

User manual for LED Lamp model Zeiss Axioskop 20

TDKK

Technische Dienst Koekange

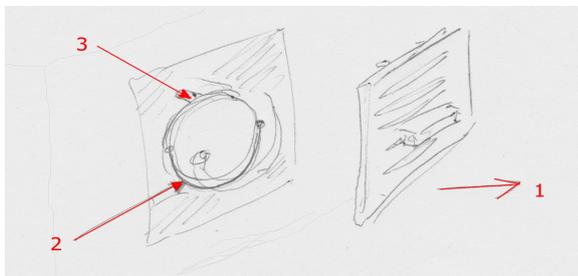
This TDKK LED lamp is designed, to upgrade a microscope Zeiss Axioskop 20, to the new light standard, without having to perform any modifications to the microscope.

The LED lamp will take the place of the old halogen bulb, this halogen bulb has to be taken out of the base first. (like normal bulb change). Switch off the microscope first.

Step 1: Take of the black square cover plate (1) from the side of the microscope, you now can see a circular part with some wires in the opening of the base

If you take a second look you will see a semicircular metal wire handle (2), with that you can carefully pull the lamp holder part

(3, with the wires) out of the opening in the base.



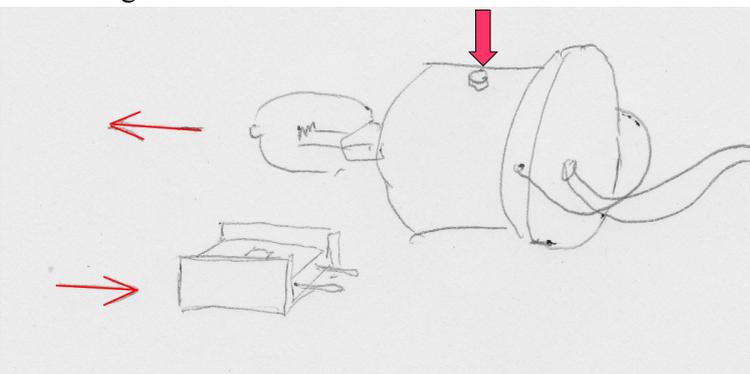
The wires are not that long, so you have limited working space. Sometimes taking the lamp holder out is a bit hard to do, take your time and do not damage any of the parts.

Step 2: When you have taken the lamp holder out of the opening, you see the halogen bulb sitting in the

base in front. You can take the halogen bulb out, using a tissue, to prevent fingerprints on the glass, just pull it straight out of the base. You can keep the bulb for later use (?)

Step 3: Now the base is empty, the LED can be "installed", just by sticking it in the base.

You already can make a pre adjustment, by checking that the LED is inserted as far as it goes, and is as straight to the rest of the base.



IMPORTANT, unlike a halogen bulb, the LED has a front and a back, the yellow square part is the emitter, and this has face the light path of the microscope, that is same direction as the little screw on top of the lampholder.

Step 4: If the LED lamp is fitted, right way up, and straight, you carefully have to slide the

lampholder back into the base of the microscope, try not to shift the straight position of the LED while doing that.

The small screw on top of the lampholder has to fit into the slot, you can put the handle down and place the cover back on. (ready!)

If you now switch on the microscope, you can use it with LED light, you can adjust the intensity with the normal knob. The LED emits a bright white light, you do not need the blue or daylight filter anymore.

You could keep the halogenbulb and filter in a safe place for possible later use.

TDKK is registred under number:

KvK nummer 4087287

BTW nr NL0804.37.187.B01



Technical Data

The LED is build for a tension of 7,1 volt. (unbalasted output of the Zeiss supply)

The LED lamp may only be used on 100% during max.10 minutes, to prevent **thermal drift**, and **damage** to the LED.

Longtime use at or lower than 95% has no restrictions. (LED could get warm at high level)

BE AWARE that even a LED on maximum power can get hot, this shortens the life expectancy dramatic!

Take all unnecesare filters out of the light path, to be able to use a lower intensity level, the LED will stay cold and its life expectancy will be almost endless.

Light intensity of this LED is equivalent or more than a 20 watt halogen bulb.

Powerconsumtion, user level ~0,4 watt, max level ~1,5 watt

Regulating from 3,5 till 7,1 volt

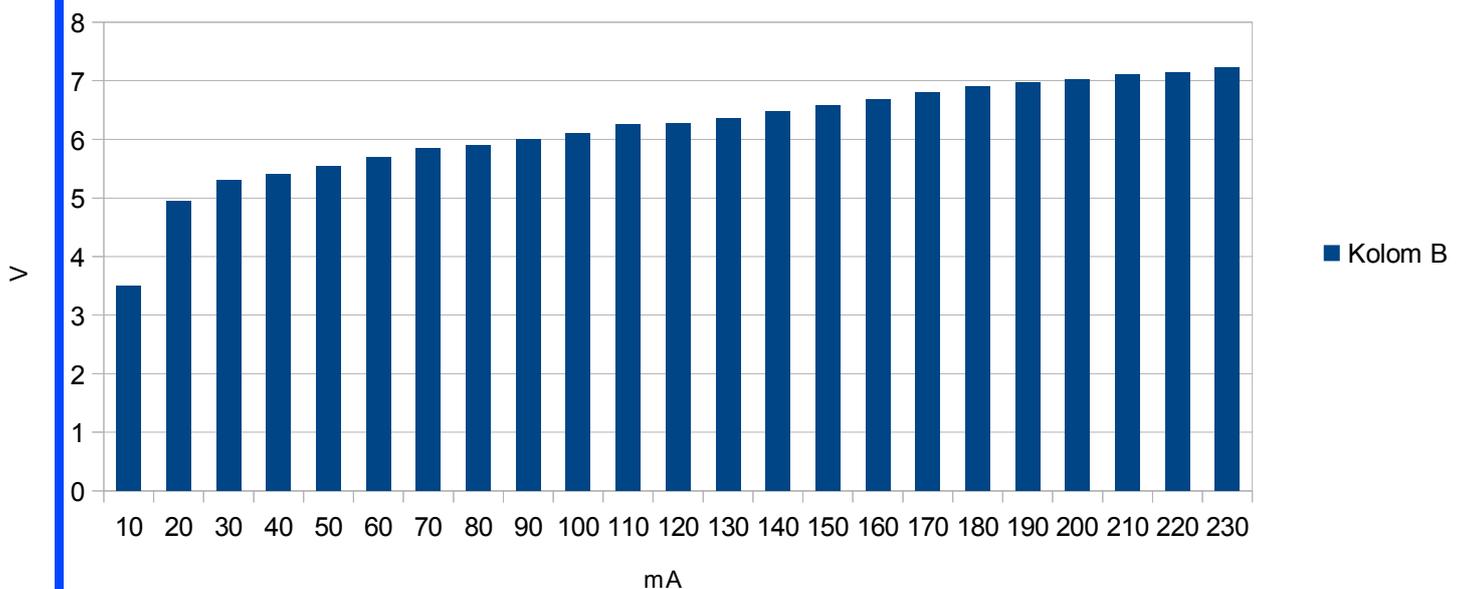
Current, max 0,2 Amp/7.1 volt

Colour temperature 4000K (neutral white)

Emitter: Cree MX3 (3 chip)

Design and production: TDKK

Zeiss 7,1 volt G4-19-200



TDKK provides 1 year warranty when the LED is used as described in the manual

Starting date 1-1-2014

BE AWARE NEVER TO LOOK STRAIGHT IN THE BEAM OF A HIGH POWER LED

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