

Light Sources

Optimal lighting in endoscopy



STORZ
KARL STORZ — ENDOSKOPE
INDUSTRIAL GROUP



Light into darkness

Cold light for illuminating cavities



At KARL STORZ, hollow spaces are illuminated exclusively using cold light. With this technology, the light source is outside of the endoscope, and the light is guided to the tip of the endoscope through high quality fiber-optic light guides. This robust, rugged, and trouble-free technology generates extremely bright light without significant heating of the inspected object and ensures shadow-free illumination of the inspected cavity.



A light source, also known as light projector, LED light source, or cold light source, is a separate cold light projector that generates light using powerful lamps; the light then travels through a light cable into the endoscope, exits at the sheath, and illuminates the cavity to be inspected. Lamps include LED, halogen, XENON, Solarc, or incandescent lamps.



In 1960, Dr. Karl Storz invented the cold light source. Since that time, light has been generated outside of the endoscope and transmitted through fiber-optic light guides to minimize the heat generated at the tip of the endoscope.

To utilize the lamp current generated by the light source as effectively as possible, most KARL STORZ cold light sources are equipped with a complex, computer-calculated condenser system that precisely focuses the light generated by the lamp on the light guide. The result is a further considerable increase in luminous efficacy.

Bright light is a key determinant of image quality. Powerful, high quality light sources are therefore essential for informative endoscopic images.

The suitability of a light source depends on the type of endoscope used. Therefore, we offer various light sources at different power levels as well as portable, battery-operated cold light projectors.

These range from 5 W LED to 300 W XENON high performance light sources.

Portable light sources

Battery-operated LED light sources



The battery-operated LED light source is available in a conventional battery version or with a rechargeable battery. It features extraordinarily high light intensity of more than 100,000 Lux and produces purest white light. Major advantages are the long life of an LED (up to 50,000 hours) and the run time of more than 120 minutes. The battery-operated LED light source is compatible with almost all KARL STORZ endoscopes and is directly attached to the light connector. Therefore, no light cable is needed.



11301 D4

LED Battery-Operated Light Source for Endoscopes, with fast screw thread, brightness > 110 lm / > 150 klx, burning time > 120 min, weight approx. 150 g ready for use, with 2 Photo Batteries 121306 P



11301 DE

LED Battery-Operated Light Source for Endoscopes, rechargeable, with click connection, brightness > 110 lm / > 150 klx, color temperature 5500 K, lithium-ion batteries, charging time 60 min, burning time at 100% brightness 40 min, weight approx. 150 g

LED TECHNOLOGY

Technical data

- Lamp type LED
- Color temperature 5,500 K
- Weight 150 g
- Run time approx. 120 minutes
- Designed in accordance with CE guidelines, RoHS-compliant



Accessories



- 11301 DG **Charging Unit**, for two LED battery-operated light sources, with integrated power supply and adaptor for EU, UK, USA, and Australia, power supply: 110 – 240 VAC, 50/60 Hz, for use with: 11301 DE/DF LED Battery-Operated Light Source



- 11301 DH **Holder**, for Charging Units 11301 DG, 8546 LE, and 8401 XDL



- 121306 P **Photo Battery, Lithium**, 3 V, CR 123A, for use with: 8548 LD Battery Insert for LED Battery-Operated Light Source 11301 D4



- 094129 **Battery Charger Li-Ion**, for charging the rechargeable Battery Box 094124 or Battery-Operated Light Source 11301 DE, for use with Mains Cord 094127, power supply 100 – 240 VAC, 50/60 Hz



- 094127 **Mains Cord** for Battery Charger 094129, length 150 cm

Portable light sources

Portable cold light projector XENON 25



This light, portable unit runs on a rechargeable battery and features a high-performance light source, a 24 W XENON HiLux arc lamp.



81 1305 01

Portable Cold Light Projector XENON 25,
with 24 W XENON lamp, high light intensity
due to high-quality optical system,
integrated carrying handles,
consisting of:
Illumination Element
Battery Pack
Carrying Belt

Technical data

- Lamp type HiLux arc lamp, 24 W
- Color temperature 6,000 K
- Dimensions 120 × 200 × 170 mm (w × h × d) including handles
- Weight 3.8 kg
- Run time approx. 1 hour
- Designed in accordance with CE guidelines, RoHS-compliant

Accessories

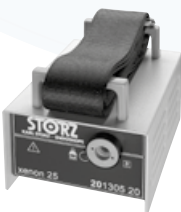


20 130532 **XENON 25** Battery Charger,
power supply: 230 VAC, 50/60 Hz

20 130532 C **XENON 25** Battery Charger,
power supply: 115 VAC, 50/60 Hz



81 130525 **XENON Lamp**, 24 Watt, for Cold Light
Projectors **81 1305 01** / **81 305 02**, and
TECHNO PACK®, life: 750 hours,
color temperature: 6,000 K



20 130520 **XENON 25 Illumination Element**,
with XENON 25 Lamp **81 3905 25**, for use
with XENON 25 Battery Pack **20 1305 30**



81483 G **Carrying Belt**, for Battery-Operated Cold
Light Projector, **81 1305 01**, length approx.
1.30 m, adjustable

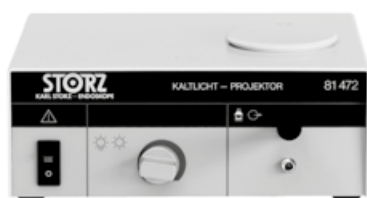
20 130530 **XENON 25** Battery Pack, rechargeable,
including batteries

Light sources - tabletop units

150 W cold light projector



The 150W cold light projector offers excellent value. A high-quality optical system combined with cutting-edge halogen lamp technology ensures infinitely adjustable, high luminous power. The projector is easy to transport as it is lightweight and features an integrated carrying handle on the rear.



81472 B

Cold Light Projector, 150 Watt, with 150 W halogen lamp, high light intensity due to high-quality optical system, light intensity infinitely variable, integrated carrying handle at the rear of the unit, power supply: 230 VA, 50/60 Hz, including mains cord, 300 cm

81472 C

Cold Light Projector, 150 Watt, with 150 W halogen lamp, high light intensity due to high-quality optical system, light intensity infinitely variable, integrated carrying handle at the rear of the unit, power supply: 115 VA, 50/60 Hz, including mains cord, 250 cm

Technical data

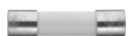
- Lamp type Halogen 150 W
- Light intensity Infinitely adjustable
- Dimensions 235 × 100 × 230 mm (w × h × d)
- Weight 3.2 kg
- Designed in accordance with CE guidelines, RoHS-compliant
- Color temperature 3400 K

Accessories



81103

Halogen Lamp 15 V/150 W, spare lamp for
Cold Light Projector 81472 B/C



1069500

Fuse, 5.0 x 20 mm, T 1.60 A (SB)

Light sources - tabletop units

TECHNO LED NOVA 150 cold light projector



The compact, high-performance cold light projector TECHNO LED NOVA 150 delivers cold, white light that generates virtually no heat. The device is energy-efficient, noiseless, and does not require lamp changes since the LED module has a life of up to 30,000 hours. Its international power supply enables worldwide use.



SL 150

TECHNO LED NOVA 150,
high-performance LED cold light source
with a KARL STORZ light outlet,
power supply 100 – 240 VAC, 50/60 Hz
color temperature: approx. 6400 K
included in delivery:
Mains cord (Schuko)
Mains cord (USA)

Technical data

- Lamp type High-performance LED
- Color temperature 6,400 K
- Light intensity Infinitely adjustable
- Dimensions 305 × 84.5 × 238 mm (w × h × d)
- Weight 2.3 kg
- Designed in accordance with CE guidelines, RoHS-compliant

LED TECHNOLOGY

Accessories



1973290

Fuse, 5.0 x 20 mm, T 2.00 A (SB)

Light sources - tabletop units

TECHNO ARC 60 cold light projector



Like all KARL STORZ light sources, the TECHNO ARC 60 cold light projector features high light intensity. The light is generated by a 50W HiLux arc lamp with optimized KARL STORZ condenser system, and the light intensity is infinitely adjustable in the full range of 0 to 100%. Thanks to the practical carrying handle and the international power supply, the cold light projector is very versatile.



81 131001

TECHNO ARC 60 Cold Light Projector,
with 50 Watt HiLux light arc lamp, high light
intensity due to high-quality optical system,
light intensity infinitely variable, integrated
carrying handle at the front of the unit,
power supply: 110 – 240 VAC, 50/60 Hz
included in delivery:

Mains cord (Schuko)

Mains cord (USA)

Technical data

- Lamp type HiLux arc lamp, 50 Watt
- Color temperature 6,500 K
- Light intensity Infinitely adjustable
- Dimensions 305 × 110 × 270 mm (w × h × d)
- Weight 3.8 kg
- Designed in accordance with CE guidelines, RoHS-compliant

Accessories



81 131021

Spare Lamp 50 W, for use with
TELE PACK X, TECHNO ARC 60,
TECHNO PACK® II, TECHNO PACK® X,
and PORTABLE PACK DIGITAL



2027390

Fuse, 5.0 x 20 mm, T 1.60 A (SB)

Light sources - tabletop units

POWER LED 175



The POWER LED 175 is a high-performance LED cold light source. It has a life of 30,000 hours (at average levels of daily use, this corresponds to more than 7 years) and therefore does not require lamp changes. The POWER LED 175 features cutting-edge LED technology and guarantees excellent, bright light. Its international power supply enables worldwide use.



20161401-1 POWER LED 175 SCB Cold Light Fountain,
with integrated SCB,
high-performance LED lamp,
light intensity infinitely variable,
power supply: 110 – 240 VAC, 50/60 Hz
included in delivery:
Mains cord
SCB connecting cord, length 100 cm

Technical data

- Lamp type LED 175 SCB, with integrated SCB (KARL STORZ Communication Bus)
- Color temperature 6,500 K
- Light intensity Infinitely adjustable
- Dimensions 305 × 110 × 233 mm (w × h × d)
- Weight 4 kg
- Designed in accordance with CE guidelines, RoHS-compliant

LED TECHNOLOGY

Accessories



400 FUS

Mains Cord, with 90° angled connector plug, straight unit connector, length 250 cm, US plug

Light sources - tabletop units

TECHNO LIGHT® 270 cold light projector



The high-performance cold light projector TECHNO LIGHT® 270 delivers clear, white light; its special, robust plastic housing makes it particularly well suited for industrial applications. The infinitely adjustable light intensity provides illumination precisely tailored to the requirements of the specific inspection. Its international power supply enables worldwide use.



81 123501 A **TECHNO LIGHT® 270 Cold Light Projector**, with a 270 W metal halide lamp, high light intensity due to high-quality optical system, light intensity infinitely variable, carrying handle on side of unit, power supply: 110 – 240 VAC, 40/400 Hz included in delivery:
Mains cord (Schuko)

Technical data

- Lamp type Metal-halide lamp, 270 Watt
- Color temperature approx. 5,600 K
- Light intensity Infinitely adjustable
- Dimensions With plastic housing, 305 × 155 × 233 mm (w × h × d)
- Weight 6.7 kg with plastic housing
- Designed in accordance with CE guidelines, RoHS-compliant

Accessories



81 123521 **Metal Halide Lamp**, 270 W, spare lamp for TECHNO LIGHT® **81 1235 01**



400 FUS **Mains Cord**, with 90° angled connector plug, straight unit connector, length 250 cm, US plug



1059400 **Fuse**, 5.0 x 20 mm, THT/T0, 800 A

Light sources - tabletop units

XENON NOVA® 300 cold light projector



The 300 W XENON lamp with optimized KARL STORZ condenser system generates very high light intensity and is therefore particularly suitable for inspections that require the illumination of larger cavities. With infinitely adjustable brightness control, the light can be easily optimized for any inspection situation. The projector is equipped with an international power supply.



20134001

XENON NOVA® 300 Cold Light Projector,
with a 300 Watt XENON lamp, high light
intensity due to high-quality optical system,
light intensity infinitely variable,
power supply: 100 – 125/220 – 240 VAC,
50/60 Hz,
included in delivery:

Mains cord

Technical data

- Lamp type XENON lamp, 300 Watt
- Color temperature 6,000 K
- Light intensity Infinitely adjustable
- Dimensions 305 × 110 × 270 mm (w × h × d)
- Weight 4 kg
- Designed in accordance with CE guidelines, RoHS-compliant

Accessories



20133028 **XENON Spare Lamp, 300 Watt, 15 Volt**



400 FUS **Mains Cord, with 90° angled connector plug, straight unit connector, length 250 cm, US plug**

Light cables for cold light projectors



For each endoscope, there is an optimal light cable. For example, large-diameter endoscopes should be used with light cables with a large cross-section (active diameters), so that the high light output can be fully passed on. Therefore, it is important to choose a suitable light cable.



High performance fluid light cable, active diameter 5 mm, in robust industrial design, designed for heavy-duty industrial use with extra robust kink protector, steel housing, protective metal sleeve for the quartz rod component of the light plug, tubing diameter 9 mm.

81594 SB **High-Performance Fluid Light Cable,**
active diameter 5 mm, length 250 cm

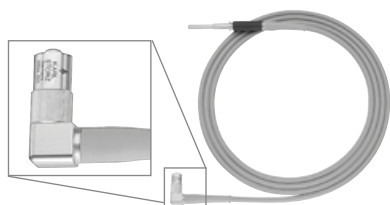
81594 SA **High-Performance Fluid Light Cable,**
active diameter 5 mm, length 350 cm





Fiber optic light guide, suitable for virtually all KARL STORZ endoscopes up to 6.5 mm in diameter, active diameter 3.5 mm

- 81594 GW **Fiber Optic Light Guide**, active diameter 3.4 mm, length 180 cm
- 81594 GV **Fiber Optic Light Guide**, active diameter 3.4 mm, length 250 cm
- 81594 GU **Fiber Optic Light Guide**, active diameter 3.4 mm, length 350 cm



Fiber optic light guide, suitable for virtually all KARL STORZ endoscopes, active diameter 3.5 mm. To optimize the connection between the endoscope and the light cable, the light connector is angled 90°.

- 81594 GW1 **Fiber Optic Light Guide**, active diameter 3.4 mm, length 180 cm
- 81594 GV1 **Fiber Optic Light Guide**, active diameter 3.4 mm, length 250 cm

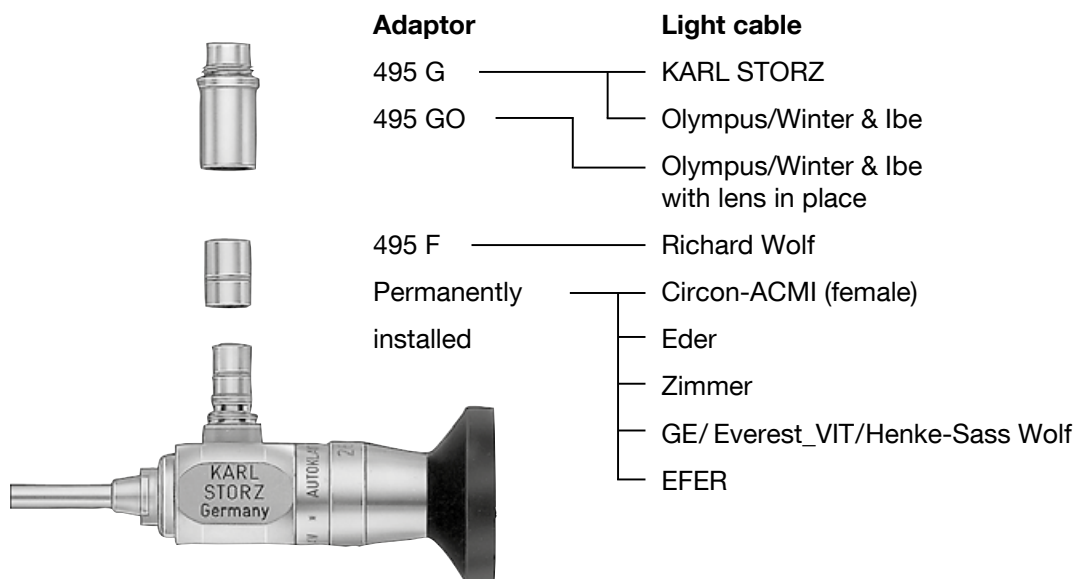
Fiber optic light guide for endoscopes, diameter 8 mm or more, active diameter 5 mm. Much higher luminous intensity is achieved thanks to the adaptation to the larger fiberglass cross-section of the 8 mm borescopes.

- 81594 GC **Fiber Optic Light Guide**, active diameter 4.8 mm, length 180 cm
- 81594 GB **Fiber Optic Light Guide**, active diameter 4.8 mm, length 250 cm
- 81594 GA **Fiber Optic Light Guide**, active diameter 4.8 mm, length 350 cm

Adaptors



HOPKINS® telescopes with universal connector for light cables



Adaptors

Third-party device	I KF LK	= Instrument = Cold light projector = Light cable	KARL STORZ				Special applications
			Light cable	Cold light projector	Older instrument	New instrument	
Aesculap	KF		495 PWS				Only required for KARL STORZ flexoscopes as well as light cables with infinitely adjustable distal connector, 7 mm, with Adaptors 495 S/495 PWS
Circon-ACMI	I		495 W				Circon-ACMI connector to Circon-ACMI connector 495 Y
	I – female		495 KM				
	KF		495 PA				
	LK – female			495 C	495 K		
	LK – male					495 Y	
American Optical	LK			495 AO			
Downs	KF		495 PA				
Dyonics	KF		81495 Q				
Effner	KF		81495 Q				
Fort	KF		495 KF				
	LK			495 KA			
Fuji	KF		495F U				
	LK			495 ZU			
Heine-Optotechnik	I		495 U				
	KF		495 O				
	LK			495 B	495 J	495 J	
Homoth	KF		495 KH				
KLI	LK			495 C			
	KF		495 PA				
Lumatec	KF		495 LU				
Machida	KF		495 SM				
Medtech	KF		495 TK				
MLW	I		495 KN				KARL STORZ light cable to FRIEDEL MLW bronchoscope
	KF		495 KL				
	LK				495 KD	495 KD	
Olympus	KF (technology)		81495 OT				Olympus light cable to KARL STORZ Technofountain 81450/81495 OL
	LK			495 D			
Pentax	KF		495 T				
	LK			495 D			
Pilling	I		495 SP				
	KF		495 R				
LK							
Richards	LK			495 LR	495 JR	495 JR	
HSW	I		495 V				
	KF		81495 Q				
	LK			495 E	495 N	495 N	
Schott	KF		495 SCH				
Stryker	I		495 ST				
	KF		495 PA				
Thackray	KF		495 BT				
Richard Wolf/EFER	I		495 X				
	KF		81495 Q				
	LK			495 E	495 M	495 F	
Olympus/Winter & Ibe	KF		495 S		495 GO	495 GO	495 S: When using KARL STORZ flexoscopes with integrated fiber-optic light cable or KARL STORZ light cables with infinitely adjustable distal connection, diameter 7 mm, the adaptor 495 PWS is needed in addition to the adaptor 495 S .
	LK with lens in place						
Zeiss	KF		495 ZE				
	LK			495 ZF	495 ZJ	495 ZJ	
	Surgical microscope		495 ZM				
	Surgical microscope, 14 mm diameter		495 ZS				
	Cap 303477		495 ZK				
	Cap 303484		495 ZK 1				
Screw Base	KF		81495 STR				
	I		495 G				
Schölly	KF		81495 STR				
Volpi	KF		81495 STR				
Eltrotec	KF		81495 STR				
ITI	KF		495 PA				
Lenoy	KF		495 PA				
GE/Everest_VIT	I		495 G				
	KF – ELSV60		81495 OT				
	KF – ELSV24		495 PA				

Accessories



495 PW

Coupling Device, for connecting 2 KARL STORZ fiber optic light guides

81010171

Potential Equalization Cable, length 10 m, potential equalization connector on one side, battery clamp on other side





KARL STORZ adaptor series 487

The adaptors below can be used with the KARL STORZ cold light projectors TECHNO LIGHT® 270, TECHNO ARC 60, TECHNO PACK® X, and XENON NOVA® 300.

Item no.:	Adaptor , for KARL STORZ light source
487 A	in combination with ACMI light cable
487 M	in combination with Machida light cable
487 O	in combination with Olympus light cable
487 OES	in combination with Olympus OES flexible endoscopes
487 P	in combination with Pilling light cable
2108191	in combination with KARL STORZ light cable
81487 UO	in combination with KARL STORZ, Wolf, Dyonics, Circon-ACMI, Olympus, V. Müller, Eder, Stryker, KLI, Sparta light cables
487 W	in combination with Wolf light cable
487 WI	in combination with Winter-IBE light cable
487 Z	in combination with Zeiss light cable

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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