



Rigid and flexible endoscopes



Rigid optical endoscopes

Rigid endoscopes, also known as borescopes, are used for the visual inspection of cavities and narrow bores but also for smaller components or assemblies. Rigid borescopes transmit the image via the computer-calculated optical rod lens system to the eyepiece. The main focus is on excellent image rendition and resolution, which allows for diagnosis-secure inspections.

The metal shaft and special glass cover make the endoscope extremely resistant to damage and wear and ensure an optimal protection of the optical system.

ENDO INDUSTRIAL offers rigid endoscopes in different versions.

Flexible optical endoscopes

Flexible glass fiber endoscopes are easy to handle and extremely flexible. They make it possible to see into convoluted spaces that would otherwise be inaccessible to the human eye. The endoscope owes its flexibility to the unique fiber optic image guide system. These optical fibers transmit the image from the component to the human eye or to the monitor via a camera system. In combination with a powerful light source this high-quality system will give you an excellent, sharp and bright image.

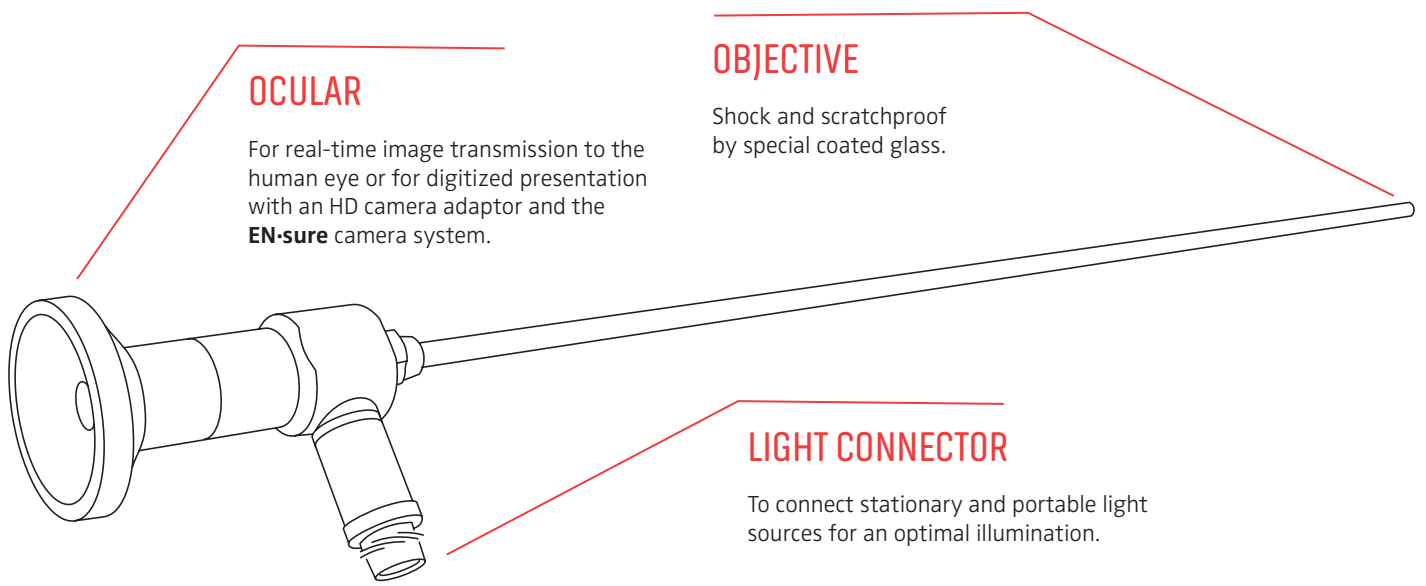
The probe shaft with fine-meshed metal sheathing and special glass cover make the endoscope resistant to damage and wear.



APPLICATION AREAS

- Mobile and stationary applications in connection with the **EN•sure** camera system
- Quality assurance
- Inspection of
 - cast parts
 - turned and milled parts
 - aircraft engines
 - large and small engines
 - and many more.

Rigid endoscope



OCULAR

For real-time image transmission to the human eye or for digitized presentation with an HD camera adaptor and the **EN-sure** camera system.

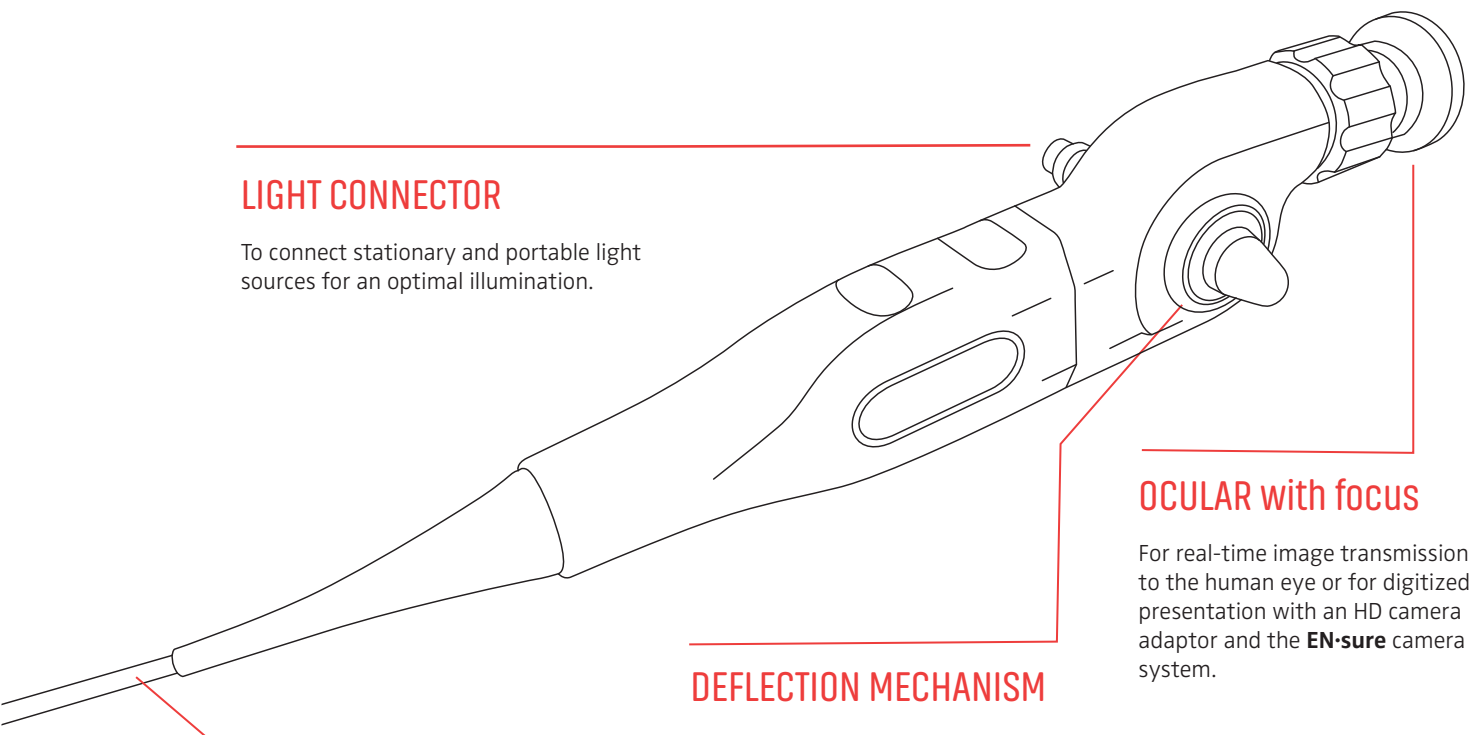
OBJECTIVE

Shock and scratchproof by special coated glass.

LIGHT CONNECTOR

To connect stationary and portable light sources for an optimal illumination.

Flexible endoscopes



LIGHT CONNECTOR

To connect stationary and portable light sources for an optimal illumination.

OCULAR with focus

For real-time image transmission to the human eye or for digitized presentation with an HD camera adaptor and the **EN-sure** camera system.

DEFLECTION MECHANISM

Mechanical deflection of the probe head in 2 directions via steering wires.

FLEXIBLE PROBE

Robust fine-mesh metal sheath with a special coated glass lens for high resistance.

RIGID ENDOSCOPES

Diameter 1.6 and 1.9 mm



Diameter	Length	Direction of view DOV	Field of view FOV
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°

Protection sheath available for each version.
The diameter will expand to 2.2 mm / 2.8 mm.

Diameter 2.4 and 2.7 mm



Diameter	Length	Direction of view DOV	Field of view FOV
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°

Protection sheath available for each version.
The diameter will expand to 3.0 mm / 3.5 mm.

Diameter 4.0 mm



Diameter	Length	Direction of view DOV	Field of view FOV
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°

Protection sheath available for each version.
The diameter will expand to 4.8 mm.

Diameter 5.5 mm



Diameter	Length	Direction of view DOV	Field of view FOV
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°

Protection sheath available for each version.
The diameter will expand to 6.5 mm.

Diameter 6.0 mm



Diameter	Length	Direction of view DOV	Field of view FOV
6.0 mm	190 mm	90°	70°
6.0 mm	190 mm	120°	70°
6.0 mm	330 mm	90°	70°
6.0 mm	330 mm	120°	70°

Protection sheath available for each version.
The diameter will expand to 7.0 mm.

Diameter 10.0 mm



Diameter	Length	Blickrichtung DOV	Bildöffnungswinkel FOV
10 mm	314 mm	0°	80°
10 mm	314 mm	30°	80°

FLEXIBLE ENDOSCOPES

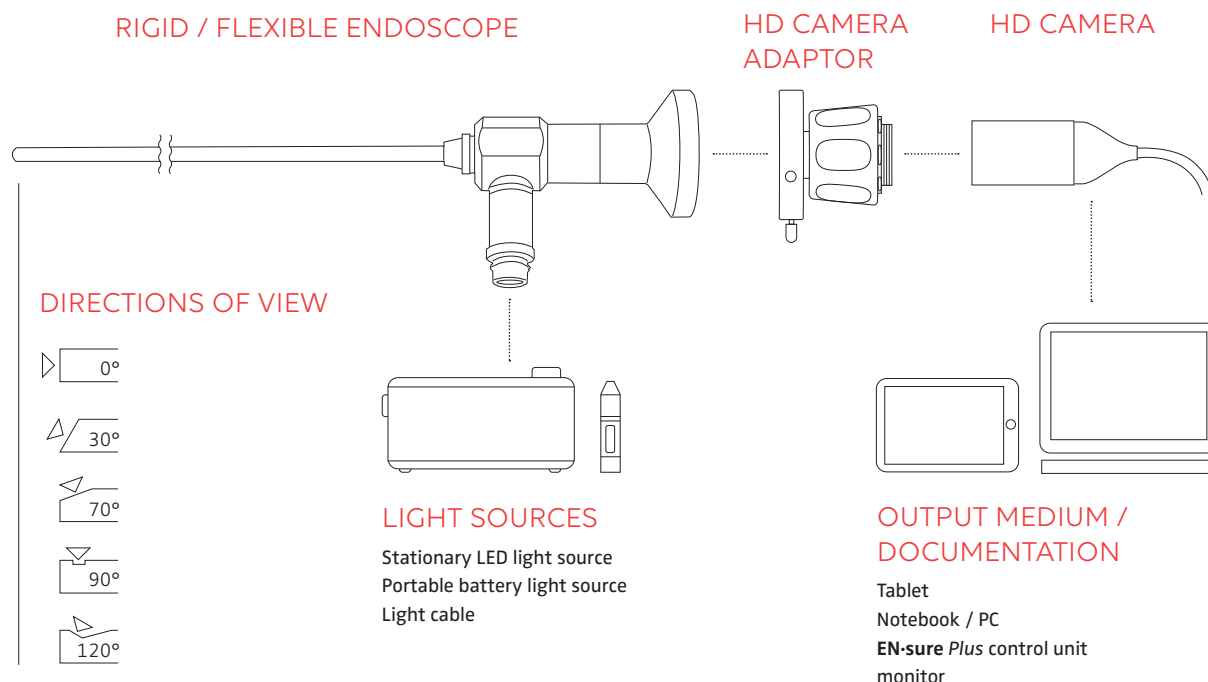
Flexible glass fiber endoscopes Diameter 2.5 and 3.8 mm



Diameter	Length	Field of view	Deflection up / down
2.5 mm	700 mm	75°	150° / 150°
3.8 mm	700 mm	75°	150° / 150°

Further versions available upon request

SYSTEM OVERVIEW



ACCESSORIES

Cameras and documentation systems



EN-sure

HD camera with USB 3.0 / USB-C connection
incl. white light LED light source



EN-sure Plus

HD camera with camera head and 3.5" montior
incl. white light LED light source



EN-sure Plus stationary LED light source
with docking funciton, usable in connection
with **EN-sure Plus**



EN-mobil

Mobile camera, attachable



HD Camera adaptor

to be connected on all C-mount threads, focal length 14 mm /
18 mm / 22 mm / 25 mm / 28 mm / 35 mm / Zoom
(18 - 35 mm)

Light sources



LQ-LED-200 Stationary LED light source

Light intensity 900.000 Lux
Color temperature 5.500 K
incl. separate power supply and robust case



LQ-HH-10W portable battery LED light source

Performance 3-10 W (3 steps)
Color temperature 5.700 K
Light intensity 200.000 Lux



LQ-HH-DS portable inductive battery LED light source

Performance 3-10 W (4 steps)
Color temperature 6.000 K
Light intensity 120.000 Lux

Light cables



Glass fiber light cable, length 180 cm
Outer diameter 10 mm, active diameter 3.5mm

Glass fiber light cable, length 250 cm
Outer diameter 10 mm, active diameter 3.5mm



Glass fiber light cable, length 180 cm
Light connector angled 90° at endoscope end
Outer diameter 10 mm, active diameter 3.5mm

Glass fiber light cable, length 250 cm
Light connector angled 90° at endoscope end
Outer diameter 10 mm, active diameter 3.5mm

Monitors



13" industrial HD monitor, metal housing



15" industrial HD monitor, metal housing

17" industrial HD monitor, metal housing

19" industrial HD monitor, metal housing

Cases



For 4 rigid endoscopes up to 350 mm working length and accessories

For 3 rigid endoscopes up to 200 mm working length and accessories e.g. portable LED light source

For 1 flexible endoscope and accessories

For 1 rigid endoscope up to 200 mm working length and EN-sure camera head incl. HD camera adaptor



For 1 rigid endoscope up to working length 700 mm



MANUFACTURE

We know the special requirements of many industries and manufacture customized endoscope solutions for precise and significant inspections.

SALES

With us you will find the right endoscope for every application. We offer you an extra large endoscope range with qualified expert consultation.

SERVICE

We repair endoscopes of all well-known manufacturers and provide you with a loan replacement during the repair time. Additionally, our specialists also perform endoscopic examinations upon request.

ENDO INDUSTRIAL GmbH & Co. KG

Keplerstraße 47
D -78549 Spaichingen

T +49 (0) 7467 / 910 304 - 0
F +49 (0) 7467 / 910 29 89

info@endoindustrial.com
www.endoindustrial.com

