

Rigid endoscopes

# Visual inspection with excellent optical image quality



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### Rigid endoscopes

Rigid endoscopes, also known as borescopes, are used for visual inspection of cavities and narrow boreholes, as well as for visual inspection of smaller components or assemblies. Rigid endoscopes transmit images through the optical lens system to the eyepiece.

The focus is on excellent image sharpness, which enables reliable diagnostic inspections. The metal shaft and special glass end make the endoscope durable and ensure optimal protection of the optics.

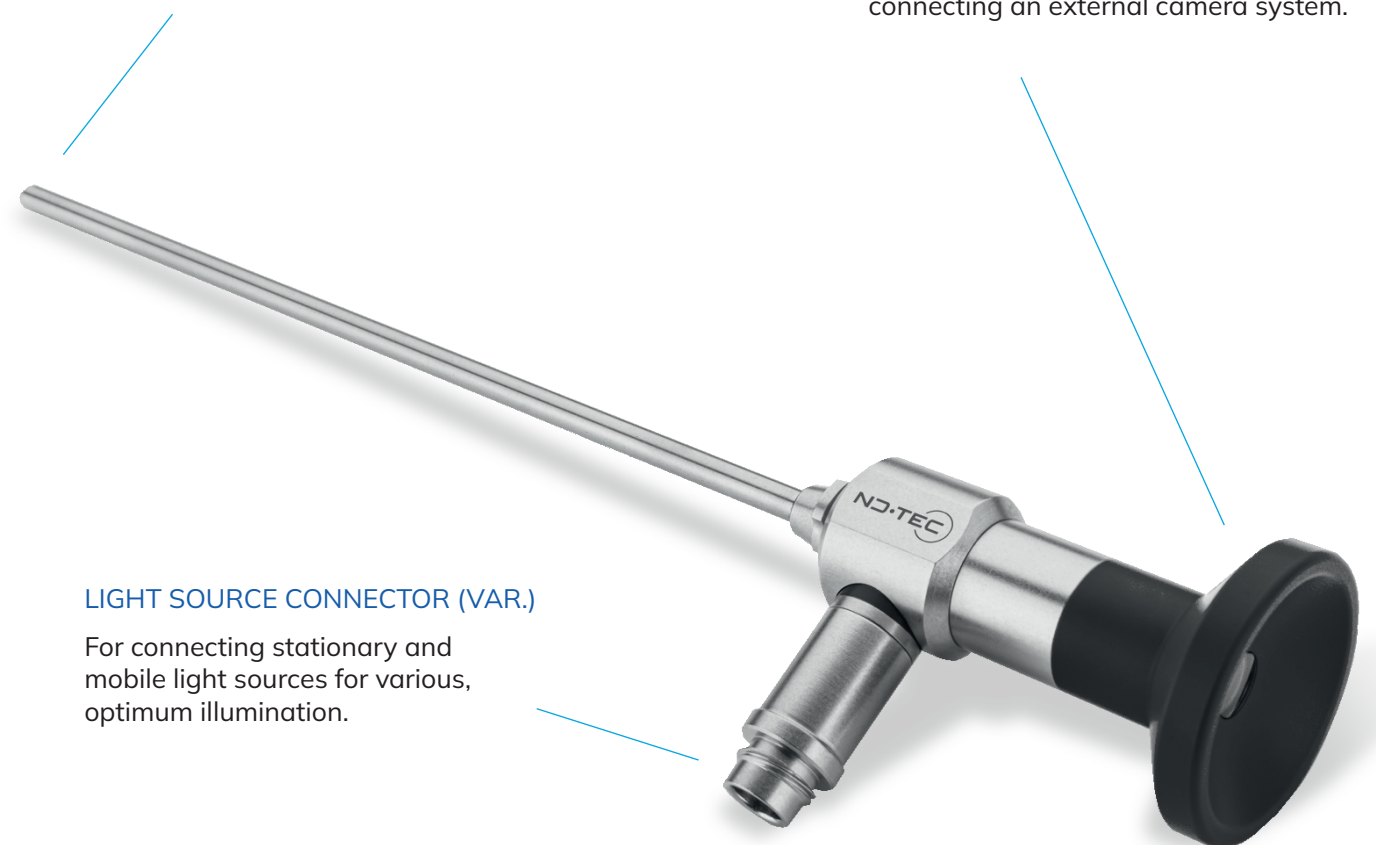
## Rigid endoscopes

### FRONT LENS

Shock and scratch resistant thanks to hardened and tempered special glass.

### EYE PIECE WITH VARIOUS ADAPTERS

For transferring the real image to the human eye or digital display by connecting an external camera system.



### LIGHT SOURCE CONNECTOR (VAR.)

For connecting stationary and mobile light sources for various, optimum illumination.

### AREAS OF APPLICATION

- Mobile and stationary applications in conjunction with the VCam HD camera series
- Quality assurance
- Inspection of
  - cast parts
  - turned and milled parts
  - aircraft engines
  - large and small engines
  - and much more





## Excellent image output, robust and durable

The three lines SE, SER, and SERH differ in design and function, but follow the same connection diagram for accessories. They are suitable for both stationary and

mobile use, e.g., for inspecting cast, turned, or milled parts. The endoscopes are available in various diameters, lengths, and viewing directions.



SER-line

## Focusable, bright, and high-resolution

Endoscopes in the SER-line feature a light guide/light source connection that can be rotated 340° for maximum ergonomics and flexibility during use. Light sources from common manufacturers can be connected directly or via a light guide to ensure optimal

illumination. Manual diopter adjustment via a hand wheel allows the image sharpness to be adjusted to the user's needs. The lenses, made of hardened special glass, are available in diameters of 2.9 or 3.8 mm.



SE-line

## First-class image output

Rigid endoscopes are used for visual inspection of cavities, boreholes, or castings and offer excellent image output. They are available in many different diameters and lengths and with

different image apertures and viewing angles. An optional metal protective shaft is available to reliably protect the endoscope.



SERH-line

## Ergonomic handle and rotatable optical shaft

Endoscopes from the SERH line feature a 340° rotatable optical shaft, focus capability, and a removable handle for optimal ergonomic working. Using the latest lens technology, these endoscopes deliver first-class image

output, high resolution, and great depth of field with reliable and documentable results. Optimal illumination is ensured by the light source connection, which is compatible with all common manufacturers.





Example of a system combination

TECHNICAL DATA

DIAMETER 1.6 AND 1.9 MM

Diameter	Length	Direction of view	Field of view
1.6 mm	100 mm	0°	65°
1.6 mm	100 mm	0°	90°
1.6 mm	100 mm	30°	65°
1.6 mm	100 mm	30°	90°
1.6 mm	175 mm	0°	65°
1.6 mm	175 mm	0°	90°
1.6 mm	175 mm	30°	65°
1.6 mm	175 mm	30°	90°
1.6 mm	100 mm	0°	65°
1.6 mm	100 mm	0°	90°
1.6 mm	100 mm	30°	65°
1.6 mm	100 mm	30°	90°
1.6 mm	175 mm	0°	65°
1.6 mm	175 mm	0°	90°
1.6 mm	175 mm	30°	65°
1.9 mm	175 mm	30°	90°

A protective shank is available for each version.  
The outer diameter increases to 2.2 mm or 2.8 mm.

DIAMETER 4.0 MM

Diameter	Length	Direction of view	Field of view
4.0 mm	50 mm	0°	80°
4.0 mm	50 mm	0°	105°
4.0 mm	50 mm	30°	80°
4.0 mm	50 mm	30°	105°
4.0 mm	50 mm	70°	80°
4.0 mm	50 mm	70°	105°
4.0 mm	50 mm	90°	80°
4.0 mm	110 mm	0°	80°
4.0 mm	110 mm	0°	105°
4.0 mm	110 mm	30°	80°
4.0 mm	110 mm	30°	105°
4.0 mm	110 mm	70°	80°
4.0 mm	110 mm	70°	105°
4.0 mm	110 mm	90°	80°
4.0 mm	175 mm	0°	80°
4.0 mm	175 mm	0°	105°
4.0 mm	175 mm	30°	80°
4.0 mm	175 mm	30°	105°
4.0 mm	175 mm	70°	80°
4.0 mm	175 mm	70°	105°
4.0 mm	175 mm	90°	80°
4.0 mm	300 mm	0°	80°
4.0 mm	300 mm	0°	105°
4.0 mm	300 mm	30°	80°
4.0 mm	300 mm	30°	105°
4.0 mm	300 mm	70°	80°
4.0 mm	300 mm	70°	105°
4.0 mm	300 mm	90°	80°
4.0 mm	690 mm	0°	80°
4.0 mm	690 mm	0°	105°
4.0 mm	690 mm	30°	80°
4.0 mm	690 mm	30°	105°
4.0 mm	690 mm	70°	80°
4.0 mm	690 mm	70°	105°
4.0 mm	690 mm	90°	80°

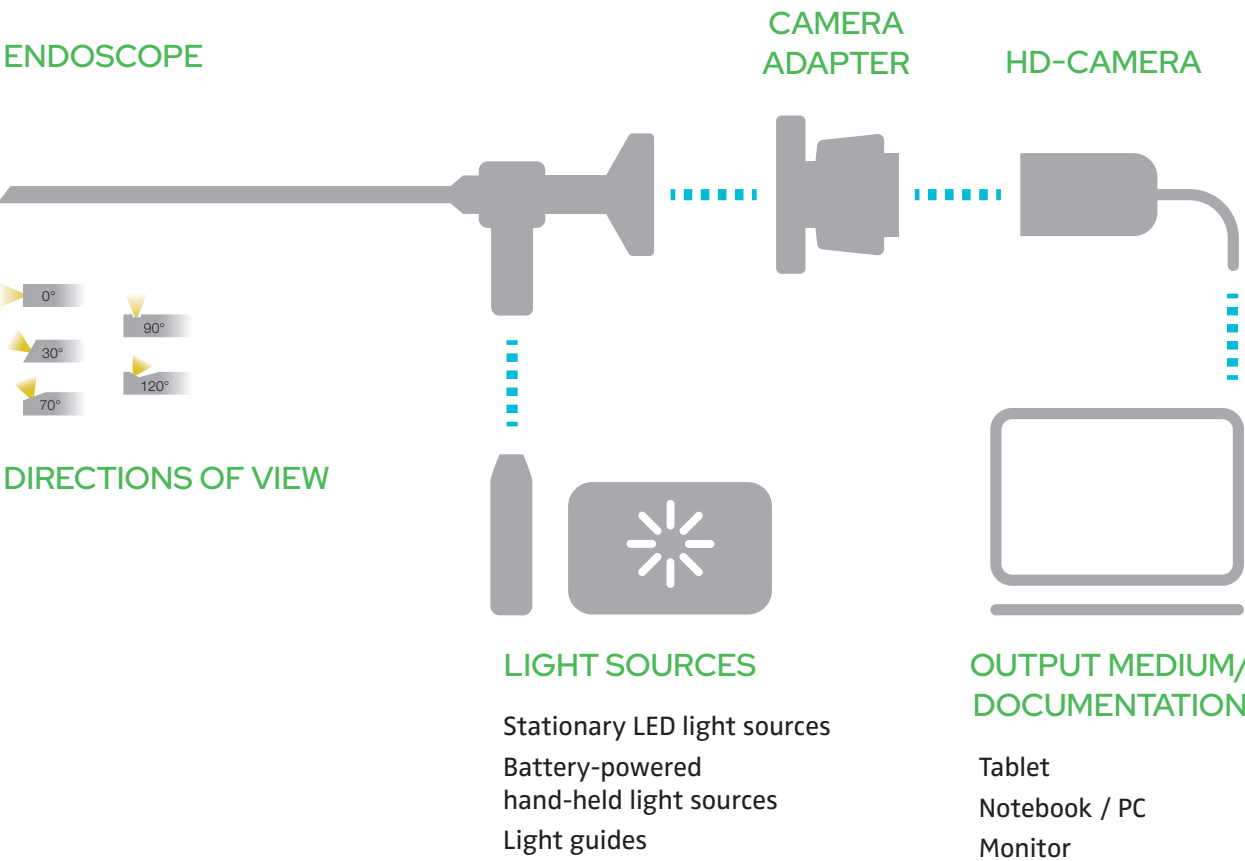
A protective shank is available for each version.  
The outer diameter increases to 4.8 mm.

DIAMETER 2.4 AND 2.7 MM

Diameter	Length	Direction of view	Field of view
2.4 mm	110 mm	0°	70°
2.4 mm	110 mm	30°	70°
2.4 mm	110 mm	70°	70°
2.7 mm	110 mm	0°	80°
2.7 mm	110 mm	30°	80°
2.7 mm	110 mm	70°	80°
2.7 mm	140 mm	0°	80°
2.7 mm	140 mm	30°	80°
2.7 mm	140 mm	70°	80°
2.7 mm	175 mm	0°	80°
2.7 mm	175 mm	30°	80°
2.7 mm	175 mm	70°	80°
2.7 mm	175 mm	90°	80°
2.7 mm	240 mm	0°	80°
2.7 mm	240 mm	30°	80°
2.7 mm	240 mm	70°	80°
2.7 mm	250 mm	90°	80°
2.7 mm	300 mm	0°	80°
2.7 mm	300 mm	30°	80°
2.7 mm	300 mm	70°	80°

A protective shank is available for each version.  
The outer diameter is increased to 3.0 mm or 3.5 mm.

SYSTEM OVERVIEW



DIAMETER 5.5 MM

Diameter	Length	Direction of view	Field of view
5.5 mm	300 mm	0°	80°
5.5 mm	300 mm	0°	105°
5.5 mm	300 mm	30°	80°
5.5 mm	300 mm	30°	105°
5.5 mm	300 mm	70°	80°
5.5 mm	300 mm	70°	105°
5.5 mm	430 mm	0°	80°
5.5 mm	430 mm	0°	105°
5.5 mm	430 mm	30°	80°
5.5 mm	430 mm	30°	105°
5.5 mm	430 mm	70°	80°
5.5 mm	430 mm	70°	105°
5.5 mm	690 mm	0°	80°
5.5 mm	690 mm	0°	105°
5.5 mm	690 mm	30°	80°
5.5 mm	690 mm	30°	105°
5.5 mm	690 mm	70°	80°
5.5 mm	690 mm	70°	105°

One safety shank is available for each version.  
The outer diameter increases to 6.5 mm.

DIAMETER 6.0 MM

Diameter	Length	Direction of view	Field of view
6.0 mm	140 mm	90°	56°
6.0 mm	142 mm	70°	56°
6.0 mm	190 mm	90°	70°
6.0 mm	190 mm	120°	70°
6.0 mm	235 mm	0°	56°
6.0 mm	235 mm	45°	56°
6.0 mm	270 mm	110°	56°
6.0 mm	275 mm	70°	56°
6.0 mm	330 mm	90°	70°
6.0 mm	330 mm	120°	70°
6.0 mm	335 mm	110°	56°
6.0 mm	340 mm	70°	56°
6.0 mm	340 mm	90°	56°
6.0 mm	435 mm	0°	56°
6.0 mm	435 mm	45°	56°
6.0 mm	440 mm	110°	56°
6.0 mm	445 mm	70°	56°
6.0 mm	535 mm	110°	56°
6.0 mm	540 mm	70°	56°
6.0 mm	540 mm	90°	56°
6.0 mm	610 mm	70°	56°
6.0 mm	635 mm	0°	56°
6.0 mm	635 mm	45°	56°
6.0 mm	740 mm	90°	56°
6.0 mm	835 mm	0°	56°
6.0 mm	835 mm	45°	56°
6.0 mm	940 mm	70°	56°
6.0 mm	940 mm	90°	56°

One safety shank is available for each version.  
This increases the outer diameter to 7.0 mm.

DIAMETER 8.0 MM

Diameter	Length	Direction of view	Field of view
8.0 mm	140 mm	90°	56°
8.0 mm	142 mm	70°	56°
8.0 mm	235 mm	0°	56°
8.0 mm	240 mm	45°	56°
8.0 mm	275 mm	70°	56°
8.0 mm	275 mm	90°	56°
8.0 mm	275 mm	110°	56°
8.0 mm	340 mm	70°	56°
8.0 mm	340 mm	90°	56°
8.0 mm	340 mm	110°	56°
8.0 mm	435 mm	0°	56°
8.0 mm	440 mm	45°	56°
8.0 mm	440 mm	110°	56°
8.0 mm	445 mm	70°	56°
8.0 mm	445 mm	90°	56°
8.0 mm	540 mm	70°	56°
8.0 mm	540 mm	90°	56°
8.0 mm	610 mm	70°	56°
8.0 mm	619 mm	110°	56°
8.0 mm	635 mm	0°	56°
8.0 mm	640 mm	45°	56°
8.0 mm	740 mm	90°	56°
8.0 mm	835 mm	0°	56°
8.0 mm	840 mm	45°	56°
8.0 mm	940 mm	70°	56°
8.0 mm	940 mm	90°	56°
8.0 mm	1033 mm	0°	56°
8.0 mm	1040 mm	45°	56°
8.0 mm	1140 mm	90°	56°
8.0 mm	1235 mm	0°	56°
8.0 mm	1340 mm	90°	56°
8.0 mm	1435 mm	0°	56°
8.0 mm	1440 mm	45°	56°
8.0 mm	1540 mm	90°	56°

DIAMETER 10.0 MM

Diameter	Length	Direction of view	Field of view
10 mm	200 mm	70°	56°
10 mm	205 mm	90°	56°
10 mm	245 mm	0°	56°
10 mm	250 mm	45°	56°
10 mm	314 mm	0°	80°
10 mm	314 mm	30°	80°
10 mm	335 mm	90°	56°
10 mm	350 mm	70°	56°
10 mm	355 mm	110°	56°
10 mm	445 mm	0°	56°
10 mm	445 mm	90°	56°
10 mm	450 mm	45°	56°
10 mm	550 mm	70°	56°
10 mm	555 mm	90°	56°
10 mm	555 mm	110°	56°
10 mm	605 mm	90°	56°
10 mm	645 mm	0°	56°
10 mm	650 mm	45°	56°
10 mm	700 mm	90°	56°
10 mm	805 mm	90°	56°
10 mm	845 mm	0°	56°
10 mm	850 mm	45°	56°
10 mm	955 mm	90°	56°
10 mm	1070 mm	0°	56°
10 mm	1075 mm	45°	56°
10 mm	1205 mm	90°	56°
10 mm	1245 mm	0°	56°
10 mm	1250 mm	45°	56°
10 mm	1455 mm	90°	56°
10 mm	1570 mm	0°	56°
10 mm	1575 mm	45°	56°
10 mm	1650 mm	45°	56°
10 mm	1702 mm	90°	56°
10 mm	2220 mm	90°	56°




Other versions available on request



# Accessories

## CAMERAS AND DOCUMENTATION SYSTEMS



	<b>VCam HD</b> HD camera available with USB 3.0 or USB-C connection, incl. white light LED light source
	<b>VCam HD system</b> Suitable for all C-mount connections Power 60 W Color temperature 5,700 Kelvin 17.3" 4K monitor
	<b>VCam HD+-documentation system</b> HD camera with camera head with 3.5" system monitor, including white light LED light source
	<b>VCam HD+ system light source</b> Includes docking function
	<b>VCam HD Mobile</b> Mobile add-on camera
	<b>HD camera lens adapter</b> Suitable for all C-mount threads, focal lengths 14 mm / 18 mm / 22 mm / 25 mm / 28 mm / 35 mm / zoom (18–35 mm)

## UNIVERSAL LIGHT SOURCES


	<b>LQ-LED-200</b> Stationary LED light source Illuminance 900,000 lux Color temperature 5,500 K Power supply via separate power supply unit, robust metal housing
	<b>LQ-LED-10</b> Battery-powered handheld light source - 5 watts Power 3-10 W (3 levels) Color temperature 5,700 K Illuminance 200,000 lux
	<b>LQ-LED-10i</b> Inductive handheld light source - 5 watts Power 3-10 W (4 levels) Color temperature 6,000 K Illuminance 120,000 lux

	<b>LQ-UV-I04</b> Compact AC ultra-high-performance light source Switchable between UVA and white light UVA spectrum: 320 – 400 nm White spectrum: 400 – 700 nm Light socket: Lumatec D
	<b>LQ-UV-I06</b> Compact AC LED ultra-high-performance light source Switchable between UV LED and separate white light LED UV LED spectrum: 365 ± 5 nm White light LED: 5,700°K


## FIBER OPTICS

	<b>LG-GF-1800</b> Fiber optic cable Length 180 cm Outer diameter 10 mm, active fiber 3.5 mm
	<b>LG-GF-2500</b> Fiber optic cable Length 250 cm Outer diameter 10 mm, active fiber 3.5 mm
	<b>LG-FL-1800</b> Fluid light guide cable UV light transmission length 180 cm Outer diameter 10 mm, active light guide 5 mm Available with stainless steel or PVC sheathing
	<b>LG-FL-2000</b> Fluid light guide cable UV light transmission length 200 cm Outer diameter 10 mm, active light guide 5 mm Available with stainless steel or PVC sheathing
	<b>LG-FL-3000</b> Fluid light guide cable UV light transmission length 300 cm Outer diameter 10 mm, active light guide 5 mm Available with stainless steel or PVC sheathing

## MONITORS

	<b>13"</b> Industrial HD monitor, metal housing
	<b>15"</b> Industrial HD monitor, metal housing
	<b>17"</b> Industrial HD monitor, metal housing
	<b>19"</b> Industrial HD monitor, metal housing

## CASE

	For 1 rigid endoscope up to 200mm working length and one camera head incl. adapter
	For 3 rigid endoscopes up to 200 mm working length and accessories such as hand-held light source
	For 4 rigid endoscopes up to 350 mm working length and accessories

# NDTec: Quality products and service – customer-oriented

## Know-how and quality, for safe inspections

For over 25 years we have been involved in non-destructive visual material testing. With this experience, we have created a wide range of endoscopes that are now used in almost all industries worldwide. The mechanic in an aircraft hangar trusts the quality of ND Tec endoscopes just as much as the technician maintaining a wind turbine or inspecting a technical component.

## Service you can rely on

Proximity to our customers is our top priority. Through personal exchange and advice, we build a strong partnership – as your reliable solution provider.

ND Tec also supports you after the purchase with its own repair service. If required, you can obtain rental devices to bridge downtimes or to test before purchasing a device.



WEBSITE



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SHOP



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