating Laryngoscope

Special Features:
- Wide proximal end for binocular inspection
- Easy use of instruments due to large access
- Safe use of CO₂ laser
- Lateral channels for suction tubes to remove vapor during LASER surgery and for light carrier for distal illumination
- Maximum illumination of operation area

Full size illustration:
inner diameter in mm proximal and distal

8574 J
8574 JB
8574 JP

8574 J
8574 JB
8574 JP

8574 J
8574 JB
8574 JP

BENJAMIN Operating Laryngoscope, for children, length 15 cm
Same, small size, length 11.5 cm
BENJAMIN-PARSONS Operating Laryngoscope, for children, lateral slit for the introduction of pediatric bronchoscopes up to size 6 and tracheal tubes, lower surface of spatula is rough to prevent tongue from slipping off, length 15 cm

Fiber Optic Light Carrier, for distal illumination, length 12 cm, for use with Laryngoscopes 8574 J/JP
Suction Tube to remove vapor, for LASER treatment, length 12 cm, for use with 8574 J/JP
Fiber Optic Light Carrier, for distal illumination, length 6.5 cm, for use with Laryngoscope 8574 JB
Suction Tube, to remove vapor, for LASER treatment, length 6.5 cm, for use with Laryngoscope 8574 JB
Pediatric Laryngoscopes
with Proximal Illumination

8574 B  HOLINGER-TUCKER Anterior Commissure Laryngoscope, lateral opening, length 11 cm

8574 C  Slotted Laryngoscope, lateral opening, length 11 cm

8574 D  Same, length 9.5 cm

8574 E  Same, length 8 cm

8574 G  BENJAMIN Slotted Laryngoscope, lateral opening, especially appropriate for introducing pediatric bronchoscopes, length 13.5 cm

10101 FA  Prismatic Light Deflector, autoclavable, with connection to fiber optic light cable

10101 JA  Same, fiber optic light cable integrated (for use with 8574 KT/KW)

10101 JUA  Same, autoclavable, with additional light cable for the simultaneous use of telescopes

Pediatric Laryngoscopes 8574 B – G and 8576 C – E are for use with the Laryngoscope Holders 8574 KT/KW only.

Components/Spare Parts see chapter 16
**HOLINGER Laryngoscope, LEWY Laryngoscope Holder**

8575 KT

LEWY Laryngoscope Holder and Chest Support
including:
Support Rod, movable, with metal ring,
diameter 9 cm, length 34 cm

8575 KW

LEWY Laryngoscope Holder and Chest Support
including:
Support Rod, movable, with metal ring,
diameter 12 cm, length 34 cm

8580 H

HOLINGER Anterior Commissure Laryngoscope,
for adults, length 17 cm, with
Fiber Optic Light Carrier 8580 BL
and Handle 8580 H

Laryngoscope Handle,
detachable, for use with LEWY laryngoscope holder and chest
support and with operating laryngoscopes

**Please note:**
Chest Supports 8575 GL/K/KC are not to be used with Pediatric Laryngoscopes 8576 C – E.
Handle 8580 H is detachable for use of Laryngoscope 8580 B, also with Chest Supports 8575 K/KC.
LEWY Chest Support 8575 GL can be adapted to Handle 8580 H.

**Components/Spare Parts** see chapter 16
Laryngoscope Holders
for Operating Laryngoscopes

8575 K

Laryngoscope Holder and Chest Support, GÖTTINGEN model, with adjustment wheel
including:
Support Rod, movable, with metal ring, diameter 9 cm, length 34 cm

8575 KC

BENJAMIN-PARSONS Laryngoscope Holder and Chest Support, GÖTTINGEN model, with adjustment wheel
including:
BENJAMIN-PARSONS Support Rod, movable, with metal ring, diameter 12 cm and 2 lateral set screws, length 34 cm

8575 V

Extension, GRONINGEN model, for enlargement of opening angle of support rod for overweight patients, angled, length 8 cm, for use with Laryngoscope Holder 8575 K/KC and Laryngoscopes 8574 J – JP/SL – RB, 8576 AA – B, 8580 – 8590, 8661 – 8666

Components/Spare Parts see chapter 16
**Chest Support**, GÖTTINGEN model

A special chest support system has been designed to meet the requirements of transoral tumor surgery in the pharynx and larynx, together with an adjustable platform that can be secured in any of three dimensional positions, allowing effortless changes in the position of the laryngo-pharyngoscope during tumor surgery.

Extremely lateral angles, as are often necessary for work in the pharynx, are easily achieved and maintained.

*Prof. emer. W. STEINER, M. D., Universitäts-Hals-Nasen-Ohrenklinik, Göttingen, Germany*

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8575 L

**Support Table**, GÖTTINGEN model, for Laryngoscope Holders 8575 K/KC, 8574 KT/KW, autoclavable

including:

- **Swivel Arm**, with movable plate
- **Holding Rod**, for height adjustment
- **Attachment Blocks**, can be mounted on operation table equipped with standard sliding rail 25 x 10 mm

**Components/Spare Parts** see chapter 16
Chest Support, LÜBECK model

Special Features:
- Movable plate for Chest Supports 8575 K/KC, 8574 KT/KW
- Swivel holding arm
- Fine gear system complements height adjustment of chest support
- Ensures safe mounting of the chest support and the laryngoscope
- Ideal for children and overweight patients
- Support plate with lateral ring for attaching Tongue Spatula 743910 – 744405 for adenoidectomy and tonsillectomy

Components/Spare Parts see chapter 16
The missing piece of the puzzle
The new generation of ENT forceps from KARL STORZ

Nothing could be more simple!
The preparation of instruments is increasingly in the spotlight. The demand for a perfect hygienic cleaning process which can be validated and recorded is difficult to meet due to the design constraints of conventional instruments.

LaryngoFIT®, the new ENT forceps from KARL STORZ, on the contrary, make perfect hygiene child's play. One hand movement is enough to separate the working insert from the handle. You then have 2 instrument parts without dirt traps or inaccessible channels, which can be cleaned efficiently to a cutting-edge hygienic standard.

Naturally, the instruments can be reassembled as quickly and easily as they can be dismantled.

Dismantling the instrument in 2 simple steps: Push the slide back...
...and pull the working attachment out of the handle.

Machine cleaning of the LaryngoFIT® instruments is as easy as it is efficient. Specially developed cleaning racks, in which the separate parts of the LaryngoFIT® can be connected directly to the rinsing system, ensure particularly thorough preparation.
Special Features:
- Completely detachable
- Easy dismantling and reassembly
- Easy and efficient cleaning also by means of the Luer-Lock connection
- Economic advantages due to compatibility with all working attachments
- Well-balanced handle with ergonomic design
- Great variety of working inserts
- Inserts can be locked into three different positions

Two-piece design
LaryngoFIT® Instruments can be completely disassembled into separate components:
- Handle
- Working attachment
**Working Attachment**

<table>
<thead>
<tr>
<th>Working length 23 cm</th>
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</thead>
</table>

**LaryngoFIT® KLEINSASSER Cutting Forceps**, with cupped jaws, 2 mm

<table>
<thead>
<tr>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8591 AZ</td>
<td>straight</td>
</tr>
<tr>
<td>8591 BZ</td>
<td>curved upwards</td>
</tr>
<tr>
<td>8591 CZ</td>
<td>curved right</td>
</tr>
<tr>
<td>8591 DZ</td>
<td>curved left</td>
</tr>
</tbody>
</table>

**LaryngoFIT® KLEINSASSER Alligator Forceps**, serrated

<table>
<thead>
<tr>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8593 AZ</td>
<td>straight</td>
</tr>
<tr>
<td>8593 BZ</td>
<td>curved right</td>
</tr>
<tr>
<td>8593 CZ</td>
<td>curved left</td>
</tr>
<tr>
<td>8593 EZ</td>
<td>curved upwards</td>
</tr>
</tbody>
</table>

**LaryngoFIT® KLEINSASSER Scissors**

<table>
<thead>
<tr>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8594 AZ</td>
<td>straight</td>
</tr>
<tr>
<td>8594 BZ</td>
<td>angled 45°</td>
</tr>
<tr>
<td>8594 CZ</td>
<td>curved right</td>
</tr>
<tr>
<td>8594 DZ</td>
<td>curved left</td>
</tr>
</tbody>
</table>

**Please note:**
Metal Handle 550000 is **not** included. Please order separately.
39219 XF  **Instrument Rack**, with one irrigation block (standard version) for cleaning, sterilization and storage of up to 15 *Laryngo*FIT*®* or 15 *Sinu*FIT*®* instrument attachments and 6 handles, incl. variable bars with silicone holder and direct connection of the instrument attachments via a multi-port bridge to the washer-disinfector and Wire Tray 39502 ZB, external dimensions (w x d x h): 480 x 250 x 160 mm

39219 XFB  **Same for Cleaning, Sterilization and Storage** of up to 15 *Laryngo*FIT*®* or 15 *Sinu*FIT*®* instrument attachments and 6 handles

Optional Accessory

39502 V  **Wire Tray for Cleaning, Sterilization and Storage** of instruments, with hole plate walls and foldaway handles, external dimensions (w x d x h): 228 x 248 x 45 mm

**Components/Spare Parts** see chapter 16
**Further accessories for cleaning and sterilization** see catalog HYGIENE
**Please note:** The instruments displayed are not included in the instrument racks.
Working length 23 cm

Special Features:
- Distal end thinner than proximal end to provide better viewing
- Sheath conically reinforced from distal to proximal end to increase mechanical stability

8591 A  KLEINSASSER Cutting Forceps, straight, with 2 mm cupped jaws, with cleaning connector, working length 23 cm

8591 B  Same, curved upwards

8591 C  Same, curved to right

8591 D  Same, curved to left

8591 EA  Same, with straight cutting edge for tangential removal of polyps on vocal cords edge, curved upwards to right

8591 FA  Same, with straight cutting edge for tangential removal of polyps on vocal cords edge, curved upwards to left
Original KLEINSASSER Instruments
for Endolaryngeal Microsurgery

Working length 21 cm, for adolescents

- **8591 AJ**
  - KLEINSASSER Forceps, straight, with 2 mm cupped jaws, sheath conically reinforced from distal to proximal end, with cleaning connector, working length 21 cm

- **8591 CJ**
  - Same, curved to right

- **8591 DJ**
  - Same, curved to left

Working length 23 cm

- **8591 AM**
  - KLEINSASSER Miniature Forceps, straight, with 1 mm cupped jaws, sheath conically reinforced from distal to proximal end, with cleaning connector, working length 23 cm

- **8591 BM**
  - Same, curved upwards

- **8591 CM**
  - Same, curved to right

- **8591 DM**
  - Same, curved to left

- **8591 EM**
  - Same, curved upwards to right

- **8591 FM**
  - Same, curved upwards to left
**Original KLEINSASSER Instruments**
for Endolaryngeal Microsurgery

**Working length 23 cm**

**Special Features:**
- Distal end thinner than proximal end to provide better viewing
- Sheath conically reinforced from distal to proximal end to increase mechanical stability

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8592 A  
KLEINSASSER **Artery Forceps**, with ratchet, with cleaning connector, working length 23 cm

8593 A  
KLEINSASSER **Grasping Forceps**, without ratchet, serrated, straight, with cleaning connector, straight, working length 23 cm

8593 B  
**Same**, curved to right

8593 C  
**Same**, curved to left

8593 E  
**Same**, curved upwards

8593 G  
**Same**, with triangular jaws, curved upwards to right

8593 H  
**Same**, curved upwards to left

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LA 29 I
Original KLEINSASSER Instruments for Endolaryngeal Microsurgery

Working length 23 cm

- 8593 AM: KLEINSASSER Miniature Grasping Forceps, straight, serrated, sheath conically reinforced from distal to proximal end, with cleaning connector, working length 23 cm
- 8593 BM: Same, curved to right
- 8593 CM: Same, curved to left
- 8593 EM: Same, curved upwards

Special Features:
- Extra fine grasping forceps, with triangular fenestrated jaws, curved upwards to right or left

- 8593 GM: Miniature Grasping Forceps, extra delicate, serrated, with triangular jaws, curved upwards to right, with cleaning connector, working length 23 cm
- 8593 HM: Same, curved upwards to left
Original KLEINSASSER Instruments
for Endolaryngeal Microsurgery

Special Features:
- Excellent cutting performance with optimal transfer of strength
- Due to specially ground surface scissor blades stay sharper much longer
- Distal end thinner than proximal end to provide better viewing
- Sheath conically reinforced from distal to proximal end to increase mechanical stability

Working length 23 cm

![Image of 8594 A](image1)

**8594 A** KLEINSASSER Scissors, straight, with cleaning connector; working length 23 cm

**8594 BB** Same, angled 15°

**8594 B** Same, angled 45°

**8594 C** Same, curved to right

**8594 D** Same, curved to left

**8594 E** Same, straight, cuts horizontally

Working length 21 cm, for adolescents

![Image of 8594 AJ](image2)

**8594 AJ** KLEINSASSER Scissors, straight, sheath conically reinforced from distal to proximal end, with cleaning connector, working length 21 cm

**8594 CJ** Same, curved to right

**8594 DJ** Same, curved to left
Original KLEINSASSER Instruments for Endolaryngeal Microsurgery

Working length 23 cm

Special Features:
- Distal end thinner than proximal end to provide better viewing
- Sheath conically reinforced from distal to proximal end to increase mechanical stability

8594 AM

KLEINSASSER Miniature Scissors, straight, with cleaning connector, working length 23 cm

8594 BM

Same, angled 45°

8594 CM

Same, curved to right

8594 DM

Same, curved to left
KLEINSASSER LASER Additional Instruments
modified by SHAPSHAY/HEALY
for Laryngoscopy during Micro Spot LASER Treatment

Working length 20 cm

Special Features:
- Distal end thinner than proximal end to provide better viewing
- Sheath conically reinforced from distal to proximal end to increase mechanical stability

8681 D

Micro Forceps, straight, with 1 mm cupped jaws, with cleaning connector, working length 20 cm

Same, curved upwards

Same, curved to right

Same, curved to left

Micro Grasping Forceps, straight, serrated, with cleaning connector, working length 20 cm

Micro Grasping Forceps, curved upwards, serrated, with cleaning connector, working length 20 cm

Same, curved to right

Same, curved to left
KLEINSASSER LASER Additional Instruments
modified by SHAPSHAY/HEALY
for Laryngoscopy during Micro Spot LASER Treatment

Working length 20 cm

Special Features:
- Distal end thinner than proximal end to provide better viewing
- Sheath conically reinforced from distal to proximal end to increase mechanical stability

8683 H

SHAPSHAY-PERETTI Micro Grasping Forceps, curved upwards to right, serrated, with triangular fenestrated jaws, with cleaning connector, working length 20 cm

8683 G

Same, curved upwards to left

8684 A

Micro Scissors, straight, with cleaning connector, working length 20 cm

8684 B

Same, curved upwards

8684 C

Same, curved to right

8684 D

Same, curved to left

8686 A

Micro Grasping Forceps, straight, hollow jaws, serrated tips, opens horizontally to right, with cleaning connector, working length 20 cm

8687 A

Micro Alligator Forceps, both jaws open vertically, with suction channel to remove LASER vapors, with cleaning connector, working length 20 cm
KLEINSASSER LASER Additional Instruments
modified by RUDERT
for Laryngoscopy during CO₂ LASER Treatment

Working length 18 and 23 cm

Special Features:
- All instruments are equipped with a channel for evacuation of LASER vapors
- Special matt finish for use with CO₂-LASER

- Distal end thinner than proximal end to provide better viewing
- Sheath conically reinforced from distal to proximal end to increase mechanical stability

8591 BL Spoon Forceps, curved upwards, diameter 2 mm, with suction channel to remove LASER vapors, with cleaning connector, working length 23 cm

8591 AL Spoon Forceps, straight, diameter 2 mm, with suction channel to remove LASER vapors, with cleaning connector, working length 23 cm

8591 BL Spoon Forceps, curved upwards, diameter 2 mm, with suction channel to remove LASER vapors, with cleaning connector, working length 23 cm

8591 RL KLEINSASSER Forceps, opens horizontally to right, with 2 mm cupped jaws, with cleaning connector, working length 23 cm

8591 SL Same, opens horizontally to left

8591 TL Spoon Forceps, straight, heavy model, diameter 4 mm, with suction channel to remove LASER vapors, with cleaning connector, working length 22 cm

Special Features:
- All instruments are equipped with a channel for evacuation of LASER vapors
- Special matt finish for use with CO₂-LASER

- Distal end thinner than proximal end to provide better viewing
- Sheath conically reinforced from distal to proximal end to increase mechanical stability
Instruments for Endolaryngeal Microsurgery

Working length 23 cm

8591 P

**Spoon Forceps**, with cupped jaws, diameter 5 mm, robust model, double action jaws, sheath diameter 2.5 mm, with cleaning connector, working length 23 cm

8591 PL

**Forceps**, spoon-shaped, oval, width 4 mm, fenestrated, for biopsy, double action jaws, sheath diameter 2.5 mm, with cleaning connector, working length 23 cm

8591 U

**Spoon Forceps**, with 4 mm cupped jaws, straight, heavy model, single action jaws, with cleaning connector, working length 23 cm

8591 T

Same, curved upwards

8591 U

Same, curved to right

8591 V

Same, curved to left

8591 W
**Instruments**

for Endolaryngeal Microsurgery

**Working length 23 cm**

**8660 L**

**KLEINSASSER Alligator Grasping Forceps**, heavy model, single action jaws, with cleaning connector, working length 23 cm

**8660 H**

**KLEINSASSER Laryngeal Biopsy Forceps**, heavy model with oval jaws, size 3 x 4 mm, single action jaws, with cleaning connector, working length 23 cm

**8594 TA**

**LARYNGOFORCE® II Scissors for Large Tumors**, straight, robust model, cutting blade 10 mm, sheath diameter 3 mm, with cleaning connector, working length 23 cm
The special laryngoscopes are supplemented by a set of newly developed micro-instruments:

- **Grasping Forceps** for gentle and yet effective grasping of tissue. They are available in five sizes, four of which feature an integrated smoke evacuation tube.

All instruments are manufactured with a special, matt finish, that diffuses the LASER beams. This is particularly advantageous during photo or video documentation, due to the elimination of interfering reflections.

Prof. W. STEINER, M. D.,
Universitäts-Hals-Nasen-Ohrenklinik, Göttingen, Germany

---

**LARYNGOFORCE® II Grasping Forceps**, delicate, serrated, special matt finish, with cleaning connector, working length 22 cm

**LARYNGOFORCE® II Grasping Forceps**, with oval alligator jaws, small, special matt finish, with cleaning connector, working length 22 cm

**LARYNGOFORCE® II Grasping Forceps**, with oval alligator jaws, medium, special matt finish, with cleaning connector, working length 22 cm

**Same**, medium, with suction channel to remove LASER vapors
Original STEINER Instruments
for Transoral LASER Microsurgery

Working length 22 cm

8662 G/H

**LARYNGOFORCE® II Grasping Forceps**, with oval, fenestrated alligator jaws, large, special matt finish, with cleaning connector, working length 22 cm

8662 G

**LARYNGOFORCE® II Grasping Forceps**, with triangular, fenestrated alligator jaws, extra large, special matt finish, with cleaning connector, working length 22 cm

8662 H

**LARYNGOFORCE® II Grasping Forceps**, with oval, fenestrated alligator jaws, large, special matt finish, with cleaning connector, working length 22 cm

8662 GL

**LARYNGOFORCE® II Grasping Forceps**, with triangular, fenestrated alligator jaws, extra large, special matt finish, with cleaning connector, working length 22 cm

8662 HL

**LARYNGOFORCE® II Grasping Forceps**, with suction channel to remove LASER vapors

8662 GL

**Same**, with suction channel to remove LASER vapors

8662 HL

**Same**, with suction channel to remove LASER vapors
Special Features:

- Protectors to shield distal mucosa from unintentional LASER irradiation, e.g., protection of the subglottis during LASER resection at the free edge of the vocal cord in unintubated patient. Available in diameter 5 mm and 7 mm, each with an integrated suction tube.
- Unipolar cannula for suction and coagulation, ergonomic handle enables steady and targeted work. Also suitable for dissecting and retracting tissue, insulated, with cleaning stylet and available in diameter 2, 2.5 and 3.5 mm.
- Suction tube with retractor and ergonomic handle for retracting tissue during LASER incisions. The straight distal end may also be used as a shield e.g., for protection of the contralateral vocal cord during LASER resection.

**Protector,** to protect tissue against unintentional LASER irradiation, curved upwards, round, diameter 5 mm, special matt finish, with suction channel to remove LASER vapors, working length 23 cm

**8596 P/R**

**8596 P**

**8596 R**

**8606 D – F**

**8606 K**

**8606 D**

**8606 E**

**8606 F**

**8606 K**

**Coagulation Suction Tube,** with ergonomic handle, insulated, with connection for unipolar coagulation, with Cleaning Stylet 8606 FM, outer diameter 2 mm, working length 23 cm

**Suction Tube,** with ergonomic handle, with distal elevator 18 x 5 mm, for dissecting and retracting tissue, special matt finish, with Cleaning Stylet 8606 FM, outer diameter 3 mm, working length 23 cm

Please note:

Simultaneous use of insulated instruments and LASER is prohibited.
Original STEINER Instruments
for Transoral LASER Microsurgery

Grasping Forceps, straight, serrated, sheath insulated, with cleaning connector, working length 23 cm

Same, curved to right

Same, curved to left

LARYNGOFORCE® II Clip Forceps, jaws curved to left, with cleaning connector, working length 22 cm, for use with Clips 8665 T

Same, jaws curved to right

Clip, titanium LT 200, medium, 5 mm, sterile, package of 36 cartridges with 6 clips each, for use with Forceps 8665 L/R, 12067 NL/NR

Please note:
Simultaneous use of insulated instruments and LASER is prohibited.
Pediatric Instruments
for Endolaryngeal Microsurgery

Working length 18 cm

Special Features:
- Excellent cutting performance with optimal transfer of strength
- Due to specially ground surface scissor blades stay sharper much longer
- Distal end thinner than proximal end to provide better viewing
- Sheath conically reinforced from distal to proximal end to increase mechanical stability

8591 AK
KLEINSASSER Forceps, straight, with cupped jaws, 2 mm, with cleaning connector, working length 18 cm

8591 BK
KLEINSASSER Forceps, upturned, with cupped jaws, 2 mm, with cleaning connector, working length 18 cm

8591 CK
KLEINSASSER Forceps, curved to right, with cupped jaws, 2 mm, with cleaning connector, working length 18 cm

8591 DK
Same, curved to left
Pediatric Instruments
for Endolaryngeal Microsurgery

8593 AK
KLEINSASSER Grasping Forceps, straight, serrated, with cleaning connector, working length 18 cm

8593 GK
Micro Grasping Forceps, curved upwards to right, serrated, with triangular fenestrated jaws, with cleaning connector, working length 18 cm

8593 HK
Same, curved upwards to left

8594 AK
KLEINSASSER Scissors, straight, with cleaning connector, working length 18 cm

8594 CK
Same, curved to right

8594 DK
Same, curved to left
**Spoon Forceps**, jaws open horizontally, distal end malleable, diameter 4 mm, with cleaning connector, working length 18 cm

**Grasping Forceps**, for arytenoid cartilage, serrated, width of jaws 5 mm, with cleaning connector, working length 20 cm

**Injection Cannula**, short tip, for single use, Luer-Lock, tip outer diameter 1 mm, inner diameter 0.7 mm, working length 18 cm, package of 3

**KLEINSASSER Suction Tube**, ball end, outer diameter 2 mm, working length 18 cm

**Same**, outer diameter 3 mm
When performing surgical interventions in direct laryngoscopy, any necessary endolaryngeal suture is usually complex because the confined space leaves little room for needle guidance. Particularly in the craniocaudal direction, as is the case with suture at the margins of the vocal cords, it can be difficult to place the needle correctly with a straight needle holder because it only allows parallel gripping by the grasping jaws in the direction of the sheath. It twists slightly and does not remain under adequate control.

The needle holder bent upward grips the needle in an optimal position and permits punctures in the direction of the sheath without any problems. It is recommended that the tissue to be sewn be tensioned with grasping forceps. For punctures to return the thread outward (caudocranial) both straight and angled needle holders can be used, depending on specific conditions. A knot pusher for immobilizing the knot is indispensable in all cases.

The new needle holder was initially developed for glottal surgery to shorten the glottis, serving to raise the pitch of the voice in transsexual patients. But also in the case of arytenoidectomy, synechia resections, and traumatic lesions of varying genesis (also during endolaryngeal operations) there is frequently a need for suture in the direction of puncture described.

In all the cases the angled needle holder facilitates puncture guidance to optimally adapt the margins of the mucous membrane in the required plane.

J. WENDLER,  
Universitätsklinikum Charité,  
Abteilung für Phoniatrie, Berlin, Germany

WENDLER Needle Holder, delicate, curved upwards, for glottal surgery, arytenoidectomy and other endolaryngeal interventions, sheath conically reinforced from distal to proximal end, with ratchet, with serrated round jaws, diameter 1.6 mm, with cleaning connector, working length 23 cm
FEHLAND Needle Holder
for Endolaryngeal Microsurgery

For interventions which require guidance of the needle parallel to the sheath during endolaryngeal microsurgery, locking and guidance of the needle without twisting and tilting is very difficult or impossible with conventional needle holders. Frequent repositioning of the needle with conventional needle holders is very time consuming, technically demanding and can unnecessarily traumatize tissue. A new needle holder was developed by Dr. FEHLAND in cooperation with KARL STORZ for the following applications:

- All suturing procedures particularly when the needle needs to be guided parallel to the needle holder sheath.
- For the creation of endolaryngeal swing flaps, arytenoidectomies, etc.
- For surgical elevation of the middle vocal register with displacement of the frontal vocal cord commissure (glottal graft).
- For vascular purse-string ligature in narrow lumen and hard-to-reach tissue areas.

Special Features:
- Available in 2 designs with 90° lateral jaw angle to right or left, providing a uniquely wide useable angle of over 180°
- Specially cross-corrugated jaw surfaces and a locking handle with a ratchet mechanism ensure stable grasping and needle handling without twisting or turning
- Suitable for both straight and curved needles of varying lengths and curvatures, regardless of grasping angle
- Slim and yet very stable sheath, matt finish for low reflection
- Improved view of the operation field with the needle guide parallel to the sheath, e.g. subglottal-glottal and vice versa
- Easy and safe use with less maneuvering and minimized tissue trauma
- Small size with delicate jaws recommended for phonosurgery, working length 20 cm

P. FEHLAND, M. D.,
Universitätsklinikum Benjamin Franklin,
Abteilung für Phoniatrie, Berlin, Germany

8659 A/B
8659 A FEHLAND Needle Holder, for endolaryngeal microsurgery, with ratchet, sheath outer diameter 4 mm, jaws size 3 x 5.8 mm, angled 90° to the right, with cleaning connector, working length 23 cm
8659 B Same, angled 90° to the left
8659 C FEHLAND Needle Holder, small model, for phonosurgery and endolaryngeal microsurgery, with ratchet, sheath diameter 3 mm, jaws size 2 x 4 mm, angled 90° to the right, with cleaning connector, working length 20 cm
8659 D Same, angled 90° to the left

The first stitch is completed; preparation of the second stitch
The second stitch is also completed
Preparation of the third stitch
KLEINSASSER Needle Holder

for Endolaryngeal Microsurgery

KLEINSASSER Needle Holder, delicate, straight, serrated jaws, size 1.8 x 3.5 mm, sheath conically reinforced from distal to proximal end, with ratchet, with cleaning connector, working length 23 cm.
LINDHOLM Distending Forceps

In many instances, retraction of the false vocal cords, the true vocal cords or other soft tissue is temporarily needed during an endoscopic procedure. For LASER surgery of limited vocal cord carcinoma it is, for instance, very convenient to be able to visualize more of the upper surface of the vocal cords by retraction of the false vocal cords. Similar retraction of the true vocal cords gives better access to subglottic pathology.

For endoscopic surgery the key problem is often the difficulty of obtaining access to the target. These retractors are a valuable addition to the wide range of new endoscopic instruments which enables further versatility of endoscopic procedures.

C.-E. LINDHOLM, M. D.,
Uppsala, Sweden

LINDHOLM Forceps, for atraumatic retraction of true vocal cords and false vocal cords, distal end with blunt curved blades, self-retaining, with ratchet and cleaning connector, working length 24 cm
Special Features
- Universal handle is fully adjustable, providing various working lengths
- Slender construction allows direct view without glare
- Instruments can be rotated 360° in the universal handle

8656 A
- Sickle Knife, curved, delicate, 3 to 1 mm tapered shaft, total length 23 cm

8656 B
- Same, straight cutting

8656 C
- Round Knife, vertical cutting, delicate, 3 to 1 mm tapered shaft, total length 23 cm

8656 D
- Lancet Knife, straight, delicate, 3 to 1 mm tapered shaft, total length 23 cm

8656 E
- Needle, straight, sharp, delicate, 3 to 1 mm tapered shaft, total length 23 cm

8656 F
- Hook 90°, 1 mm, sharp, delicate, 3 to 1 mm tapered shaft, total length 23 cm

8656 G
- Same, 2 mm

8656 J
- Dissector, straight, ball end, delicate, 3 to 0.6 mm tapered shaft, diameter 1.3 mm, total length 23 cm
8656 L  **Elevator**, slightly curved, blunt, delicate, 3 to 1 mm tapered shaft, total length 23 cm

8656 LS  **Same**, sharp tip

8656 N  **Same**, angled 15°

8656 R  **Curette**, oval spoon, straight, delicate, 3 to 1 mm tapered shaft, total length 23 cm

8656 S  **Same**, angled 35°

8656 VL  **Suction Elevator**, angular, with grip plate and cut-off hole, Luer, distal end curved to left, delicate, tapered sheath, working length 21 cm, total length 23 cm

8656 VR  **Same**, distal end curved to right

8657 H  **Universal Handle**, forceps shape, with 2 handle rings, length 9 cm, for use with 3 mm instruments for phonosurgery and endolaryngeal microsurgery 8595 A – 8596 T, 8655 A – K and 8656 A – S
KLEINSASSER Instruments, working length 23 cm, for use with Handle 8597

- 8595 A  
  Knife, oval, straight

- 8595 B  
  Same, angled 45°

- 8595 C  
  Same, sickle-shaped, curved, pointed

- 8595 D  
  Same, straight cut, pointed

- 8595 E  
  Same, golf club-shaped, curved, round

- 8595 F  
  Same, round, cuts vertically

- 8596 A  
  Hook, blunt, with probe end

- 8596 B  
  Hook, sharp

- 8596 C  
  Hook, blunt, angled 90°, with probe end, length 5 mm

- 8596 E  
  Needle, curved to right, working length 23 cm

- 8596 F  
  Same, curved to left

- 8596 H  
  Suction Elevator, working length 23 cm

- 8596 T  
  Knot Tier

- 8597  
  KLEINSASSER Handle, for use with 8595 A – 8596 T, 8655 A – K, 8693 A/B

- 8596 W  
  Cotton Applicator, straight, working length 25 cm

- 8596 WJ  
  Cotton Applicator, for endolaryngeal microsurgery, straight, working length 21 cm

- 8596 WK  
  Same, working length 18 cm
Original KLEINSASSER Instruments
for Endolaryngeal Microsurgery

Working length 23 cm

8598 A  KLEINSASSER Injection Needle, Luer-Lock, curved, working length 23 cm
8598 B  Same, straight
8602  KLEINSASSER Suction Tube, outer diameter 2 mm, working length 23 cm
8603  Same, outer diameter 2.5 mm
8604  Same, outer diameter 3 mm
8604 E  KLEINSASSER Suction Tube, outer diameter 4 mm, working length 23 cm

For use with KANTOR-BERCI Video-Laryngoscopes
8602 KV  KLEINSASSER Suction Tube, ball end, curved upwards, outer diameter 2 mm, working length 23 cm
8603 KV  Same, outer diameter 3 mm
Instruments for Endolaryngeal Microsurgery

Working length 23 cm

8598 D

PERETTI Injection Needle, distal end 45° curved upwards, Luer-Lock, working length 23 cm

Working length 26 cm

8605 N/P

KLEINSASSER Insulated Cannula, for suction and coagulation, outer diameter 3 mm, working length 26 cm, for use with unipolar High Frequency Cords 26005 M or 26002 M/26004 M/26006 M

8605 P

Same, outer diameter 5 mm

840036

Bipolar Coagulation Electrode, straight, with suction channel, for laryngoscopy, working length 26 cm, for use with Bipolar High Frequency Cords 26176 LE or 26176 L – 26176 LV

8575 QS

Teeth Protector, silicone, autoclavable, can also be used as inlay in metal teeth protector

8575 RA

Teeth Protector, metal, large

8575 RB

Same, medium

8575 RC

Same, small

8575 RD

Same, extra small
**Additional Instruments**

for Endolaryngeal Microsurgery

---

**8596 D**

**Laryngeal Probe**, GREAT ORMOND STREET HOSPITAL model, straight, sheath angled, round handle, working length 23 cm

---

**8655 A**

**Elevator**, slightly curved, working length 23 cm, for use with Handle 8597

---

**8655 C**

**Same**, 90° curved

---

**8655 K**

**Knife**, lancet-shaped, straight, working length 23 cm, for use with Handle 8597

---

**8597**

**KLEINSASSER Handle**, for use with 8595 A – 8596 T, 8655 A – K, 8693 A/B
Working length 20 cm

Special Features:
- Extra fine sheath gradually reinforced from distal to proximal end

8691 A  Suction Tube, handle with cut-off hole, tip with central opening, outer diameter 1 mm, working length 20 cm
8691 B  Same, outer diameter 1.5 mm
8691 C  Same, outer diameter 2 mm

8692 A  Suction Tube, handle with cut-off hole, tip closed, with 2 lateral openings, outer diameter 1 mm, working length 20 cm
8692 B  Same, outer diameter 1.5 mm
8692 C  Same, outer diameter 2 mm

8693 A  Probe, straight, diameter 1 mm, working length 20 cm
8693 B  Same, angled 45°

8597  KLEINSASSER Handle, for use with 8595 A – 8596 T, 8655 A – K, 8693 A/B
PIAFI = Primary intracordal autologous fat injection following endoscopic chordectomy for glottal laryngeal carcinoma.

- Chordectomy is the standard treatment for vocal cord carcinoma.
- For voice restoration, it is necessary to reconstruct the vocal cords either with synthetic or autologous material. In the case of the PIAFI technique, fat is injected with the PERETTI-BOLZONI instrument. The syringe for fat harvesting lies in the instrument as in a groove.
- Injection is performed by means of a cogwheel mechanism which releases 0.5 ml fat with each cogwheel click.

Operative procedure:
- In the case of the Peretti technique, the surgeon removes subcutaneous abdominal fat.
- Autologous fat is used for the vocal cords after a few minutes.

Benefits of autologous fat injection:
- No risk of rejection
- No allergic reactions
- Hardly any costs
- Only one operation

771410 PERETTI High Pressure Syringe, for fat injection including:
- High Pressure Handle, for use with Syringe Holder 771412
- Syringe Holder, for Plastic Syringe 771415, for use with High Pressure Handle 27200
- Pusher, for use with High Pressure Handle 27200 with Plastic Syringe 771415
- Plastic Syringe, spring-action, self-retaining, 10 ml, sterile, for single use, package of 25
- Injection Cannula, angular, Luer-Lock, tip outer diameter 1.3 mm, inner diameter 0.8 mm, working length 20 cm, package of 3

Components/Spare Parts see chapter 16
### High Pressure Syringe
for Viscous Fluid Injection, for Larynx

**Please note:**
Collages are injected cool. If the material becomes warm it becomes rigid and can not be made liquid again by recooling.

**Components/Spare Parts** see chapter 16

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>771400</td>
<td>High Pressure Syringe, for viscous fluid injection</td>
<td>including:</td>
</tr>
<tr>
<td></td>
<td>High Pressure Handle, for use with Syringe Holder 27201 Q</td>
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<tr>
<td></td>
<td>Adaptor, for injection of viscous fluid, for filling plastic syringe, package of 3</td>
<td></td>
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<tr>
<td></td>
<td>Plastic Syringe, 1 ml, for single use, package of 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Syringe Holder, for plastic syringe, package of 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injection Cannula, Luer-Lock, outer diameter of syringe 1.3 mm, inner diameter 0.8 mm, working length 23 cm, package of 3</td>
<td></td>
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<tr>
<td>27200 SK</td>
<td>Injection Cannula, short tip, for single use, Luer-Lock, tip outer diameter 1 mm, inner diameter 0.7 mm, working length 18 cm, package of 3</td>
<td></td>
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<tr>
<td>27200 SL</td>
<td>Injection Cannula, for single use, Luer-Lock, tip outer diameter 1.3 mm, inner diameter 1.1 mm, working length 18 cm, package of 3</td>
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<tr>
<td>27200 SM</td>
<td>Same, working length 15 cm, package of 3</td>
<td></td>
</tr>
<tr>
<td>27200 T</td>
<td>JOUSSEN Larynx Cannula, curved, for single use, Luer-Lock, outer diameter of tip 0.6 mm, for collagen application, for use with High Pressure Syringe 771400 or Syringe 810002, package of 3</td>
<td></td>
</tr>
</tbody>
</table>
Bipolar Forceps

**Special Features:**
- Bipolar coagulation
- Insulated except for small coagulation area on the instrument tip
- Single action jaws
- Distance between cautery poles may be varied, enabling punctual and extensive coagulation
- With and without suction

- Special design of the movable jaw provides direct endoscopic/microscopic vision at the point of coagulation
- Slim design enables good availability of previously hard to reach regions for cauterization

![Diagram of Bipolar Forceps]

- Rigid lower jaw
- Movable, slender jaw provides direct endoscopic/microscopic vision at the point of coagulation
- Suction tube
- Cleaning connector
- Lateral ventilation holes for individual regulation of suction power
- HF connectors
- Unobtrusive suction adaptor as it is positioned between the ergonomic handles
Bipolar Forceps

8615 A

**Bipolar Forceps**, jaws 45° upturned, for bipolar coagulation in larynx, working length 23 cm, for use with Bipolar High Frequency Cords 847002 E or 847002 A/M/V/U

8615 AS

**Bipolar Suction Forceps**, jaws 45° upturned, with suction channel, for bipolar coagulation in larynx, working length 23 cm, for use with Bipolar High Frequency Cords 847002 E or 847002 A/M/V/U

Bipolar High Frequency Cords see chapter 8, page 432
Accessories
for High Frequency Surgical Units

**Coagulation Ball Electrode**
- 8888 A, straight, diameter 1 mm
- 8888 B, straight, diameter 2 mm
- 8888 C, Cutting Electrode, straight, diameter 0.45 mm

**Additional Accessories:**
Suction tubes are protected against contact with high frequency electrodes by insulation
- 8603 A, Insulated Suction Tube, outer diameter 2.5 mm, working length 23 cm
- 8604 A, Same, outer diameter 3 mm

Electrode Handle 265200 43 and 265200 46 see chapter 8, page 428
Unipolar and bipolar high frequency cords see chapter 8, page 430
Full Lumen Operating Tracheoscope

Special Features:
- Absence of distal light carrier does not restrict inner diameter
- Prismatic light deflector which is inserted proximally ensures best illumination and enables full use of lumen through operation instruments
- Excellent view of operation area
- Round inner diameter enables bronchial bougies from 30 to 37 Fr. to be introduced
- Suitable for the application of bronchial stents

10318 G  Full Lumen Operating Tracheoscope, size 14 mm, length 33 cm
10101 FA  Prismatic Light Deflector, autoclavable, with connection to fiber optic light cable
10314 BM  Glass Window Plug
10314 BN  Rubber Telescope Guide
10314 P  FLUVOG Adaptor, with observation window, cap with rubber seal and with window, adjustable
10318 K  Injection Cannula, for positive pressure assisted ventilation system, LUER-Lock, outer diameter 3.5 mm
10318 S  Instrument Guide, for suction catheter
10924 D  Adaptor, for respirator
10371 HL  Forceps, alligator, for hard foreign bodies, double action jaws, sheath diameter 2 mm, working length 45 cm
10371 KL  Forceps, for peanuts and soft foreign bodies, double action jaws, sheath diameter 2 mm, working length 45 cm

Polyflex self-expanding silicon stents with polyester netting for maintaining air passage patency in cases of central airway stenosis and for bridging tracheoesophageal fistulas can be obtained from:
Willy Rüsch AG, P. O. Box 1180, D-72385 Kernen, Germany

For more forceps please see chapter 11-12, ESOPHAGOSCOPY – BRONCHOSCOPY
Some tracheal stenoses can be treated endoscopically. An intubation laryngoscope, a dilation tracheoscope, telescope and suction tubes are required for this procedure.

The tracheoscope is available with a diameter of 8 mm or 12 mm. The size of the instrument is determined by the size of the larynx and the healthy portion of the trachea. There are numerous tiny openings in the distal end of the instrument which enable air to come through the middle of the stenosis. The proximal end of the instrument is designed in such a way that customary ventilation tubes and a telescope (30 cm) can be connected.

The intervention is carried out under general anesthesia. Following the administration of the anesthesia and with ventilation taking place via the anesthesia mask, the dilation tracheoscope is introduced under endoscopic control. The stenosis is visible through the vocal cords. The design of the tip which can be advanced forward through the stenosis ensures that the ventilation is maintained during this process. The conical construction of the tip enables the instrument to be advanced carefully up to the wider section of the tracheoscope, whereby the tracheoscope remains in place 5-10 minutes. The intervention is then completed.

Fig. 1 corresponds to the view through the telescope and shows the proximal part of the tracheal stenosis. The vocal cords are at the front of the picture. In Fig. 2 the stenosis can be seen in detail. Fig. 3 shows the stenosis following the dilation; Fig. 4 the healthy, distal trachea.

The constellation of instruments is suitable for treating most medium-sized stenoses (Myer-Corton 2nd degree). The intervention can be repeated after 6-24 months without difficulty.

F. G. DIKKERS, M.D., Groningen, The Netherlands
Dilation Tracheoscopes

GRONINGEN Model

Optical Dilation Tracheoscope, GRONINGEN model, rigid, with distance markings, for dilation for stenosis and tumors in the upper trachea, distal tapered with lateral ventilation holes, proximal with attachment for oxygen, outer diameter 12 mm, length 30 cm, for use with HOPKINS® II Telescopes 10005 AA and BA, Prismatic Light Deflector 10101 FA, Adaptor for Respirator 10316 LR and adjustable FLUVOG attachment, with window and Rubber Seal 10314 P

Same, outer diameter 8 mm

Optical Intubation Tracheoscope, GRONINGEN model including:

Sheath, for insertion of endotracheal tubes under optical control, proximal with Luer-Lock and distal with lateral holes for anesthetic gases, outer diameter 5.5 mm, length 30 cm, for use with HOPKINS® II Telescopes 10005 AA and BA

Distance Ring, with fixation screw for length adjustment of the endotracheal tubes

HOPKINS® II Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated, color code: green

HOPKINS® II Forward-Oblique Telescope 30°, enlarged view, diameter 4 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated, color code: red

FLUVOG Adaptor, with observation window, cap with rubber seal and with window, adjustable

Adaptor, for respirator

Prismatic Light Deflector, autoclavable, with connection to fiber optic light cable

Components/Spare Parts see chapter 16
### Catalogs, Catalog excerpts

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Neuro-Endoscopy

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- Standard Instruments

- Otology

- Rhinology and Rhinoplasty

- Rhinoscopy, Rhinoscopy, Postrhinoscopy

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Microscopy

Pediatric Surgery

KARL STORZ OR1 NEO®

Telepresence

Hygiene
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Endoscopes and accessories contained in this catalog have been designed in part with the cooperation of physicians and are manufactured by the KARL STORZ group. If subcontractors are hired to manufacture individual components, these are made according to proprietary KARL STORZ plans or drawings. Furthermore, these products are subject to strict quality and control guidelines of the KARL STORZ group. Both contractual and general legal provisions prohibit subcontractors from supplying components manufactured by order of KARL STORZ to competitors.

Any assumptions that competitors’ endoscopes and accessories are acquired from the same suppliers as the KARL STORZ products are not correct. Moreover, endoscopes and instruments provided by competitors are not manufactured according to the design specifications of KARL STORZ. This means it cannot be assumed that these endoscopes and accessories – even if they look identical on the outside – are constructed in the same manner and have been tested according to the same criteria.

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KARL STORZ participates both in national and international bodies involved in the development of standards for endoscopes and endoscopic accessories. Standardized design and development therefore have long been implemented consistently by KARL STORZ. The user can rest assured that all products by the KARL STORZ group have been designed and constructed not only in compliance with strict internal quality guidelines, but also with international standards. All data relevant for safe use, such as viewing direction, sizes and diameters, or notes regarding sterilization of telescopes, are applied to the instruments, have been formulated according to international standards, and therefore provide reliable information.

As we constantly seek to improve and modify our products, we reserve the right to make changes in design that vary from catalog descriptions.

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