



*Hungry for something new?*

R. WOLF  
**Bronchoscopy for Children**



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# The indication



The most frequent indication requiring operations with rigid bronchoscopes in pediatrics is the aspiration of foreign bodies.

The aspiration of foreign tracheobronchial bodies is a problem which is found primarily in childhood. In 90 per cent of the cases children below the age of 15 are concerned, and 80 per cent of the children are below 4 years of age. Boys are affected twice as frequently as girls.

There are several reasons for this accumulation within the first years of life. Children do not have a sufficient number of teeth to be able to chew food properly. A lack of co-ordination of the swallowing mechanism leads to frequent choking, thus causing the danger of aspiration. Moreover, there is a desire and continuous curiosity to explore everything that is in the vicinity. A lot of these items are put in the mouth whereby the child is not yet able to differentiate between potentially hazardous things and food. Another danger is the proximity to the ground where a lot of small things can be found.

The primary symptoms may differ considerably. On the one hand, a prolonged bout of coughing may be suspicious, and on the other hand cyanosis (bluish discoloration of the skin due to a lack of oxygen), apnoea (respiratory standstill) and even cardiac arrest may occur. In the US, about 2,000 deaths occur per year as a consequence of aspiration.

The lethality caused by the aspiration of a foreign body is stated at about 1 per cent in general. Primarily children are concerned, in which a critical displacement of the respiratory tract occurs immediately after the aspiration which renders an adequate treatment impossible or the first-aid is not sufficiently trained for the event. Most frequently sausages, hard sweets, nuts and grapes are the causes of fatal aspiration.

Rigid bronchoscopes are used to remove foreign bodies as well as to examine the deeper passages of the respiratory tract.

The opening laterally arranged at the distal end ensures that bronchi on the opposite side of the inspiratory gas flow are reached during the examination of the bronchial system. Thus, the bronchoscope need not be pulled back proximally into the trachea in phases of ventilation, which minimises the time needed as well as the risk of traumatization caused by the repeated change of position of the bronchoscope. When extracting foreign bodies from the peripheral bronchial sections, for example, it is important that the bronchoscope is perfectly located in front of the foreign body and need not be repositioned for each working step (as in case of the display with the telescope, suction, insertion of the forceps, et cetera), thus risking a dislocation of the foreign body.



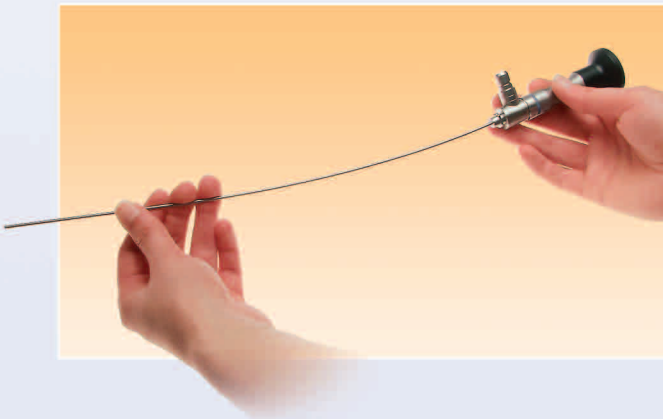
# The instruments



The pre-requisite for bronchoscopy of puerile tracheobronchial foreign bodies is a set of instruments with bronchoscope tubes of various lengths and diameters, the appertaining bronchoscope telescopes as well as a sufficiently large assortment of forceps, suction cannulae and special instruments.

It is only when this variety of instruments is available that the ideal extraction technique for each foreign body can be used, rendering the foundation for a low-complication treatment.

For this reason, our instruments have been designed specifically for use on children.



The thin "semi-flexible" mini fibre endoscope with outstanding resolution has proven itself in bronchoscopy for children and offers especially in emergency situations a helpful addition to the conventional set of instruments.

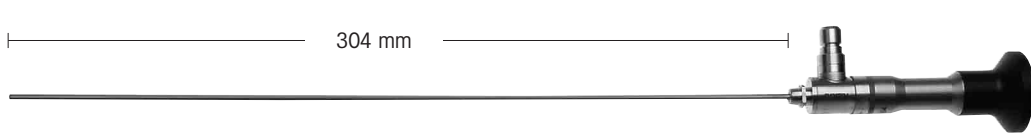
This endoscope can be used to visualise and pass through passages of critical stenoses even (non touching in most cases even). The flexible construction permits easy work at small filigree diameters and reduces the risk of rupture.

On account of its insensitivity to bending load, the endoscope is highly suitable for the optically controlled extraction of foreign bodies. For this purpose, the bronchoscope forceps are introduced first, and then the endoscope is passed into the bronchoscope tube; the endoscope and the bronchoscope forceps can be manipulated independently of each other. This technique is recommended for difficult extractions of foreign bodies in particular.

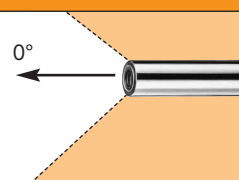
*Prof. Dr. med. Th. Nicolai*

# 2 mm Mini Fibre Endoscope

semi-flexible



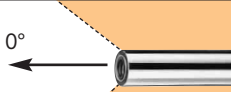
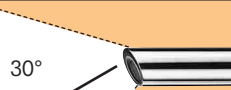
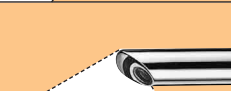
**AUTOGLAVE**  
**134° C / 273° F**

Angle of view		Outside diameter	Type
 <p>0°</p>	Mini Fibre endoscope, semi-flexible	2.05 mm	82512.431

## 2.7 mm bronchoscopy telescopes

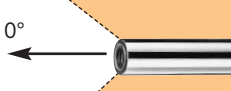

185 mm

**AUTOGLAVE**  
**134° C / 273° F**

Angle of view		Outside diameter	Type
 0°	Bronchoscopy telescope	2.7 mm	8672.421
 30°	Bronchoscopy telescope		8672.422
 70°	Bronchoscopy telescope		8672.425

310 mm

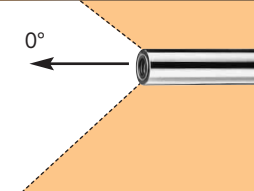
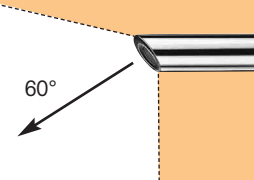
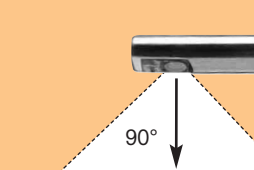
**AUTOGLAVE**  
**134° C / 273° F**

Angle of view		Outside diameter	Type
 0°	Bronchoscopy telescope	2.7 mm	8462.30
 90°	Bronchoscopy telescope		8462.37

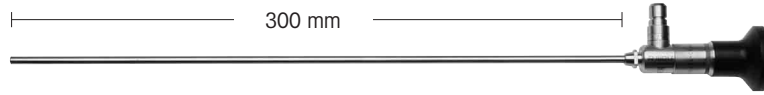
# 3.4 mm bronchoscopy telescopes



**AUTOGLAVE**  
**134° C / 273° F**

Angle of view		Outside diameter	Type
 <p>0°</p>	Bronchoscopy telescope	3.4 mm	8464.30
 <p>60°</p>	Bronchoscopy telescope		8464.34
 <p>90°</p>	Bronchoscopy telescope		8464.37

# 4.0 mm bronchoscopy telescopes

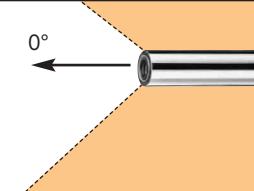
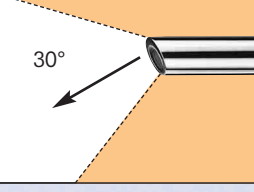


**AUTOGLAVE**  
**134° C / 273° F**

Angle of view		Outside diameter	Type
 0°	Bronchoscopy telescope	4.0 mm	8650.414
 30°	Bronchoscopy telescope		8654.422
 70°	Bronchoscopy telescope		8650.415

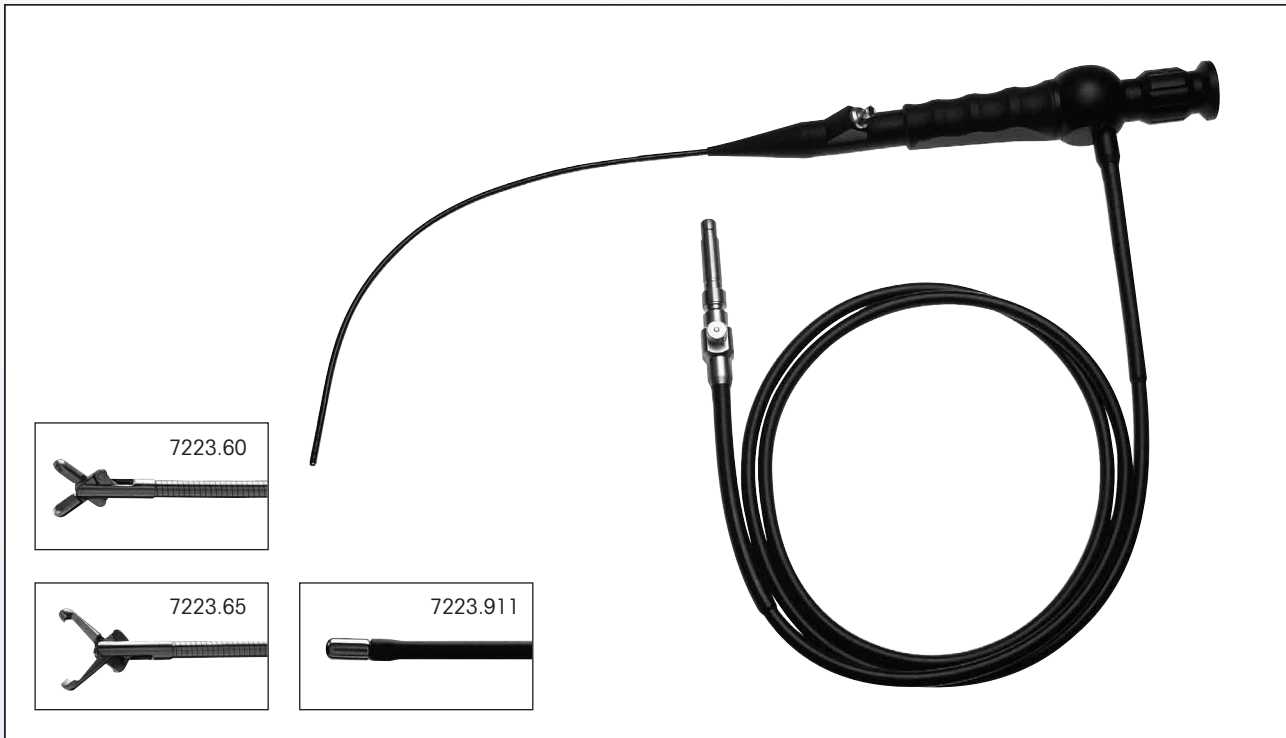


**AUTOGLAVE**  
**134° C / 273° F**

Angle of view		Outside diameter	Type
 0°	Bronchoscopy telescope	4.0 mm	82514.431
 30°	Bronchoscopy telescope		82514.433



# Flexible naso-pharyngo laryngoscopes



	Angle of view	Outside diameter	WL	Instrument channel diameter	Type
<b>Flexible naso-pharyngo laryngoscope,</b> Including: Leak tester (163.903) and Gas sterilisation valve (163.904)	0°	3.5 mm	300 mm	1.1 mm	7223.001
<b>Flexible naso-pharyngo laryngoscope</b> Including: Leak tester (163.903) and Gas sterilisation valve (163.904)				-	7224.001

Technical data:	
Working length	300 mm
Angle of view	0°
Diameter at the distal end	3.5 mm
Instrument channel	1.1 mm (only 7223.001)
Angulation	up 130°
Angle of vision	95°
Depth of focus	3 - 50 mm
Light guide cable	permanently connected
Eye-piece	ISO Standard

- also:
- Flexible biopsy forceps, 1mm diameter** .....7223.60
  - Flexible grasping forceps, 1mm diameter** .....7223.65
  - HF button electrode, 1 mm diameter** .....7223.911
  - Biopsy valve** .....7265.851

# The new R. WOLF bronchoscope tubes for children

by Nicolai - Mantel



As the range of patients covers neonates with a low birth weight to adolescents, the existing bronchoscopy set for children was revised or extended and adapted to the requirements of the puerile patients.

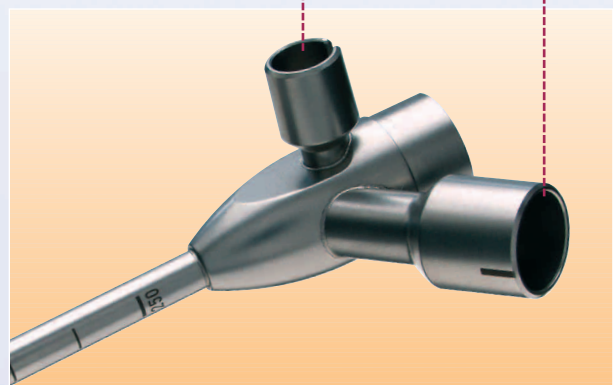
The technical modifications ensure a maximum of diagnostic efficiency at a minimum of complications (such as injury of the mucous membrane, et cetera).

- ❑ Due to the use of bronchoscopy telescopes as image and light guides in the rigid bronchoscopy, the traditional light connection has become superfluous. This fact makes the handling of the new bronchoscope tubes (by Nicolai-Mandel) considerably easier and more pleasant.
- ❑ The new set is distinguished by its fine diameter and length graduations which facilitate work in the infant stages in particular.
- ❑ The tubes have been made entirely from medically approved stainless steel.
- ❑ The respiration connector permits the connection of conventional respiration systems (by means of the outside cone) as well as the connection of the respiration jet 8238.502 (by means of the inside shape).

## ISO standard taper

for connecting conventional respiration systems

## Lateral respiration connection

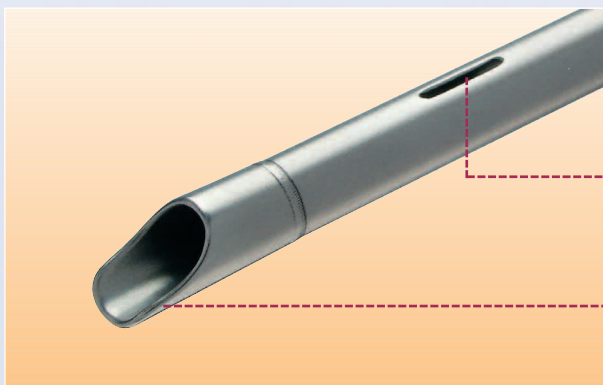


## Improved ventilation

by geometrically optimised ventilation slots

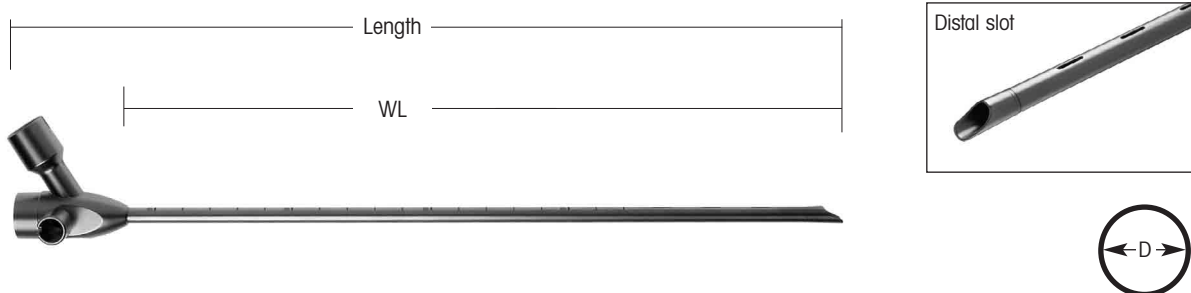
## New atraumatic shape

of the distal sheath end



# Bronchoscope tubes for Children

by Nicolai - Mantel  
without proximal illumination

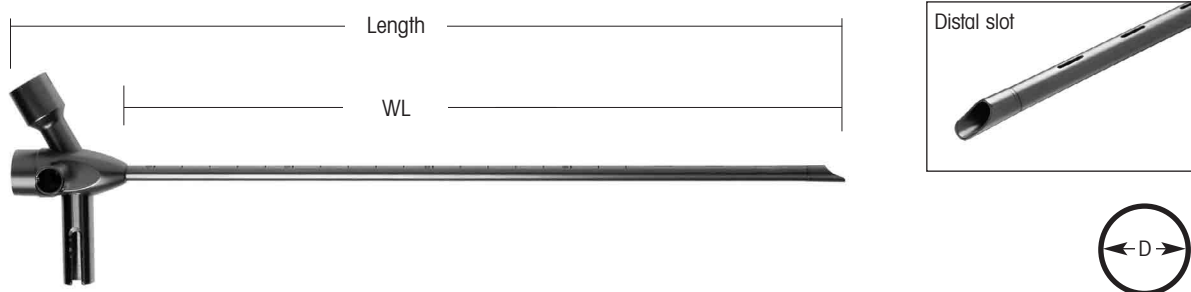


D		WL	Length	Type
3.2 mm	<b>Bronchoscope tube</b> for premature births	122 mm	160 mm	82510.3016
		242 mm	280 mm	82510.3028
3.7 mm	<b>Bronchoscope tube</b> for neonates	162 mm	200 mm	82510.3520
3.7 mm	<b>Bronchoscope tube</b> for neonates and babies	242 mm	280 mm	82510.3528
4.4 mm	<b>Bronchoscope tube</b> for babies	210 mm	250 mm	82510.4025
		260 mm	300 mm	82510.4030
4.7 mm	<b>Bronchoscope tube</b> for babies / infants	210 mm	250 mm	82510.4525
		Without distal slot	210 mm	250 mm
4.7 mm	<b>Bronchoscope tube</b> for infants	260 mm	300 mm	82510.4530
5.2 mm	<b>Bronchoscope tube</b> for infants	210 mm	250 mm	82510.5025
		260 mm	300 mm	82510.5030
5.7 mm	<b>Bronchoscope tube</b> for children below 10 years	260 mm	300 mm	82510.5530
6.2 mm	<b>Bronchoscope tube</b> for children around 10 years	310 mm	350 mm	82510.6035
6.7 mm	<b>Bronchoscope tube</b> for children above 10 years	310 mm	350 mm	82510.6535

The scope of supply includes 1 sealing cap (8205.13) per tube for the lateral respiration connection.

# Bronchoscope tubes for Children

"München" model  
with proximal illumination

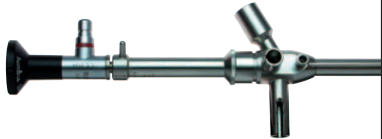


D		WL	Length	Type
2.8 mm	<b>Bronchoscope tube</b> for premature births	122 mm	160 mm	82514.2716
3.7 mm	<b>Bronchoscope tube</b> for neonates	162 mm	200 mm	82514.3520
3.7 mm	<b>Bronchoscope tube</b> for neonates and babies	242 mm	280 mm	82514.3528
4.4 mm	<b>Bronchoscope tube</b> for babies	210 mm	250 mm	82514.4025
		260 mm	300 mm	82514.4030
4.7 mm	<b>Bronchoscope tube</b> for babies / infants	210 mm	250 mm	82514.4525
	Without distal slot	210 mm	250 mm	82514.4524
4.7 mm	<b>Bronchoscope tube</b> for infants	260 mm	300 mm	82514.4530
5.2 mm	<b>Bronchoscope tube</b> for infants	260 mm	300 mm	82514.5030
6.2 mm	<b>Bronchoscope tube</b> for children below 10 years	260 mm	300 mm	82514.6030
6.7 mm	<b>Bronchoscope tube</b> for children above 10 years	310 mm	350 mm	82514.6535

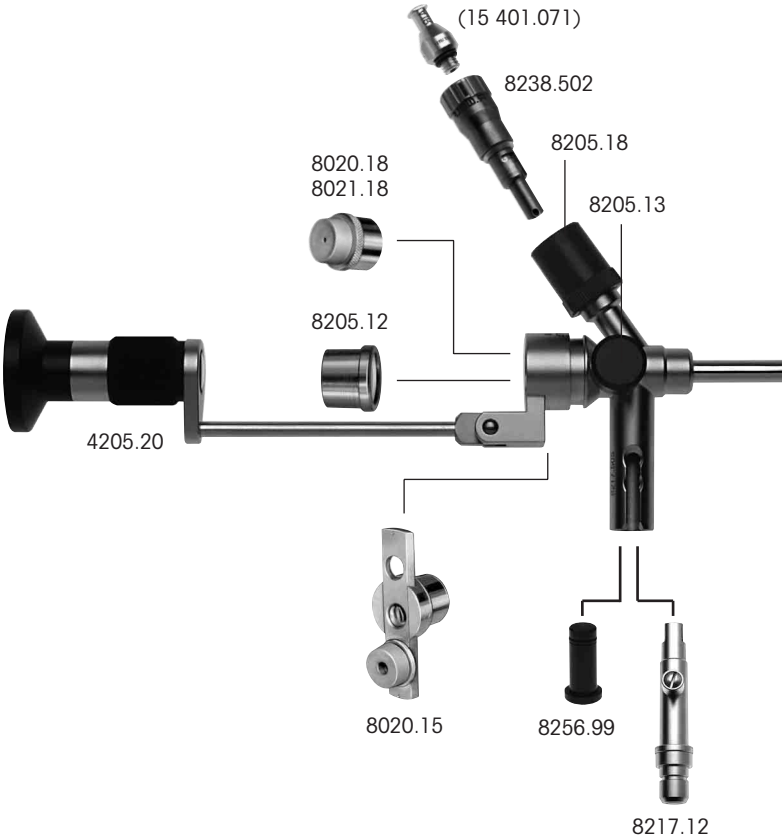
The scope of supply includes 1 sealing cap (8205.13) per tube for the lateral respiration connection and 1 sealing plug (8256.99).

# Accessories

**Telescope adapter**



Suitable tubes	Suitable telescope	Type
82510.4030 82514.4030 82510.4530 82514.4530 82510.5030 82514.5030 82510.5530 82514.6030	8464.30	<b>8215.711</b>
82510.5530 82514.6030	8465.30	<b>8215.713</b>
82510.6035 82510.6535 82514.6535	8465.30	<b>8215.716</b>



**Nozzle for JET ventilation**  
including Luer connector (15401.071) .....8238.502

**Sealing cap with telescope sealing cap**  
for telescopes  
5.5 mm diameter .....8020.18  
4 mm, 3.4 mm and 2.7 mm diameter .....8021.18

**Standard connector with 15 mm access** .....8205.18

**Adjustable magnifier** .....4205.20  
also: Sealing cap with observation window  
(with outside taper, blue) .....8205.12

**Universal sealing cap by Lehnardt**  
including 2 telescope sealing caps  
(89.01, 89.03) .....8020.15

**Spare telescope sealing caps (10 pcs.)**  
for telescopes  
5.5 mm diameter .....89.03  
4 mm diameter .....89.02  
3.4 mm and 2.7 mm diameter .....89.01

**Proximal illumination insert** .....8217.12\*

**Sealing plug** .....8256.99\*

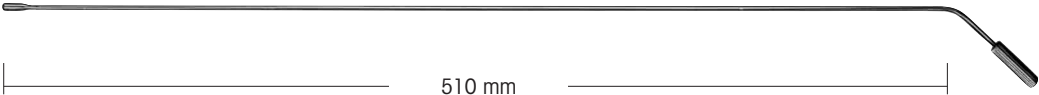
**Sealing cap (blue)** .....8205.13

**Cold-light connecting unit**  
ACMI .....8087.00\*  
Storz .....8088.00\*


\* only in connection with the types 82514.xxx




# Accessories





510 mm

		Type
	<b>Magnetic extractor</b> for the removal of magnetisable foreign bodies	8250.01




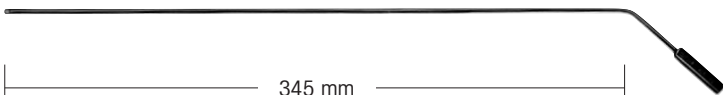
470 mm

		Type
	<b>Extractor</b> for the removal of soft foreign bodies that are difficult to grasp (miniature corkscrew)	8250.10




380 mm

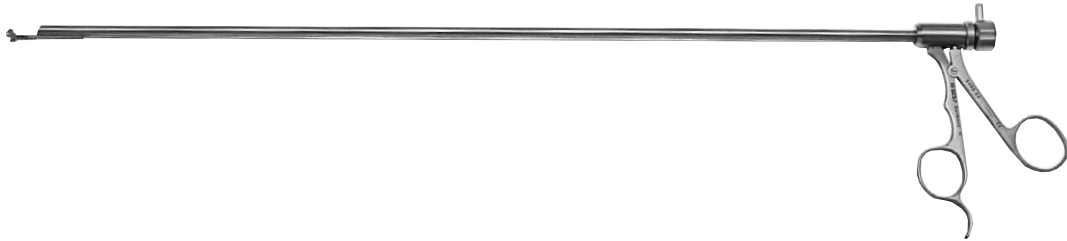
		Type
	<b>Biopsy cannula</b> , 0.8 mm diameter (21G), 3 pcs.	8298.02

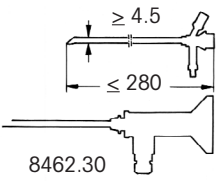
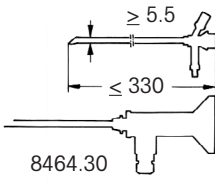
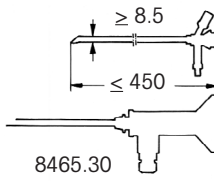







345 mm

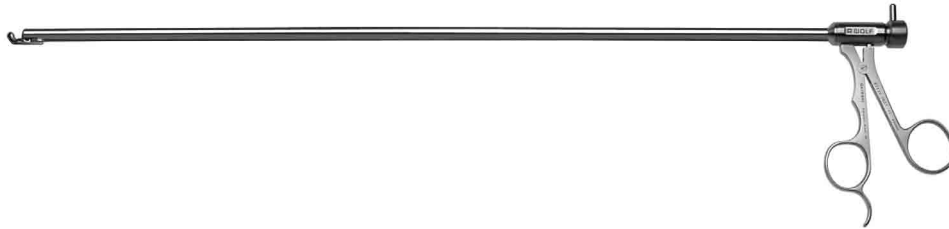
		Type
	<b>Coagulation electrode</b>	8254.02

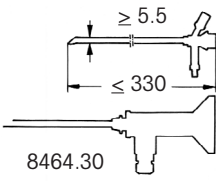
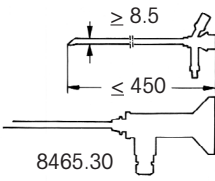




# Optic forceps



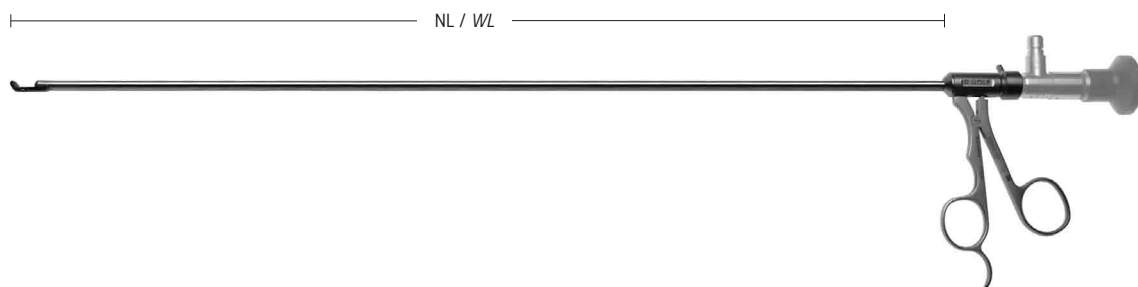
Optic forceps ...	... suitable for:		
	 <p>8462.30</p>	 <p>8464.30</p>	 <p>8465.30</p>
<b>Biopsy forceps</b> with double cup jaws 	-	8464.63	8465.63
<b>Biopsy forceps</b> with retrograde cup jaws 	-	8464.64	8465.64
<b>Foreign body forceps</b> with bent open pike jaw 	-	8464.61	8465.61
<b>Grasping forceps</b> for soft foreign bodies 	8462.64	-	-
<b>Universal forceps</b> 	8462.62	-	-






# Optic forceps



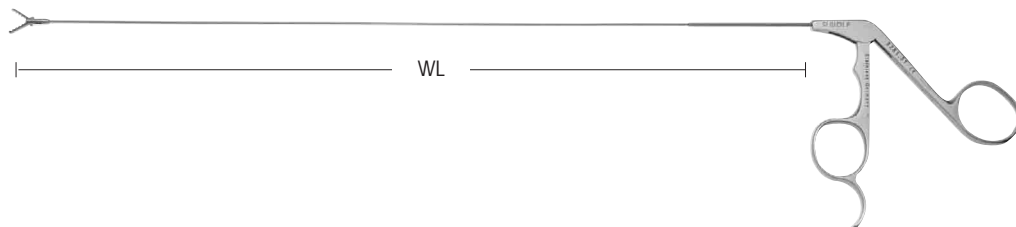
Optic forceps ...	... suitable for:	
	 <p>8464.30</p>	 <p>8465.30</p>
<p><b>Biopsy forceps</b> with bent double cup jaws</p> 	-	82530.0601
<p><b>Biopsy forceps</b> with bent, retrograde double cup jaws</p> 	-	82530.0602
<p><b>Grasping forceps</b> for soft foreign bodies, straight jaw</p> 	82530.0404	82530.0604
<p><b>universal grasping forceps</b> Bent jaw</p> 	82530.0405	82530.0605


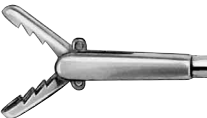





# Optic forceps



	WL	diam.	Suitable tubes	Suitable telescope dia.	Type
<b>Biopsy forceps</b> with bent double cup jaws 	500 mm	6.4 mm	"Hemer" model 8214.064 8214.074 8214.084 8214.094 8214.104 8214.124 8214.126 8214.128 8214.144	82514.431	82530.0701
<b>Biopsy forceps</b> with bent retrograde double cup jaws 	498 mm	6.4 mm			82530.0702
<b>Foreign body forceps</b> with alligator jaws 	500 mm	6.4 mm	"Wolf" model 8214.072 8214.082 8214.092 8214.102		82530.0703
<b>Grasping forceps</b> for soft foreign bodies, straight jaw 	504 mm	6.4 mm	Children bronchoscope  tubes 82510.6535 82514.6535		82530.0704
<b>universal grasping forceps</b> with bent double cup jaws 	500 mm	6.4 mm			82530.0705

# Bronchoscope forceps



For tubes with inside diameter:		≥ 6 mm		4 mm	≤ 4 mm
WL in mm:		450	600	350	330
	<b>Foreign body alligator forceps</b>	8280.41	–	8281.31	–
	<b>Universal forceps</b>	8280.42	8280.62	8281.32	–
	<b>Spoon forceps for biopsy</b>	8280.43	–	8281.33	8282.33
	<b>Retrograde spoon forceps for biopsy, opening laterally</b>	8280.44	8280.64	–	–
	<b>Small tumour forceps, cutting</b>	8280.45	–	–	–
	<b>Rotation forceps for hard foreign bodies</b>	8280.46	–	–	–
	<b>Grasping forceps for soft foreign bodies</b>	8280.47	8280.67	8281.37	8282.37

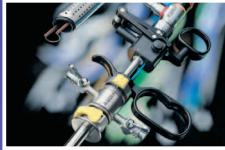


*The dies  
are cast!*





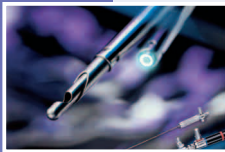
Surgery



Urology



Gynaecology



Gastroenterology



ENT



 ESWL / ESWT

We offer system solutions for all medical disciplines:

**Endoscopes with accessories**

such as telescopes, access instruments, work units, forceps, scissors, aspirators, electrodes, knives, probes, lightguide cables and much more.

**Endo units**

such as light projectors, pneu units, insufflators, lithotripsy units, suction-irrigation pumps, HF devices, drive units and further.

**Endo documentation**

Endocameras for video and photo, lens-monitors, recorders, printers.

**Function trolleys**

for units, tray, instruments.

**Cleaning / disinfection / storage**

Cleaning and care agents, containers / trays, disinfectors and further.

**Service**

Individual repair, exchange systems, service contracts, advice, equipment on loan, mobile service.