

Flexoscopes

Extremely flexible endoscopes



The flexoscope



As their name suggests, flexoscopes are extremely flexible. They are easy to use and enable access to convoluted and irregularly shaped spaces, channels, or pipes that would otherwise be inaccessible to the human eye.

KARL STORZ flexoscopes come in diameters between 0.5 mm and 9 mm and feature a robust, smooth outer shell made of plastic or a metal-tungsten braiding.

Two-way or four-way deflection translates into a large field of view and ensures ease of use and efficiency when used in combination with a kink protector and an integrated lock.

When combined with a powerful external light source, our high quality optical system offers you an outstanding, sharp image that allows you to reliably assess the object to be inspected.

Definition: In flexoscopes, or flexible endoscopes, the image is transmitted from the distal to the proximal end through an optical fiber bundle.



The flexoscope in detail

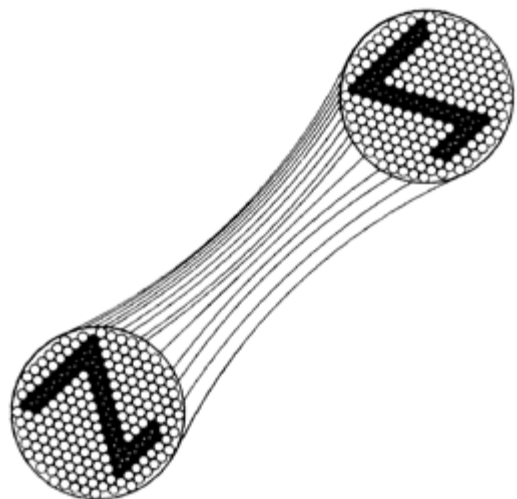
The flexoscope's flexibility is based on its unique image guide system that consists of optical fibers. The optical fibers transmit the image from the lens to the eyepiece. Depending on the type of flexoscope, the bundle of optical fibers or "image guide bundle" can consist of up to 100,000 individual fibers.

An individual fiber's diameter is many times smaller than that of a human hair.

The individual fibers consist of two types of glass: a core surrounded by a thin layer of cladding. Since the cladding has a lower refractive index than the core, all optical signals are fully reflected at this "boundary" between the two types of glass. This enables the transmission of the image in the form of individual image points.

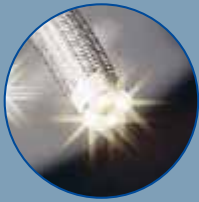
The image resolution of a flexible endoscope and thus the visibility of details in the inspected area depends on the number, packing density, and quality of the individual fibers in the image guide.

High quality, ordered optical fiber bundles are still made by hand.

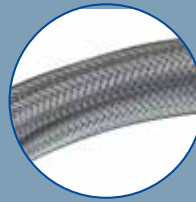


Design and optical system

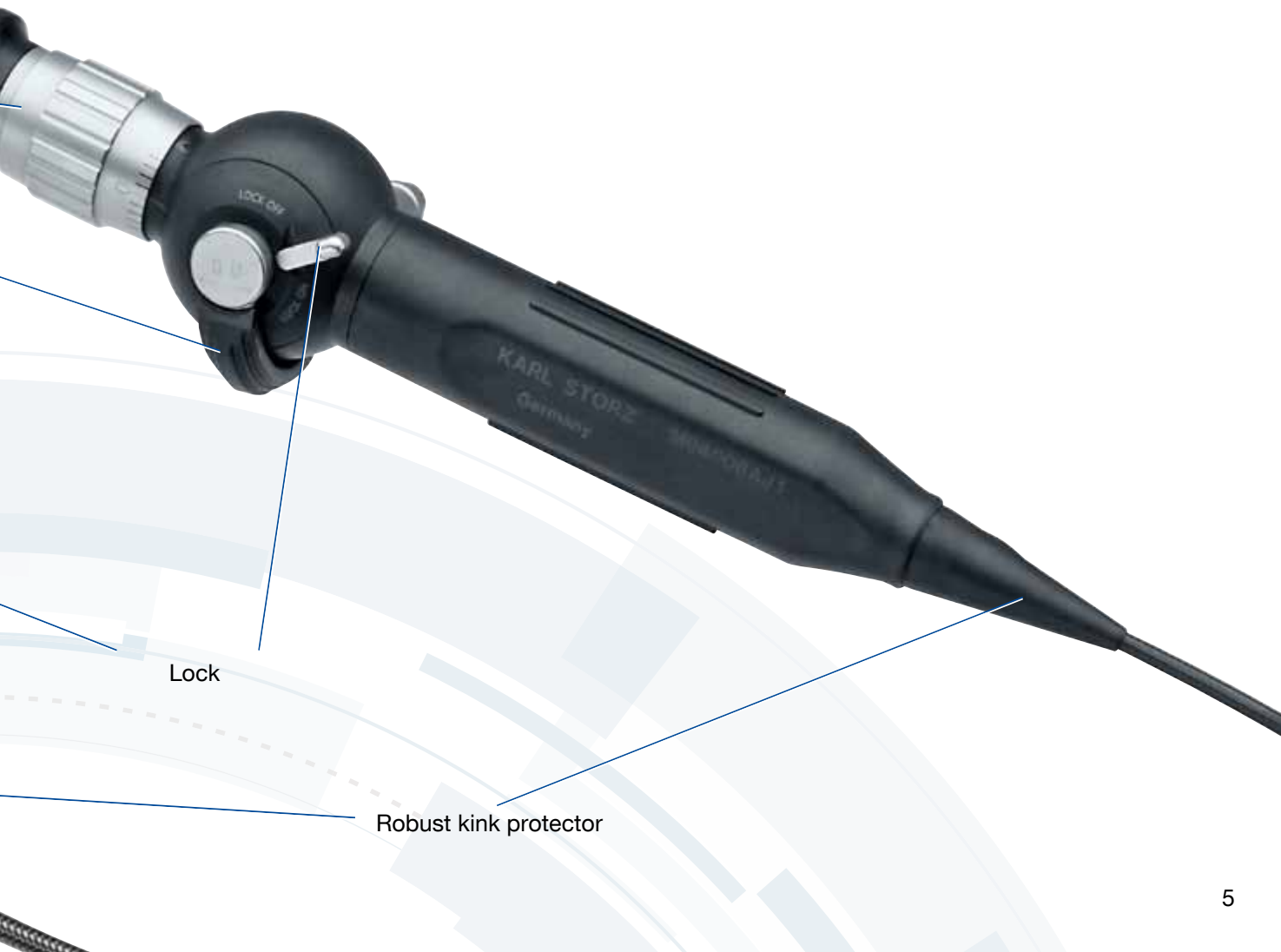




Sapphire front lens
for optimal protection:
computer-calculated lens
for optimized light control



Outer shell with robust,
smooth, multi-layer, and
waterproof plastic or
tungsten braiding



Lock

Robust kink protector

Design and optical system





Special features of KARL STORZ flexoscopes:

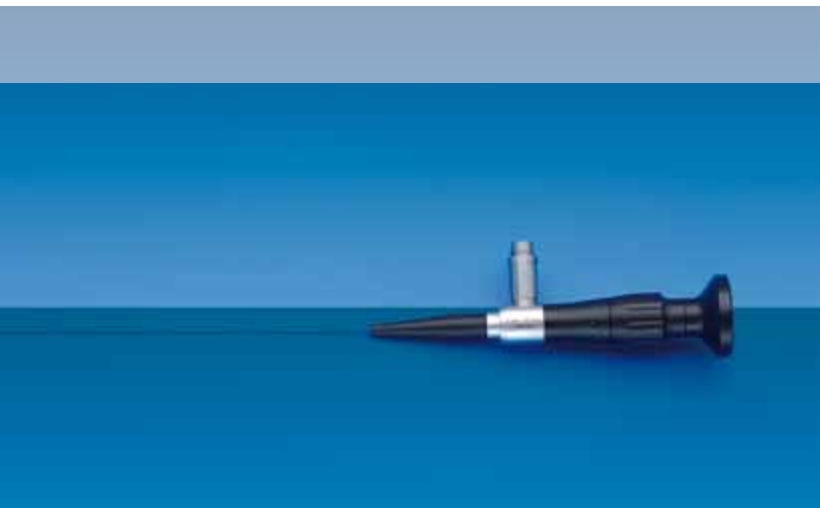
- Extreme flexibility paired with extremely small diameters
- Reliability and robust design
- Easy handling
- High image quality
- Compatibility with the entire product range
- World-wide customer service

Tested quality

The quality and durability of KARL STORZ flexoscopes is tested using stress tests – where flexoscopes undergo 30,000 deflections, for instance – to verify that they meet high technical standards.

Flexoscopes

0.5 mm – 9.0 mm in diameter



Achieving highest precision in very compact spaces requires high quality, high-performance tools and devices.

These KARL STORZ endoscopes feature a very small diameter of between 0.5 mm and 1.3 mm. Such endoscopes allow you to view a cavity through extremely small openings.

Miniflex

0.5 – 1.3 mm in diameter

Model	Diameter	Length	Angle of view	Minimum bend radius of tube
K 00502 AF1	0.5 mm	200 mm	70°	30 mm
K 00504 AF1		400 mm	70°	30 mm
K 00508 AF1		800 mm	70°	30 mm
K 00510 AF1		1000 mm	70°	30 mm
K 00902 AF1	0.9 mm	200 mm	70°	30 mm
K 00904 AF1		400 mm	70°	30 mm
K 00908 AF1		800 mm	70°	30 mm
M 01304 AF1	1.3 mm	400 mm	70°	30 mm
M 01310 AF1		1000 mm	70°	30 mm

All Miniflex flexoscopes have a direction of view of 0°.



Flexoscopes

2.5–4.2 mm in diameter

Model	Diameter	Length	Angle of view	Up/down deflection	Right/left deflection	Length of rigid end	Minimum bend radius of lens	Minimum bend radius of tube
K 02508 AH1	2.5 mm	890 mm	80°	180°/90°		4 mm	6 mm	15 mm
K 02512 AH1		1200 mm		180°/90°				15 mm
M 02808 AH1	2.8 mm	890 mm		180°/90°				15 mm
M 02812 AH1		1200 mm		180°/90°				15 mm
K 03506 AJ1	3.5 mm	570 mm	100°	180°/90°		11 mm	8 mm	15 mm
K 03508 AJ1		760 mm		180°/90°				15 mm
K 03512 AJ1		1220 mm		180°/90°				15 mm
K 03518 AJ1		1800 mm		180°/90°				15 mm
M 04006 AJ1	4.2 mm	570 mm		180°/90°				15 mm
M 04008 AJ1		760 mm		180°/90°				15 mm
M 04012 AJ1		1220 mm		180°/90°				15 mm
M 04018 AJ1		1800 mm		180°/90°				15 mm

6.0–9.0 mm in diameter

M 06010 AG	6.0 mm	1000 mm	70°	180°/180°	120°/120°	12 mm	12 mm	30 mm
M 06018 AG		1800 mm		180°/180°	120°/120°			30 mm
M 09010 AI	9.0 mm	1000 mm	90°	180°/90°	120°/120°	16 mm		40 mm
M 09016 AI		1600 mm		180°/90°	120°/120°			40 mm

Order number K = plastic

Order number M = metal shell (tungsten)

Flexoscope 2.0 mm

Autoscopes 2.5 mm - 4.2 mm



This inexpensive endoscope is specifically tailored to applications in the automobile and casting industry and reliably supplies you with informative images.

Flexoscope

2.0 mm in diameter

Model	Diameter	Length	Angle of view	Up/down deflection	Right/left deflection	Length of rigid end	Minimum bend radius of lens	Minimum bend radius of tube
K 02008 AF1	2 mm	800 mm	70°	100°/100°		4 mm	6 mm	15 mm

Autoscopes

2.5 - 4.2 mm in diameter

Model	Diameter	Length	Angle of view	Up/down deflection	Right/left deflection	Length of rigid end	Minimum bend radius of lens	Minimum bend radius of tube
MA 02508 AI1	2.5 mm	800 mm	90°	90°/90°		4 mm	8 mm	15 mm
KA 03508 AJ1	3.5 mm		100°	180°/90°		11 mm		15 mm
MA 04008 AJ1	4.2 mm		100°	180°/90°		11 mm		15 mm



Motospection



80912

Autoscope Set,
consisting of:

Autoscope, diameter 3.5 mm, length 800 mm

Fiber optic light guide, length 250 mm

Cold light projector, 150 W

Spare lamp

Storage and transport case

Accessories



80600

Multipurpose Stand, for stable mounting of endoscopes and cameras, consisting of:

Articulated stand with a joint in the center and ball joints at both ends, equipped with a mounting plate for holding a camera or endoscope grip, total length approx. 50 cm

Tripod (collapsible) for setting up the stand on an even surface

Tension rod with Vee guide for attaching the stand to a circular pipe, tabletop, etc. The stand can be moved in any direction and can be locked into any position using a central lever.



80600 H

Tension Rod for 80600, tension rod with Vee guide, for attaching a videoscope to the Multipurpose Stand 80600



80601 F1 **Endoscope Holder** for attaching flexoscopes of diameters up to 4 mm to the Multipurpose Stand

80601 F2 **Endoscope Holder** for attaching flexoscopes of diameters above 4 mm to the Multipurpose Stand



80130 F **System Case**, for transporting a flexible endoscope, dimensions: 680 × 415 × 122 mm (w × h × d)

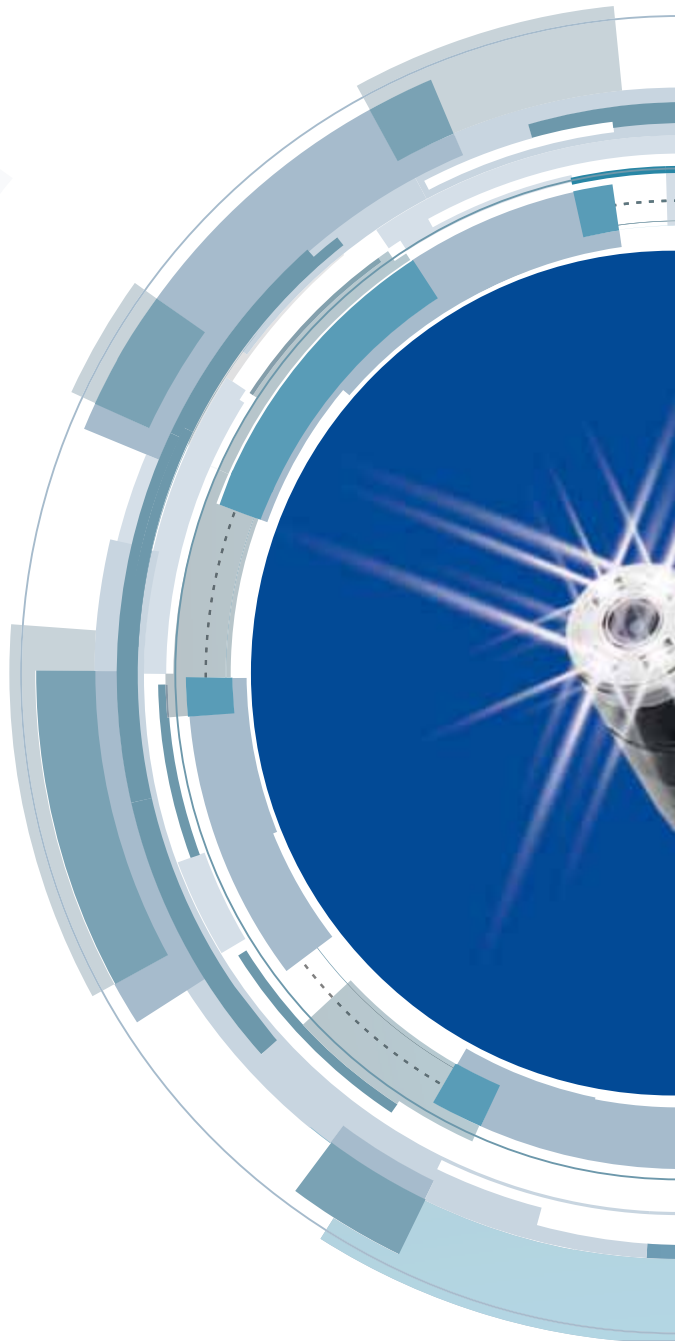
For extensive information on cameras, objective lenses, and monitors, please refer to the “Measurement Systems and Documentation” brochure; for light cables, please see the “Light Sources” brochure.

KARL STORZ Industrial Group

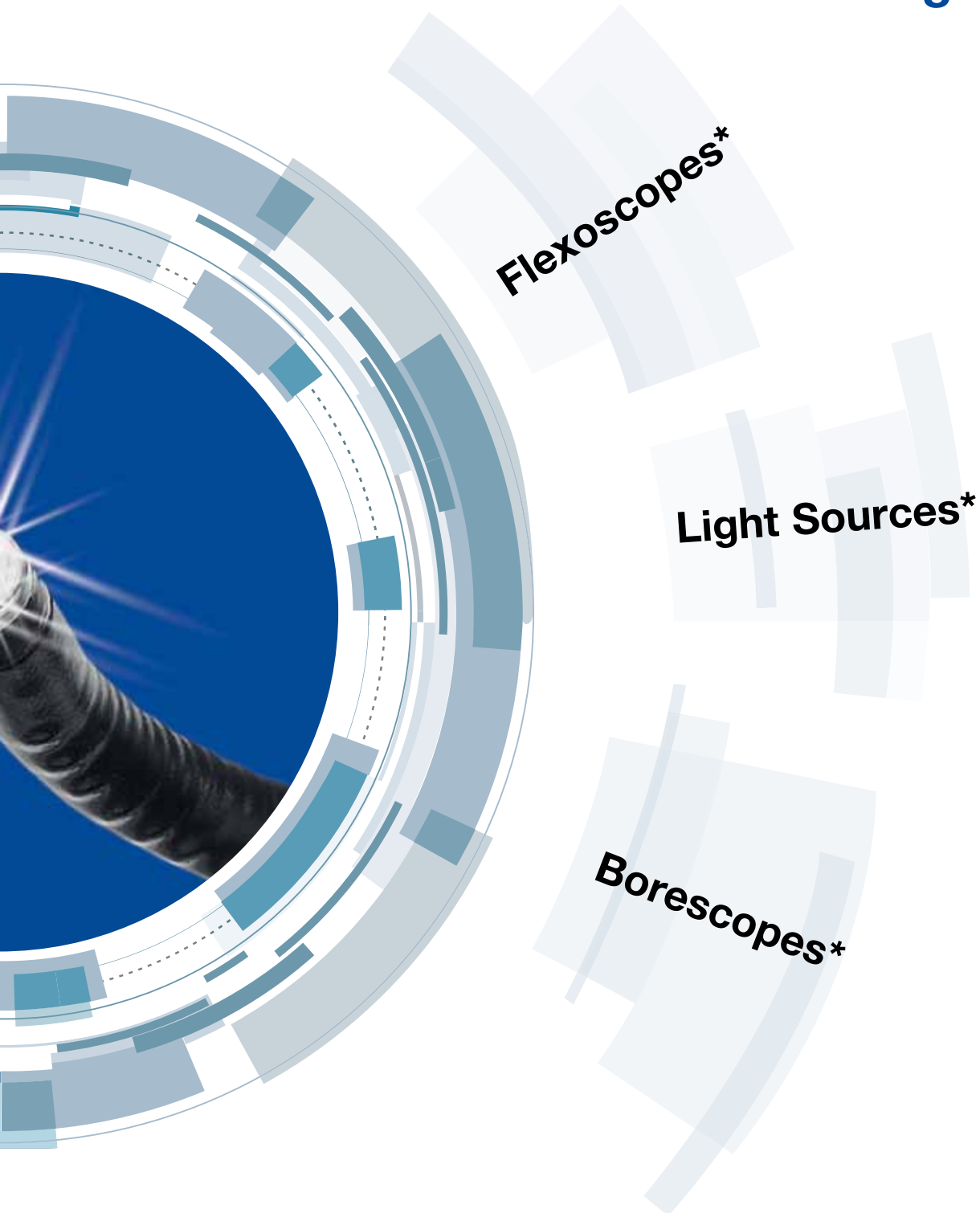
**Measurement
Systems and
Documentation***

Videoscopes*

**Portable
Systems***



Product groups



At KARL STORZ, we are constantly advancing all of our products. For that reason, please understand that changes may be made to the scope of supply, design, equipment, and technology. Therefore, the information, illustrations, and descriptions contained herein cannot be made the basis for any claims whatsoever.

*For an up-to-date overview of the individual product groups, please refer to the product brochures of the KARL STORZ Industrial Group.



Let's get Industrial!

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