VISUAL INSPECTION
INDUSTRY AND
PRODUCT SOLUTIONS

PRODUCT CATALOG
UPDATE: FEB-2023

Schölly® EXCELLENCE INSIDE

EXCELLENCE INSIDE

FOR OPTIMUM DETECTION OF DEFECTS IN PRODUCTION AND MAINTENANCE.

With SCHÖLLY's products and solutions, you can detect the tiniest of defects and ensure sustainable product quality.

Residues from the production process, material damage, or foreign objects can result in degraded quality, decreased performance, and consequential damage inside components, machines, and equipment which cannot be seen from outside. To detect potential areas of damage early on, SCHÖLLY develops products and solutions that provide the user with clear images of the inside of complex components and equipment.

With products from SCHÖLLY, defects can be inspected with a borescope and defective components can be taken out of production at an early stage. Rigorous product quality requirements or high inspection volumes require inspection systems with modern camera technology. These offer high resolution images that show every detail. If required, inspection images can be stored to permit traceability.

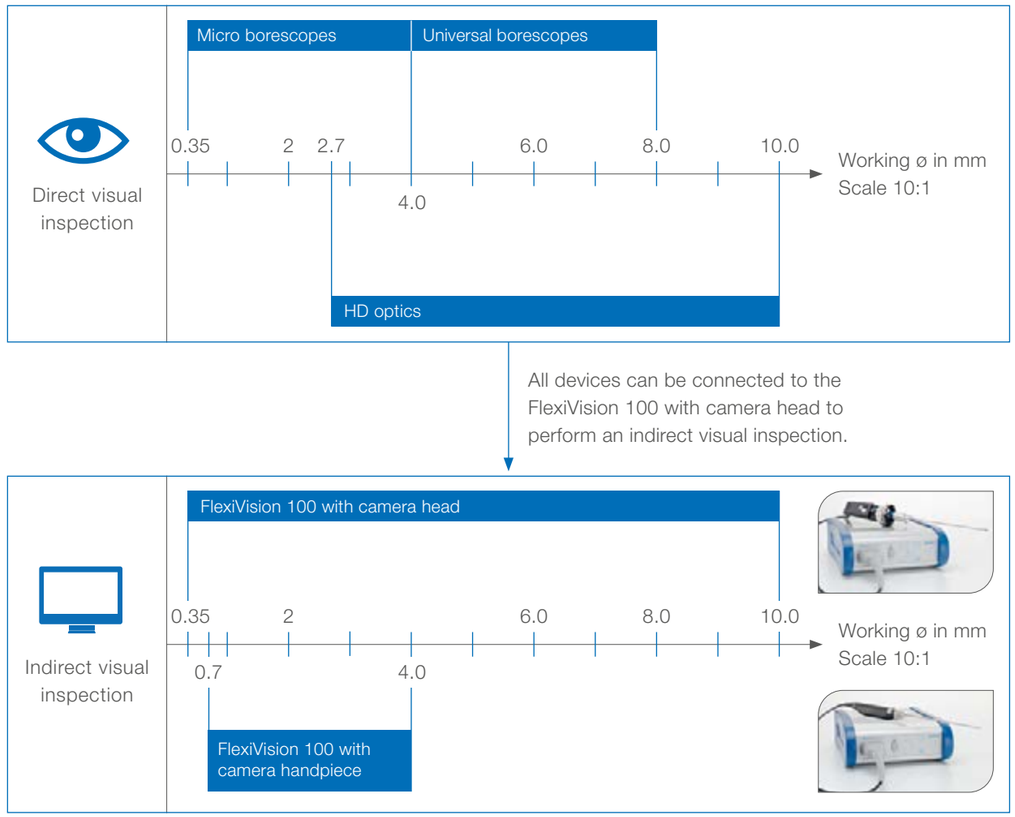
PRODUCT SELECTION

Overview

This page provides a product overview. Several criteria must be considered when selecting the most suitable products. The working diameter of the inspection instrument is useful in the first instance as this depends on the diameter of access to your inspection object. Further criteria are working length and direction of view.

Working diameter

Select your required working diameter in the following table. It is advisable to choose the largest working diameter possible based on the inspection object and the size of the opening. See the table for a list of inspection instruments that meet your selection criteria.



PRODUCT SELECTION

Direct and indirect visual inspection

Direct visual inspection

Direct visual inspection
The area of the specimen under inspection is inspected directly with the naked eye by only one person using a borescope.

Advantages

- Simple technical design
- Suitable for mobile application
- Ideal for spot checks

Disadvantages

- Inspection by only one person using a borescope
- No documentation

Indirect visual inspection

Indirect visual inspection
In an indirect visual inspection, the area to be inspected is captured by camera and output to a monitor.

Advantages

- Reliable 100 % inspections
- Permits traceability of documented defects
- Better analysis compared to direct visual inspection
- Inspection by several persons

For indirect visual inspection (visual inspection on monitor)

For direct visual inspection (visual inspection with the aid of a borescope)

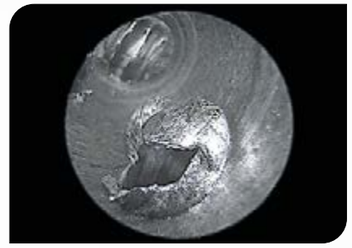
INSPECTION SYSTEM
FLEXIVISION® 100

The FlexiVision 100 is a visual inspection system for visual inspection. It is excellently suited for complex as well as frequently changing inspection tasks.

PREMIUM FULL HD IMAGE QUALITY

With high resolution (1920 x 1080 pixel) image rendering, every surface inspected with a borescope is sharp, high in contrast and true to its color on the monitor.

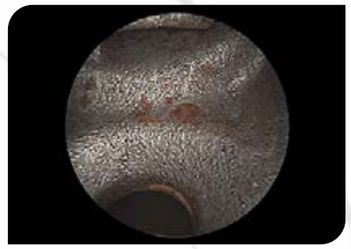
High resolution images show every detail



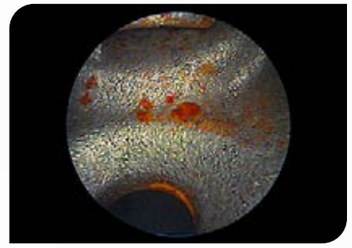
Reliably identify defects thanks to first-class inspection images

VIDEO ALGORITHMS SHOW EVEN MORE

Video algorithms are software functions of the FlexiVision 100 with which the user can change the appearance of the inspection image. Video algorithms can be used to emphasize traits that indicate defects for example, allowing defects to be detected faster. These software functions can be activated as required.



Inspection image without video algorithm



Inspection image with “Selective Color Enhancement” video algorithm

Inspection System

- Visual inspection in Full HD quality
- Image optimization through video algorithms
- Covers many applications through connection possibility of camera head or camera handpiece
- For borescopes starting at 0.35 mm working diameter

Images, videos, brochures and much more at www.schoelly.de/fv100

Technical Data

Control elements on front panel	ON/OFF switch, menu, menu navigation, brightness +/-, image, white balance
Front connections	Socket for FlexiScope 3 camera handpiece and HD camera head, socket for USB
Outputs	2 x DVI, 2 x HD-SDI, 2 x 3.5 mm jack sockets for foot switch
Mains supply	100 - 240 V AC, 50/60 Hz
Dimensions	225 x 92 x 282 mm (W x H x D)
Weight	4 kg
Configuration	Pre-defined settings for different inspection applications Two freely configurable inspection applications Numerous software settings possible (algorithms, basic settings, file names, etc.)
Standard software functions	Contrast, brightness, color saturation, window, digital zoom, edge enhancement, Noise reduction, grid removal, image rotation, flip image
Extended software functions	Selective color enhancement, smoke reduction, split screen
Connecting devices	FlexiScope 3 camera handpiece HD camera head for FlexiVision 100

Item no.	Description
96.0040	FlexiVision 100 camera base unit with FlexiScope 3 camera handpiece, including DVI cable, 32 GB USB stick, power supply unit and cleaning material, set supplied in transport case
96.0040.XT	FlexiVision 100 camera base unit with extended software functions, with FlexiScope 3 camera handpiece, including DVI cable, 32 GB USB stick, power supply unit and cleaning material, set supplied in transport case
95.4110	FlexiVision 100 camera base unit with HD camera head, including DVI cable, 32 GB USB stick, power supply unit and cleaning material, set supplied in transport case
95.4110.XT	FlexiVision 100 camera base unit with extended software functions, with HD camera head, including DVI cable, 32 GB USB stick, power supply unit and cleaning material, set supplied in transport case

Inspektionssystem

Related components

FlexiVision 100 with camera head
The following components are required for FlexiVision 100 to be ready for operation.

Item	Description
	Camera head
	HD optics Ø 2.7 - 10.0 mm
	Micro borescopes Ø 0.35 - 4.0 mm Universal borescopes Ø 4.0 - 8.0 mm
	Light sources and light guides
	Monitor

FlexiVision 100 with camera handpiece
The following components are required for FlexiVision 100 to be ready for operation.

Item	Description
	Camera handpiece
	Probes Ø 0.7 - 4.0 mm
	Monitor

Camera Handpiece

The camera handpiece for the FlexiVision 100

The camera handpiece of the FlexiVision 100 is a versatile connection device. It has a lightweight, ergonomic design, supports a quick and easy probe change, and is compatible with a wide range of probes. The available probes have different working diameters, working lengths, and directions of view. The versatile range of probes means that the system can be quickly adjusted for new inspection tasks.

Plug & Play

Probes are easily connected thanks to the quick coupling mechanism on the camera handpiece.

System integration

The extremely compact handpiece includes both an integrated camera and LED, meaning that no external light source is required and, as a result, no light guide. This saves space and ensures freedom of movement during inspections.

Focusing

For ease of operation, the focusing ring of the camera handpiece features a lever. This allows precise adjustment of the focusing ring and makes it easy to perform an inspection when wearing work gloves, for example.

- Full HD image quality
- Ergonomic and lightweight
- Quick interchangeable probes
- Perfect for 100 % controls
- Ideal for frequently changing inspection tasks
- No external light source required

Many application videos at
www.schoelly.de/fv100

Technical Data

Image sensor	1/3" CMOS
Image resolution	1920 x 1080 pixels, full HD
Image format	16:9
Lighting	Integrated LED lighting in the handpiece
Camera cable	2.5 m
Weight	125 g (excl. cable)
Dimensions	155 x 19 x 29 mm (L x W x H)

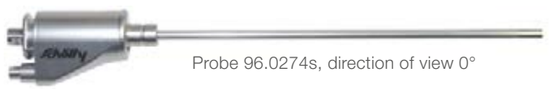
Item no.	Description
96.0024	FlexiScope 3 camera handpiece with 2.5 m cable length

The camera handpiece is part of the modular inspection system FlexiVision 100. For the basic equipment of an operational system you also need a probe, the FlexiVision 100 and a monitor.

Probes and Protection Tubes

- 0.7 mm to 4 mm working diameter
- Ergonomic and lightweight
- Quick interchangeable
- Perfect for 100 % controls
- Idea for frequently changing inspection tasks
- Fits to the camera handpiece of the FlexiVision 100 and the FlexiScope 2 System

Many application videos at
www.schoelly.de/fv100



Probe 96.0274s, direction of view 0°

Suitable protection tubes

WORKING Ø 0.7 MM

Item no.	Working length	Direction of view	Field of view	Description	Protection tube	Working Ø with protection tube
96.0103s	150 mm	0°	70°	6,000 pixel / synthetic tube	MSP.10150	1.0 mm

WORKING Ø 1.0 MM

Item no.	Working length	Direction of view	Field of view	Description	Protection tube	Working Ø with protection tube
96.0124s	150 mm	0°	60°	17,000 pixel / nickel-titanium tube	MSP.12150	1.2 mm

WORKING Ø 1.6 MM

Item no.	Working length	Direction of view	Field of view	Description	Protection tube	Working Ø with protection tube
96.0132s	135 mm	0°	85°	30,000 pixel / nickel-titanium tube	MSP.18135	1.8 mm
96.0123s	150 mm	0°	70°	17,000 pixel / synthetic tube	MSP.19150	1.9 mm
96.0165s	135 mm	0°	30°	17,000 pixel / stainless steel tube	MSP.18135	1.8 mm
96.0166s	150 mm	30°	75°	17,000 pixel / synthetic tube	MSP.19151*	1.8 mm
96.0167s	150 mm	70°	75°	17,000 pixel / synthetic tube	MSP.19151*	1.8 mm
96.0168s	150 mm	90°	75°	17,000 pixel / synthetic tube	MSP.19151*	1.8 mm

WORKING Ø 2.0 MM

Item no.	Working length	Direction of view	Field of view	Description	Protection tube	Working Ø with protection tube
96.0158s	135 mm	0°	90°	50,000 pixel / stainless steel tube	MSP.24135	2.4 mm
96.0152s	135 mm	30°	90°	50,000 pixel / stainless steel tube	MSP.24133*	2.4 mm
96.0172s	135 mm	70°	75°	30,000 pixel / stainless steel tube	MSP.24133*	2.4 mm
96.0173s	135 mm	90°	75°	30,000 pixel / stainless steel tube	MSP.24133*	2.4 mm

* Protection tube with exposed probe tip

Probes and Protection Tubes

WORKING Ø 2.7 MM

Item no.	Working length	Direction of view	Field of view	Description	Protection tube	Working Ø with protection tube
96.0274s	110 mm	0°	75°	Rod lenses / stainless steel tube	MSP.30111	3.0 mm
96.0275s	110 mm	70°	75°	Rod lenses / stainless steel tube	MSP.30119**	3.0 mm
96.0288s	179 mm	0°	85°	Rod lenses / stainless steel tube	MSP.30174	3.0 mm
96.0297s	179 mm	30°	85°	Rod lenses / stainless steel tube	MSP.30175**	3.0 mm
96.0299s	179 mm	70°	75°	Rod lenses / stainless steel tube	MSP.30176**	3.0 mm
96.0293s	290 mm	0°	75°	Rod lenses / stainless steel tube	MSP.30180	3.0 mm
96.0298s	290 mm	70°	75°	Rod lenses / stainless steel tube	MSP.30182**	3.0 mm

WORKING Ø 4.0 MM

Item no.	Working length	Direction of view	Field of view	Description	Protection tube	Working Ø with protection tube
96.0405s	170 mm	0°	85°	Rod lenses / stainless steel tube	MSP.44170	4.4 mm
96.0403s	170 mm	30°	85°	Rod lenses / stainless steel tube	MSP.44171**	4.4 mm
96.0404s	170 mm	45°	85°	Rod lenses / stainless steel tube	MSP.44172**	4.4 mm
96.0406s	170 mm	70°	85°	Rod lenses / stainless steel tube	MSP.44173**	4.4 mm
96.0407s	298 mm	0°	70°	Rod lenses / stainless steel tube	MSP.44300	4.4 mm
96.0408s	298 mm	27°	70°	Rod lenses / stainless steel tube	MSP.44301**	4.4 mm
96.0409s	300 mm	65°	70°	Rod lenses / stainless steel tube	MSP.44302**	4.4 mm
96.0410s	425 mm	45°	65°	Rod lenses / stainless steel tube	MSP.44420**	4.4 mm
96.0411s	425 mm	0°	65°	Rod lenses / stainless steel tube	MSP.44421	4.4 mm
96.0413s	425 mm	65°	65°	Rod lenses / stainless steel tube	MSP.44423**	4.4 mm

** Protection tube with protrusion and fixing screw

Camera Head

The camera head for the FlexiVision 100

The Full HD camera head is a connection device for the FlexiVision 100. It is compatible with all borescopes and fiberscopes with a DIN eyepiece. When combined with Full HD-compatible borescopes, it produces brilliant inspection images. Borescopes and fiberscopes that were previously used for direct visual inspection can also be connected to the FlexiVision 100 via the camera head.

Zoom and focusing
The inspection image can be focused using the gray focusing ring. Once set, you can then zoom in using the black ring without re-focusing (parfocal zoom).

Individually assignable function keys
The camera head has three function keys that can be assigned individually, for example to control the image display, to capture photos, or to navigate the configuration menu of the FlexiVision 100.

High resolution HD optics
The Full HD-compatible borescopes with working diameters of 2.7 - 10 mm are designed for use with the FlexiVision 100 with camera head.

- Full HD image quality
- All borescopes with DIN ocular can be connected
- Optical zoom
- Functional keys for menu navigation of the FlexiVision 100

Learn more at
www.schoelly.de/fv100

Technical Data

Image sensor	1/3" CMOS
Image resolution	1920 x 1080 pixels, full HD
Image format	16:9
Control elements	3 individually programmable, illuminated buttons
Endocoupler	Integrated parfocal zoom for standard DIN ocular
Focal length	f = 14.25 - 28 mm
Camera cable	3.5 m
Weight	220 g (excl. cable)
Dimensions	135 mm (length), 50 mm (diameter)

Item no.	Description
95.4100	HD camera head for FlexiVision 100

The camera head is part of the modular inspection system FlexiVision 100. For the basic equipment of an operational system you also need a borescope with DIN ocular, a light source with light guide, the FlexiVision 100 and a monitor.

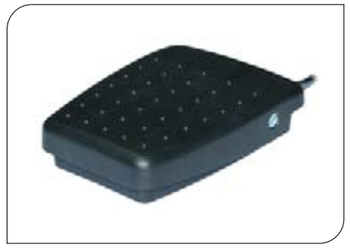
HD Optics

- High resolution HD optics specially designed for the FlexiVision 100 with camera head
- Rod lens system for excellent images
- Different viewing angles and wide angles, as well as different working lengths

Item no.	Working Ø	Working length	Direction of view	Field of view
ME.27120.0085	2.7 mm	110 mm	0°	95°
ME.27120.3085	2.7 mm	110 mm	30°	85°
ME.27120.7085	2.7 mm	110 mm	70°	80°
ME.27210.0085	2.7 mm	187 mm	0°	95°
ME.27210.3085	2.7 mm	187 mm	30°	85°
ME.27210.7085	2.7 mm	187 mm	70°	80°
ME.40175.00100	4.0 mm	175 mm	0°	100°
ME.40175.30100	4.0 mm	175 mm	30°	100°
ME.40175.70100	4.0 mm	175 mm	70°	100°
ME.500312.0070	5.0 mm	312 mm	0°	70°
ME.500312.3070	5.0 mm	312 mm	30°	70°
ME.100344.0070	10.0 mm	344 mm	0°	70°
ME.100344.3070	10.0 mm	344 mm	30°	70°

Accessories

Foot switch



95.4051

The foot switch for the FlexiVision 100 can be assigned various functions. This is useful, for example, if images of the inspection need to be captured and the person performing the inspection is holding the object in one hand and the inspection instrument in the other.

Holder for camera handpiece

95.4058

The camera handpiece of the FlexiVision 100 can be safely stowed away using the handpiece holder, which is firmly mounted on the wall.

BORESCOPES

With the borescopes we offer a variety of high-quality testing instruments from working diameter 0.35 mm. All borescopes can be used for direct or indirect visual inspection.

For indirect visual inspection, please choose additionally the inspection system FlexiVision 100 with related components.

For direct visual inspection, select additionally a light source and a light guide.

MICRO BORESCOPES micrendo®

- Flexible borescopes from 0.35 mm to 2.4 mm
- Rigid borescopes from 1.8 mm to 4.0 mm
- Wide angle objectives and side view versions
- 360° view possible with rotatable mirror tubes

UNIVERSAL BORESCOPES

- Rigid borescopes from 4.0 mm according to modular principle:
  - Interchangeable objectives with different directions of view
  - Rotatable objective and mirror tubes for an all-round view

micrendo® Borescopes and Rotatable Mirror Tubes

- Extremely thin borescopes starting at diameter 1.8 mm
- Good image quality
- Different fields of view

Item no.	Working Ø	Working length	Direction of view	Field of view
ME.18090.0035	1.8 mm	95 mm	0°	30°
ME.18155.0035	1.8 mm	160 mm	0°	30°
ME.27090.0035	2.7 mm	95 mm	0°	35°
ME.27185.0035	2.7 mm	185 mm	0°	35°

ROTATABLE MIRROR TUBES

- Mirror tubes for micrendo borescopes working diameter 1.8 mm and 2.7 mm
- Quick change of direction of view
- For all-round inspections by turning the mirror tube

Item no.	Working Ø	Working length	Direction of view	Color code
MS.20090.70	2.0 mm	95 mm	70°	green
MS.20090.90	2.0 mm	95 mm	90°	red
MS.20155.70	2.0 mm	160 mm	70°	green
MS.20155.90	2.0 mm	160 mm	90°	red
MSS.30090.70	3.0 mm	95 mm	70°	green
MSS.30090.90	3.0 mm	95 mm	90°	red
MSS.30185.70	3.0 mm	185 mm	70°	green
MSS.30185.90	3.0 mm	185 mm	90°	red

micrendo® Borescopes Wide Angle

- Rigid borescope with rod lens system for excellent images
- Good overview in boreholes due to wide angle
- High resolution images in combination with the camera head and FlexiVision 100

Item no.	Working Ø	Working length	Direction of view	Field of view
ME.18090.0080	1.8 mm	95 mm	0°	80°
ME.18155.0080	1.8 mm	160 mm	0°	80°
ME.27120.0085	2.7 mm	110 mm	0°	95°
ME.27120.3085	2.7 mm	110 mm	30°	85°
ME.27120.7085	2.7 mm	110 mm	70°	80°
ME.27210.0085	2.7 mm	187 mm	0°	95°
ME.27210.3085	2.7 mm	187 mm	30°	85°
ME.27210.7085	2.7 mm	187 mm	70°	80°
ME.40175.00100	4.0 mm	175 mm	0°	100°
ME.40175.30100	4.0 mm	175 mm	30°	100°
ME.40175.70100	4.0 mm	175 mm	70°	100°

micrendo® Fiberscopes

- Flexible borescope for fine boreholes in the lower millimeter range
- Fiber optic image transmission
- Different working lengths

Item no.	Working Ø	Working length	Direction of view	Field of view	Image bundle (pixels)
MO.0350500.0070	0.35 mm	500 mm	0°	70°	3,000
MO.050500.0070	0.5 mm	500 mm	0°	70°	3,000
MO.080500.0070	0.8 mm	500 mm	0°	70°	6,000
MO.100500.0070	1.0 mm	500 mm	0°	70°	6,000
MO.140500.0085	1.4 mm	500 mm	0°	85°	17,000
MO.141000.0085	1.4 mm	1,000 mm	0°	85°	17,000
MO.190500.0085	1.9 mm	500 mm	0°	85°	30,000
MO.191000.0085	1.9 mm	1,000 mm	0°	85°	30,000
MO.240500.0085	2.4 mm	500 mm	0°	85°	30,000
MO.241000.0085	2.4 mm	1,000 mm	0°	85°	30,000

Fiberscopes in other lengths or with side view (90°) on request.

FLEXILUX Universal Borescopes

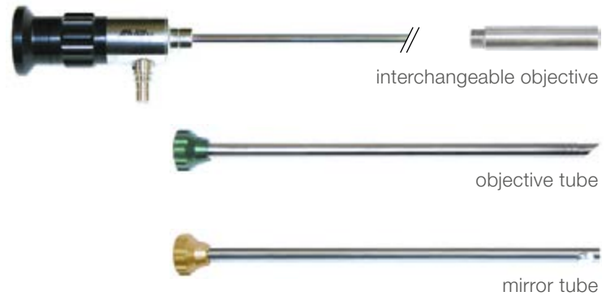
The modular principle

The FlexiLux Universal borescope is a versatile all-rounder that can be adapted to your needs. With only one basic device, different directions of view can be achieved using interchangeable objectives, objective tubes and mirror tubes.

Interchangeable objectives
The interchangeable objectives are screwed onto the tip of the borescope, allowing the direction of view to be modified without increasing the outer diameter of the borescope.

Rotatable mirror tubes
Mirror tubes allow the direction of view to be changed quickly. The tube is simply attached to the borescope with interchangeable objective. The tube is rotated to perform a 360° inspection.

Rotatable objective tubes
The objective tube offers the same advantages as the mirror tube plus the added advantage of a closed tip, making it oil resistant and watertight.



- Modular borescope:
  Exchange of objectives, objective- and mirror tubes
- Very good image quality due to rod lens system
- Water- and oil-tight when using objective tubes
- For a functional borescope, please select an interchangeable objective or an objective tube

Item no.	Working Ø	Working length
UE.04145	4.0 mm	145 mm
UE.04270	4.0 mm	270 mm
FE.55250	5.5 mm	250 mm
FE.55355	5.5 mm	355 mm
FE.08250	8.0 mm	250 mm
FE.08355	8.0 mm	355 mm
FE.08455	8.0 mm	455 mm

FLEXILUX Universal Borescopes

INTERCHANGEABLE OBJECTIVES

- For FlexiLux Universal Borescopes
- Different directions of view
- Easy to screw on and off

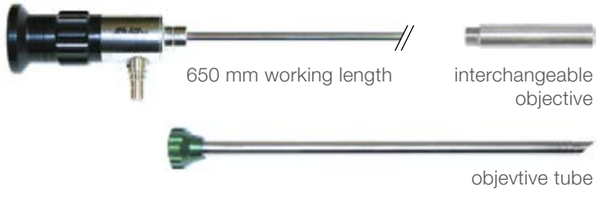
ROTATABLE OBJECTIVE TUBES

- Accessories for the FlexiLux Universal Borescope with integrated objective to change the direction of view
- Easy to attach to the endoscope shaft
- Water- and oil-tight
- 360° inspection by turning the objective tube

Ø Universal borescope	Item no. interchangeable objective	Direction of view	Field of view	Objective length
4.0 mm	UO.0400.35	0°	35°	16 mm
4.0 mm	UO.0400.80	0°	80°	16 mm
5.5 mm	WO.5500.40	0°	40°	25 mm
5.5 mm	WO.5500.85	0°	85°	22 mm
5.5 mm	WO.5545.45	45°	45°	17 mm
5.5 mm	WO.5590.45	90°	45°	21 mm
8.0 mm	WO.0800.40	0°	40°	25 mm
8.0 mm	WO.0800.85	0°	85°	23 mm
8.0 mm	WO.0845.60	45°	60°	27 mm
8.0 mm	WO.0890.60	90°	60°	26 mm

Ø Universal borescope	Item no. objective tube	Working Ø	Working length	Direction of view	Field of view	Color code
4.0 mm	UD.04270.9080	4.4 mm	278 mm	90°	80°	red
5.5 mm	FD.55250.4545	5.9 mm	250 mm	45°	45°	green
5.5 mm	FD.55250.9045	5.9 mm	250 mm	90°	45°	red
5.5 mm	FD.55355.4545	5.9 mm	355 mm	45°	45°	green
5.5 mm	FD.55355.9045	5.9 mm	355 mm	90°	45°	red
8.0 mm	FD.08250.9060	8.5 mm	250 mm	90°	60°	red
8.0 mm	FD.08355.9060	8.5 mm	355 mm	90°	60°	red
8.0 mm	FD.08455.9060	8.5 mm	455 mm	90°	60°	red

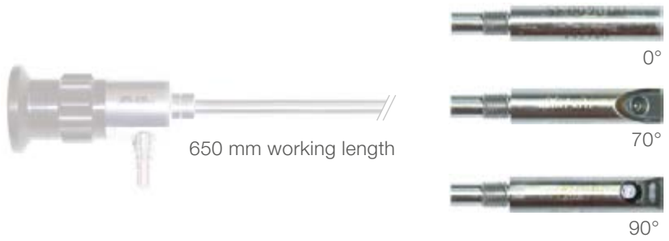
FLEXILUX Universal Borescopes – Long Version



- Modular borescope: exchange of objectives and objective tubes
- Very long borescope shaft
- Water- and oil-tight when using objective tubes
- For a functional borescope, please select an interchangeable objective or an objective tube

Item no.	Working Ø	Working length
FE.04650	4.0 mm	650 mm

INTERCHANGEABLE OBJECTIVES



- Different directions of view
- Easy to screw on and off
- The diameter of the borescope will not be enlarged by the objective

Ø Universal borescope	Item no.	Direction of view	Field of view	Objective length
4.0 mm	WO.0400.85	0°	85°	13 mm
4.0 mm	WO.0490.85	90°	65°	13 mm

INTERCHANGEABLE OBJECTIVE TUBE

- Easy to attach to the endoscope shaft
- Water- and oil-tight
- 360° inspection by turning the objective tube

Item no.	Working Ø	Working length	Direction of view	Field of view	Color code
FD.04650.0085	4.4 mm	650 mm	0°	85°	blue
FD.04650.7085	4.4 mm	650 mm	70°	85°	green
FD.04650.9085	4.4 mm	650 mm	90°	85°	red

ACCESSORIES

To inspect hidden parts inside of components, machines or constructions efforts a sufficient light transport into the inside to guarantee an optimized illumination.

On the following pages you will find light sources and light guides from SCHÖLLY which are perfectly adjusted for visual inspections.

LIGHT SOURCES

Discover the variety of illumination possibilities. Regardless if you have to go on-site and need a small and lightweight handheld light source or if you need an extremely light intensive stationary light source for the illumination of bigger hollows or for use with very thin and simultaneously very long borescopes. On the following pages you will find suitable light sources according to your demands.

LIGHT GUIDES

To transfer the light from the light source to the borescope, you will find glass fiber light guides for the use with high power light sources.

All light guides are equipped with a SCHÖLLY FlexiLux light source connection. On request, we offer a variety of adaption possibilities for light sources and borescopes of other brands.

FLEXILUX 4000 LED Light Source

- Stationary light source with luminance up to 640 lm
- Powerful LED
- No more bulb exchange necessary

Technical Data

Operation control panel	ON/OFF, LED brightness control
Outputs	1 x USB, 1 x Jack 2.5 mm, 1 x ESD
Nominal output	65 Watt
Lamps	High Power LEDs
Color temperature	approx. 5,800 Kelvin
Luminance	approx. 470 lm for fiber Ø 5 x 1,000 mm approx. 640 lm for fiber Ø 8 x 1,000 mm
Lamp life	30,000 h (70 % output luminance)
Mains supply	100 - 240 V, 12 V DC, 5,420 mA
Dimension	170 x 98 x 196 mm (W x H x D) without projecting parts
Weight	2.1 kg

Item no.	**Description**
FX.4000.LED	LED light source FlexiLux 4000 LED
FXS.FS1	Color filter set for FlexiLux 4000 LED (red, yellow, green, blue)

A foot switch as well as color filters are available on request.
A power cord is always included. Please specify plug type.

Light Sources and Light Guides

FLEXILUX 7000 LED Light Source

- Stationary light source with luminance up to 1,400 lm
- Powerful LED
- No more bulb exchange necessary

Technical Data

Operation control panel	ON/OFF, LED brightness control
Outputs	1 x USB, 1 x Jack 2.5 mm, 1 x ESD
Nominal output	100 Watt
Lamps	High Power LEDs
Color temperature	approx. 6,500 Kelvin
Luminance	approx. 1,400 lm for fiber Ø 9 x 1,000 mm
Lamp life	25,000 h (70 % output luminance)
Mains supply	100 - 240 V, 24 V DC, 4,100 mA
Display	OLED grahic display, dimmable
Dimension	170 x 98 x 205 mm (W x H x D) without projecting parts
Weight	2.0 kg

Item no.	**Description**
FX.7000.LED	LED light source FlexiLux 7000 LED

This light source may only be used with glass fiber light guides.

A foot switch is available on request.
A power cord is always included. Please specify plug type.

Glass Fiber Light Guide

- For all borescopes with SCHÖLLY light guide connection
- Temperature resistant up to 300 °C

Item no.	Working length	Active diameter
LL.48180.FX	1,800 mm	4.8 mm
LL.48230.FX	2,300 mm	4.8 mm

FLEXILUX LED Light Source

- For all borescopes with SCHÖLLY light guide connection
- Safe interlocking with the borescope
- Mobile use
- Stepless regulation
- Robust construction for harsh industrial environments

Technical Data

Color temperature	5,100 K
Max. light intensity	15,000 Lux
Lamp life	50,000 h LED typical (average)
Mains supply	3.0 V
Battery	Lithium ion 500 mAh
Mains supply battery charger	Input: 100 - 240 V AC, 50/60 Hz Output: 3.7 V / 7.3 V
Operating time	approx. 30 min. (at full power)
Recharging time	2.5 h
Light guide connection	M10 x 0.5 / according to DIN 58105
Dimension	108 x 25 mm (L x Ø)
Weight	approx. 100 g (with battery)

Item no.	Description
FMLEDLQ3	Mobile LED light source, including 2 x batteries, battery charger, plug type Euro plug CEE 7/16
FMLEDLQ3.BAT	2 x replacement battery for mobile LED light source FMLEDLQ3
FMLEDLQ3.CHARGER	Replacement battery charger for batteries of the mobile LED light source

Endocoupler

FOCUSABLE ENDOCOUPLER

- Allows the connection of FlexiLux borescopes and fiberscopes to other camera systems with C-mount connection thread
- Suitable for all endoscopes with DIN ocular, without focusing
- Easy to use due to quick snap-lock connection

Item no.	Focal length
TVAD.FOK.F30	f = 30 mm

VARIO ZOOM ENDOCOUPLER

- Stepless image magnification
- Allows the connection of FlexiLux borescopes and fiberscopes to other camera systems with C-mount connection thread
- Suitable for all borescopes and fiberscopes with DIN ocular, with focus
- Parfocal zoom, no re-adjustment of the focus when changing the focal length (zoom)

Item no.	Focal length
TVAD.ZOOM02	f = 18 - 50 mm, parfocal

Full HD Monitor 21.5"

FULL HD MONITOR 21.5"

- For connection to FlexiVision 100
- Display of test results in Full HD

Technical Data

Mains supply	100 - 240 V AC, 50/60 Hz
Background lighting	LED
Resolution	1920 x 1080 Full HD
Image format	16 : 9
Reaction time	5 ms
Contrast	1000 : 1
Brightness	250 cd / m²
Viewing angle	170° (H) x 160° (V)
Input signal	HDMI, DVI, VGA, 3G / HD / SD-SDI
Output signal	2 x BNC (CVBS)
Power supply	12 V DC
Operating temperature	-20 °C up to +60 °C
Dimensions	515 x 310 x 50 mm (W x H x D, without foot) 515 x 390 x 182 mm (W x H x D, with foot)
Weight	4.4 kg without foot) 5.1 kg (with foot)
Settings	Multilingual On-Screen-Display (OSD)

Item no.	Description
FA.TVMON21.HD	Full HD Monitor 21.5" including foot

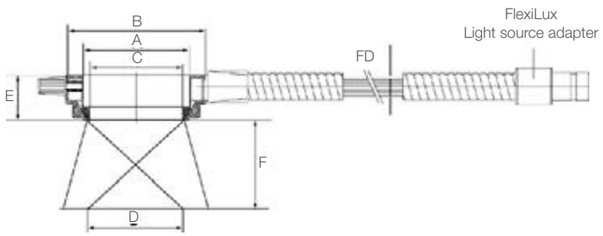
ILLUMINATION AND FIBER OPTICS

The standard program of fiberoptical illuminations contains a wide spectrum of products as for example fiberoptical ring lights for homogenous and shadow-free illumination of a working field. Different kinds of flexible and semi-flexible light guides for a focused illumination of smaller areas as well as a lot of different light probes to illuminate objects.

We are pleased to advise you about customer specific fiber optical illuminations.

FLEXILUX Fiberoptical Ring Light

FLEXILUX **FIBEROPTICAL RING LIGHT**



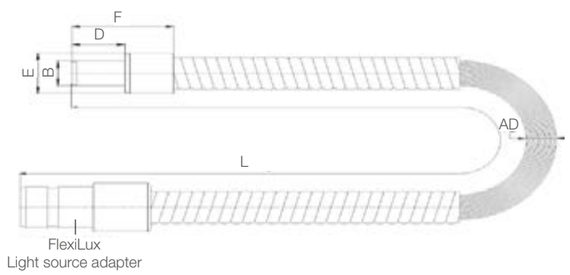
- Homogeneous and shadow-free illumination
- Compact and robust construction

Item no.	A Connection Ø	B Outer Ø	C Inner Ø	D Illumination field	E Height	F Working distance	FD Active Ø	Cable length
10.485	66.2 mm	93.0 mm	57.0 mm	50 - 100 mm	25.0 mm	45 - 125 mm	10.0 mm	750 mm

Further types will be verified on request.

Light Guides Made of Optical Glass

LIGHT GUIDES MADE OF OPTICAL GLASS – ONE-ARMED



- Very flexible due to covering with metal spiral hose and PVC coating
- Various diameters and lengths available
- Equipped with an end sleeve for fixation

Item no.	AD Active Ø	L Length	B Ferrule Ø	D Ferrule length	E Max. outer Ø	F Length metal end
LOG2.401000.FX	4.0 mm	1,000 mm	6.0 mm	12.0 mm	10.0 mm	24.0 mm
LOG2.402000.FX	4.0 mm	2,000 mm	6.0 mm	12.0 mm	10.0 mm	24.0 mm
LOG2.501000.FX	5.0 mm	1,000 mm	7.0 mm	16.0 mm	12.0 mm	31.0 mm
LOG2.502000.FX	5.0 mm	2,000 mm	7.0 mm	16.0 mm	12.0 mm	31.0 mm
LOG2.601000.FX	6.0 mm	1,000 mm	8.0 mm	16.0 mm	14.0 mm	30.7 mm
LOG2.602000.FX	6.0 mm	2,000 mm	8.0 mm	16.0 mm	14.0 mm	30.7 mm

Further types will be verified on request.

Light Guides Made of Optical Glass

LIGHT GUIDE MADE OF OPTICAL GLASS – TWO-ARMED, FULLY FLEXIBLE

- Very flexible due to covering with metal spiral hose and PVC coating
- Equipped with an end sleeve for fixation

Item no.	Active Ø arm	Arms	Active Ø common	Length
10.470	9.0 mm	2	12.7 mm	1,000 mm

LIGHT GUIDE MADE OF OPTICAL GLASS – ONE-ARMED, FULLY FLEXIBLE AND VERY ROBUST

- On the heavily stressed ends protected against fiber fracture
- Flexible part is strengthened with a spiral spring for bend protection on the side of the light source
- Reinforced with additional shrinking hose at the light exit end
- Various diameters and lengths

Item no.	Active Ø	Length
12.578.002	4.0 mm	1,800 mm
12.580.001	6.0 mm	1,800 mm
12.581.001	6.0 mm	3,000 mm

Probe Handle and Light Probes

PROBE HANDLE

- Can be combined with various light probes

Item no.	Outer Ø	Length
12.606	15.0 mm	75 mm

1 - fits to probe light guide item no. 12.580.001 and 12.581.001
2 - fits to light probes (fixation via clamping nut inside handle)

LIGHT PROBES

- For illumination of the interior of objects
- Interchangeable light probes for the probe handle
- Different lengths and directions

Item no.	Active Ø	Outer Ø	Length	Form
12.610	4.0 mm	5.0 mm	100 mm	straight
12.610.006	4.0 mm	5.0 mm	400 mm	straight
12.612	4.0 mm	5.0 mm	200 mm	straight
12.615	4.0 mm	5.0 mm	115 mm	45° angled

Goose Neck Light Guide, Diagnostic Light Guide

GOOSE NECK LIGHT GUIDE – TWO-ARMED, SEMI-FLEXIBLE

- Precise illumination
- Semi-flexible and therefore individually adjustable
- The black design avoids unwanted light reflection onto the working area

Item no.	Active Ø Arm	Arms	Active Ø common	Length
10.466	5.5 mm	2	7.8 mm	600 mm

DIAGNOSTIC LIGHT GUIDE MADE OF SYNTHETIC WITH PROBE – ONE-ARMED

- With integrated probe and handle for convenient guidance of the light guide

Item no.	Active Ø	Length	Probe Ø	Probe length
12.608	1.5 mm	2,000 mm	2.0 mm	50 mm

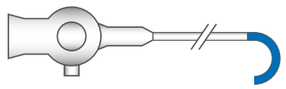
Universal Light Guide

UNIVERSAL LIGHT GUIDE MADE OF SYNTHETIC - WITH TEN SINGLE ARMS, FULLY FLEXIBLE

- 10 single arms for simultaneous illumination of different openings of an object
- Extremely flexible under the influence of heat and therefore individually adjustable
- If required, synthetic fibers can be cut

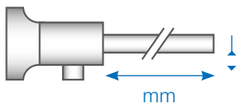
Item no.	Arms	Length	Active Ø
12.592	10	2,000 mm	1.0 mm

Glossary



Tip deflection

With a deflectable tip, flexible borescopes can be used to examine hollow spaces from various angles of view. The tip can be deflected in two-way or four-way direction via an adjusting lever on the device.



Working diameter and working length

The working diameter is the outer diameter of the borescope/fiberscope shaft. In principle, the working diameter selected should be as large as possible. However, the depth of field range and direction of view must also be taken into account. The working length is the length of the borescope shaft.

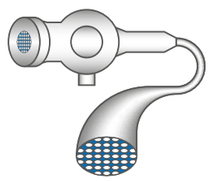
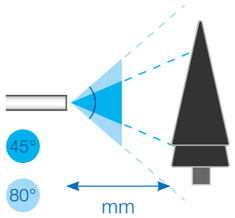


Image bundle

In fiberscopes, also called flexible borescopes, the transmission of images and light takes place via image bundles. Image bundles consist of individual fibers which have the same relative position to each other at the input and output. Each fiber transmits a pixel from the objective to the ocular. The quality of the image depends on the number of pixels and the size of each individual fiber. The image bundle systems ensure the flexibility and movability of the probe.

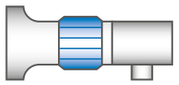


Field of view and wide angle

The field of view, also called angle of view or aperture angle, indicates the visible image section. It is specified in degrees. As of 80° and above, it is called a wide angle. The field of view is independent of the direction of view of the borescope/fiberscope. In its standard product range, SCHÖLLY offers fields of view ranging from 30° - 100°.

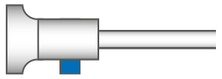
Direction of view

The inspection site inside the object is not always positioned opposite the borescope or fiberscope. This is why there are different directions of view. This makes it possible, for example, to look to the side or diagonally to the front. The direction of view is specified in degrees in relation to the shaft. SCHÖLLY offers directions of view ranging from 0° - 110°.



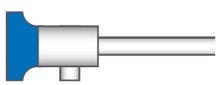
Focusing

The focus ring can be used to adjust the focus of the image within the defined working area.



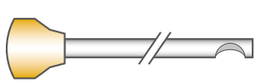
Light guide connection

Flexible and rigid borescopes have a light guide connection to illuminate the inspection site via an external light source. The light guide connects the light source to the borescope or fiberscope. The light guide connector used in our borescopes / fiberscopes is a SCHÖLLY standard connector.



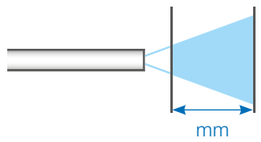
Ocular

The ocular is the part of the borescope and fiberscope through which you look with the eye at the inspection site. For a digital display of the inspection, a camera or a camera head can be connected to the ocular and the images can be displayed on a monitor. Our borescopes and fiberscopes are equipped with a DIN ocular and these fit all SCHÖLLY camera heads. With a SCHÖLLY endocoupler, borescopes can also be connected to other endoscopic cameras.



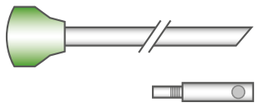
Mirror tubes

Mirror tubes are attachments that the user can use to change the direction of view of the borescope. By turning the reflector tube during the inspection, the user can gain a 360-degree view. Mirror tubes are available with different directions of view. Directions of view of 70°, 90° or 110° are available.



Depth of field

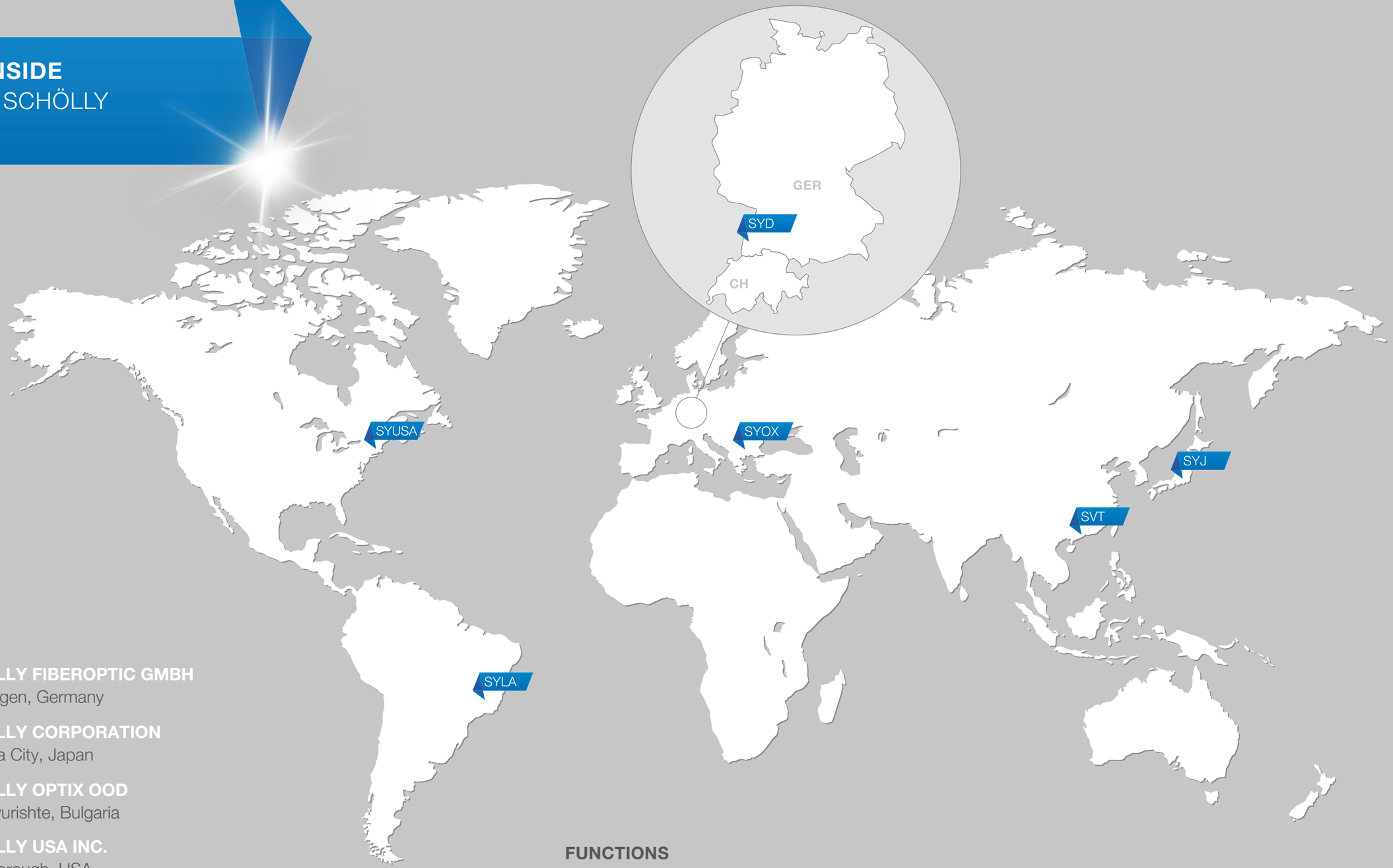
The depth of field is the area in which the borescope / fiberscope gives a focused image of the object.



Interchangeable objectives and objective tubes

For its universal borescopes, SCHÖLLY offers a range of interchangeable objectives and rotatable objective tubes with different directions and fields of view. The rotatable objective tubes can be used to gain a 360-degree view inside the inspection object.The user only needs a basic device to use the interchangeable objectives and rotatable objective tubes to adapt their equipment to different requirements within a similar diameter range. Directions of view ranging from 0° - 90° are available.

EXCELLENCE INSIDE
EXPLAINS WHAT SCHÖLLY
IS ALL ABOUT



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- SYOX **SCHÖLLY OPTIX OOD**
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- SYUSA **SCHÖLLY USA INC.**
  Northborough, USA
- SYLA **SCHÖLLY LATIN AMERICA LTDA.**
  Belo Horizonte, Brazil
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FUNCTIONS

- Research and Development
- Production
- Customer Support and Technical Service

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