

Neue Adresse - New Address

GOSSEN

Foto- und Lichtmeßtechnik GmbH

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GOSSEN

GKL 315
GKL 500 F

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Before switching the cold light source GKL on

Please check whether the mains voltage available at your end is one of the voltage ratings indicated on the type-plate (1) of the light source (220 V/240 V or 110/120 V; AC 50/60 Hz). Only if the voltage indicated on your light source is the same as your mains voltage, the GKL may be connected.

Connecting the fibre optics bundle

The GKL 300 is supplied with three precision fibre optics bundles that terminate in a single connector. Insert the single end (2) of the group of bundles into the receptacle on the front of the unit until it stops so that the locking pin of the receptacle at the lamp will fit into the hole provided in the fibre optics bundle connector. Tighten the knurled screw (4) to hold the bundle in place.

In order to increase their stability, it is advisable to bend the individual branches to a S-shape and then approach them to the subject to be illuminated.

The fibre optics bundles used in the GKL are of the highest quality, extremely fine glass fibres and are protected by semi-flexible metal tubes. Each branch does contain many thousands of individual fibres, each one having a diameter of approx. 50 µm. Therefore, always avoid extreme sharp bends, as the repetitive bending in this manner will cause breakage of the glass fibres. You can bend the arms to a radius of max. 55 mm. If you bend them further, you risk damaging them. At the place where the breakage occurred the arm will no longer be stable but will vibrate.

Setting up for operation

After having attached the fibre optic bundles to the unit, plug the power cord (7) into a power source and turn on the power switch (5) on the back of the unit. The intensity of the light can be adjusted by rotating the dimmer control knob (6) on the front panel. Changing the light intensity will not change the existing color temperature.

The fibre optic bundles can be bent in any shape and direction required and they then maintain the chosen position firmly.

By changing the direction of the individual arms towards the subject, a very precise centering of the light beams can be achieved.

The light intensity can be varied by changing the distance between light exit of the fibre optics bundle and the subject or by regulating the light intensity with the rotary light regulating knob (6) at the front of the unit. The light intensity can be varied in the range of 4 stops. However, changing the light intensity will not change the colour temperature. It remains constant at approx. 3200 K with continuous light and at approx. 5600 K with flash.

For measuring the exposure of small subjects we recommend the use of the PROFI-flex attachment together with the GOSSEN exposure meters MASTER-SIX and PROFISIX and the measuring probe attachment for use with the LUNASIX F and LUNASIX 3 GOSSEN meters.

For determining the exposure data when using flash, we recommend especially the MASTER-SIX and the LUNASIX F exposure meters which are at the same time flash meters. The new swivel head flash attachment PROFI-flash 2 which fits on the PROFISIX meter provides excellent measuring facilities for that special purpose.

Cooler fan

A high power, low noise fan provides the necessary cooling. Make sure that the ventilation openings (11) on the housing nor the air outlet of the fan on the back of the unit are not obstructed, so that the cooling fan can circulate air.

Functioning

The fibre optic bundles of the GKL allow illuminating small objects at close range and for an unlimited length of time without causing any damage due to heat to them, such as plants, electronic components, minerals, microorganisms. The GKL can also be used as additional effects light in the field of micro and macro photography.

With the flash of the GKL 500 F even very tiny moving subjects can be effectively illuminated and then perfectly photographed. When photographing jewellery you will find the flash of the GKL 500 F extremely helpful: unwanted shadow areas can be eliminated thus showing the piece in the most advantageous way. The continuous light of the halogen lamp with dichroic mirror serves as pilot light.

When using the GKL 500 F in the flash mode, first connect the unit to the mains voltage and switch on the power switch (5). The lamp is ready for operation as soon as the signal "ready for flash" (7) comes on. There are three positions for the function switch (8):

- = the cooling fan is operating, the lamps are switched off
- = pilot light on, continuous light on, flash can be operated in addition to continuous light
- = continuous light off, flash only

For triggering the flash you can either push the red button (9) or fire it from your camera by means of a synchro cable which is supplied as accessory with each GKL 500 F. At the GKL 500 F a socket for connecting the synchro cable (10) is provided. After a flash has been fired, it takes about 8 seconds till the signal "ready for flash" (7) will light up again showing that a new flash can be triggered.

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Lamps

The GKL are equipped with a tungsten halogen lamp with integral dichroic mirror for high light-output with low heat. Normal life of this lamp is approximately 50 hours. The flash of the GKL 500 F is supplied by a gold tone tube.

Lamp life can be extended in the following ways:

- Don't switch the lamp on and off constantly (leave it on, if you have only short interruptions in your work)
- Don't touch the lamp or the mirrored surface of the dichroic reflector with your bare fingers (note the instructions of the lamp manufacturer).
- Protect the lamp from shock, especially when it is in operation or still warm.

Lamp replacement

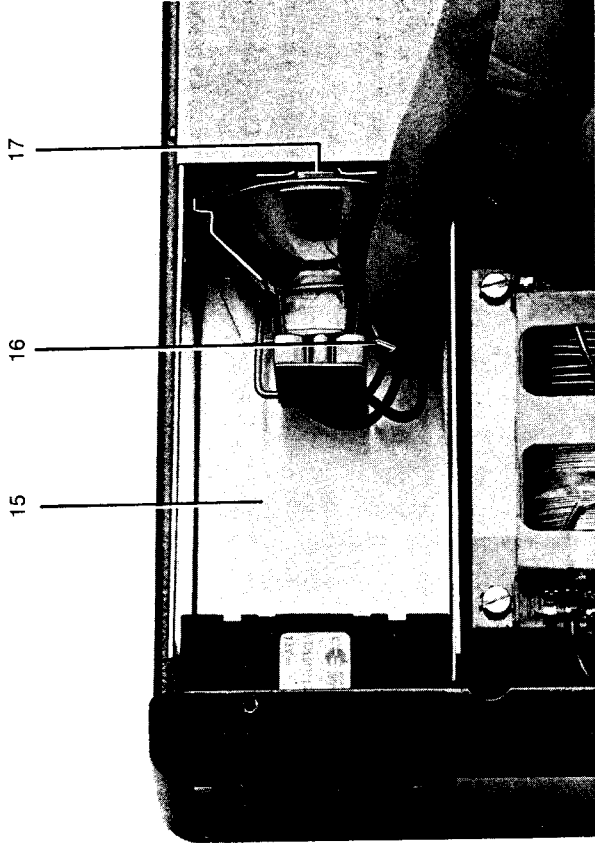
Caution: Before attempting lamp replacement disconnect the power cord (7) from the wall outlet. Remove the 4 screws (8) on the cover and lift off the cover. The remove the lit (15) of the internal lamp housing and push the clamp (16) at the lamp holder towards the back. This will push the lamp out of the holder.

Insert the new lamp and push it into the holder. Please make sure that the cam (17) at the front of the lamp will fit into the groove at the top of the lamp holder. Then replace lit on the internal lamp housing, put on cover of housing, again and screw it on firmly with the 4 screws.

Replacing the fuse

Caution: If it becomes necessary to change the fuse, you must first disconnect the power cord from the wall outlet. A coin or similar means can be used to turn the cap of the fuse holder (18) counter-clockwise to remove the fuse. Insert new fuse of the type stipulated on page 18 of these instructions. Reinsert cap and turn clockwise to lock in place.

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Important

For maximum light transmission, the precision optically ground and polished exit ports of the fibre optics arms should always be kept clean. Clean them as you would any fine lens.

The metal tubes of the fibre optic bundles should not be oiled or treated with any lubricant, as their ability to maintain position when adjusted for a particular lighting arrangement will be impaired.

Care should be taken that only the lamp types and fuses, mentioned in these instructions, will be used for replacement purposes (page 18).

Useful information

In order to make even better and full use of the Cold Light Sources GKL certain values should be determined by precise measurements. The GOSSEN company is manufacturing a full line of measuring instruments for photographic and lighting purpose which will help you to solve any problem you may encounter when doing creative photographic work.

For instance, the MASTERSIX and the PROFISIX systems exposure meters represent an outstanding and versatile measuring system being provided with a total of ten optional attachments, among them the PROFi-flex, PROF-spot, PROF-lux, PROFi-flash, PROFi-micro, TELE.

Illustrated brochures are available at your photo dealer. Please ask for them.

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Accessories

The combined focussing and filter kit widely increases the creative possible uses of the Cold Light Sources GKL. The filter holders (12) containing the focussing lenses (13) are being attached to the fibre optic bundles (light contacting arms) and locked into place by means of screws. Thus even more and concentrated light is being obtained. You can also use one of the light contacting arms with the attached focussing lens as spot light, whereas the remaining arms are used, without lenses, as main light or background lighting. Should you wish to light up larger areas with clearly defined limits, you attach only the filter holders without inserting the lenses.

In addition to that, colour effects can be created when using the six monochromatic filters which are also contained in that accessory kit. The colours available are red, yellow, blue, green, orange and violet.

Last not least, the kit comprises two colour conversion filters: the filter for artificial light film 81A being a light balancing filter and the filter 80B allowing the use of the lamp for daylight film photographs.

The second accessory kit contains a set of polarizing filters. When attaching a polarizing filter at the light exit end of the fibre optic bundle mirrored reflections on polished surfaces can be reduced or eliminated. The lighting effects can be made even more effective when using a polarizing filter also in front of the camera lens.

A flash synchro cable and one set of focussing lenses and lens holders are supplied as accessories with the GKL 500 F.

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Technical data

Housing	sheet steel housing
Mains connection	3-wire cable, approx. 1.7 m long, with Europe type safety plug (plugs suitable for the connections available in your country)
Operating voltage	200 V/240 V, 50 . . . 60 Hz (110/120V available as special design - please specify in order)
Lamps	Halogen cold light mirror lamp for continuous light GKL 315 GKL 500 F 15 V; 150 W 12 V; 100 W Osram Bellaphot 64634 64627 Philips 6423 6834 gold tone tube for flash
Colour temperature	approx. 3200 K at continuous light approx. 5600 K at flash
Brightness control	optomechanical filter in the range of 4 stops without focussing lenses approx. 67°
Light exit angle	with focussing lenses approx. 22°
Fuse	micro-fuse 5×20 mm, at 220/240 V: T 1.25 D 250 V, at 110/120 V: T 2.5 D 250 V
Protection filter	3 mm heat absorbing filter

Light conductors	50 µm diameter silicate fibre glass
outer diameter	10 mm, active diameter 4.5 mm
Length	approx. 610 mm
Cooling fan	low noise variable speed fan
Dimensions	GKL 315 GKL 500 F approx. 165×85×175 mm approx. 165×85×255 mm approx. 3450 gramms approx. 4000 gramms
Weight	synchro cable for flash
Standard accessories supplied with the GKL 500 F	1 set focussing lenses with filter holders
Separate Accessories	1 set focussing filter holders
Combined focussing and filter kit	1 set focussing lenses
	1 set conversion filters 81A for artificial light film
	1 set conversion filters 80B for daylight film
	1 set coloured filters, comprising 6 monochromatic filters in blue, red, green, yellow, orange and violet containing 3 polarizing filters
Polarizing filter kit	