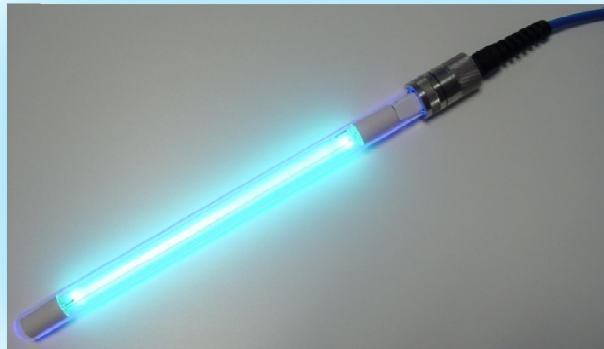


Installation instructions for TLS submersion lamp systems



Application

The systems were developed for the sterilization of UVC-transparent media. It can be used in both aqueous and gaseous media. TLSVG systems (cables waterproof encapsulated in the stainless steel head) may be completely immersed permanently. All other versions are only splash-proof.

The purely physical method of UVC sterilization by irradiation with the 254 nm radiation emitted by UVC low-pressure lamps (not ozone-forming), is not photo chemically active and thus does not change any water constituents. UV disinfection can be used as the sole or supportive method of disinfection. In this way, often the amount of chemical agents used can be drastically reduced or completely dispensed with chemical treatment. Please note that the efficiency of the sterilization depends above all on the transparency of the media to be irradiated. The germ to be treated (virus, bacterium, fungus, alga) must be accessible to the radiation and must not hide behind optical barriers. UVC radiation is not pervasive. In the case of contamination of the submersion tube or the surfaces to be treated, please ensure regular cleaning with commercially available cleaners.

Safety instructions



ATTENTION!

UV-Technik Speziallampen GmbH is not liable for damages caused by improper use of the system. Before use, check whether the materials of the TLS system can withstand the environmental conditions prevailing at the place of use. It should also be noted that UVC radiation can harm surrounding material, e.g. plastic and painted surfaces.



DANGER! – DANGEROUS ELECTRICAL VOLTAGE!

Attention: Life risk

Before working on the electrical connections of the system, e.g. when replacing a lamp, the main switch and the main contactor must be switched off (to ensure that there is no voltage) to prevent the risk of electric shock.

Reason: When operating with electronic ballasts, the UV lamp is switched off by semi-conductors. However, this does not mean a safe, potential-free disconnection from the mains! Dangerous residual voltages can be present, especially immediately after switching off!



DANGER! – DANGEROUS RADIATION!

Attention: Healths risk

When using, make sure that no people or animals are exposed to UV radiation. Even food may not be irradiated directly.

Available systems

Systems with Ø23 mm quartz tube for T5 lamps (Ø15 mm):

TLSV 23 stainless steel head, splash-proof

TLSVG 23 stainless steel head, submersible, cable water tight potted

TLSV 23 PTFE head

Systems with Ø30 mm quartz tube for T6/7 lamps (Ø19-22 mm):

TLSV 30 stainless steel head, splash-proof

TLSVG 30 steel head, submersible, cable water tight potted



Technical data of the build in lamp

Lamp power: 4 – 200 W for TLS 23

80 – 350 W for TLS 30

Emission range: standard 254 nm; ozone generating lamps (185 nm) possible on request



UVC radiation is dangerous, please observe applicable protective regulations!

Ozone is dangerous, please observe applicable protection regulations!

Life time: up to 12000 h, dependent from lamp and operation conditions

Depreciation: 15 ... 35 %, dependent from lamp and operation conditions

Operation temperature: optimal lamp surface temperature for standard LP lamps 40..50°C
optimal lamp surface temperature for amalgam lamps 120..140°C
(for more details see BA low-pressure lamps or on request)

Delivery

The system is designed as a component for equipment manufacturers.

It consists of the following components:

- stainless steel head with sealing rings, lamp plug and cable
- immersion tube
- lamp

The lamp is already mounted in all systems under 1 m in length. For systems > 1 m in length, the lamp is usually delivered separately packaged because of the risk of breakage. The ballast is not included and must be ordered separately. When installing the system and the ballasts, please observe the relevant regulations and the notes in the respective data sheets. In particular, we point out that the connection cable of the system should not be extended normally, otherwise ignition problems of the lamp may occur. The ballasts must be installed in a control box which ensures the required degree of protection. The entire system must be protected and equipped with FI protection. Metal parts are to be grounded on the system side. If necessary, precautions should be taken in case of glass breakage during operation.



For the electrical safety you are responsible as customer!

This note in particularly the grounding of metal parts and securing the system in case of glass breakage.

Mechanical attachment

In the water, the submersion lamps are usually arranged in such a way that they can be fixed in the middle of the water basin on brackets and evenly distribute their UV radiation in the tank. Non-irradiated zones in the pool should be avoided. A secure attachment is provided to prevent floating.

In air, we recommend spring steel clips for fastening. The system can be mounted both vertically and horizontally. Please use UV-resistant mounting material and protect the cable from the radiation of the lamp.



The installation of the system must be done in such a way that people and animals are not harmed by the dangerous UV radiation. Applicable protective regulations must be observed!

Electrical connection

There are 2 variants of the system. The system with built-in starter is intended for connection to a conventional ballast (choke). The system without starter must be connected to an electronic ballast. The corresponding circuits show the drawings.

The system may only be installed by qualified personnel!

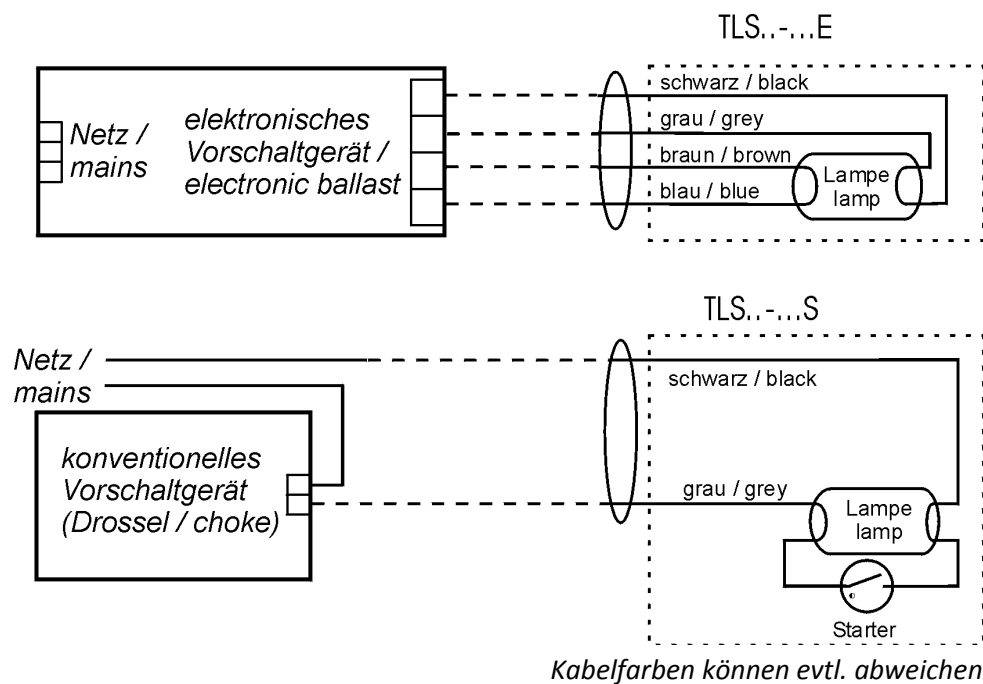


Applicable protective regulations must be observed (fuse, FI protection, ...)!

Protective measures must be taken against the irradiation of humans!

Please check the system for damage before putting it into operation.

Beschaltung / circuit



Lamp replacement, cleaning



Before working on the electrical connections of the system, e.g. when replacing a lamp, the main switch and the main contactor must be switched off (to ensure that there is no voltage) to prevent the risk of electric shock. Applicable protective regulations must be observed!

Lamps and immersion tubes must not be touched with bare hands. The lamps and the immersion tube are to be cleaned before installation of finger marks and fingerprints, as otherwise UV power is lost. Alcohol or other degreasing cleaners are suitable for cleaning.

The disassembly / assembly or the lamp replacement can be made by the customer. We recommend, together with the new lamp, always to order a new set of gaskets and possibly also to keep a spare submersion tube in stock.

Before pulling out the submersion tube, the screw connection must be loosened by about half a turn (a complete unscrewing is not necessary and even makes the work more difficult). Then the submersion tube can be carefully pulled out with a rotating movement until the socket and the lamp cap are exposed. Please note that the submersion tube is not tilted!

The lamp is connected by means of a plug-on socket. To change hold the socket and simply pull the lamp off. Then the lamp can be removed from the submersion tube.

Before mounting, unscrew the screw connection completely, clean it and replace the O-rings if necessary.

The assembly takes place in reverse order:

- lay out the lamp, immersion tube and TLS head with cable
- slide the lamp into the immersion tube so that the base of the lamp still protrudes
- connect the lamp to the socket
- insert the submersion tube into the TLS head
- tighten the screw connection by hand

It is recommended to carry out the disassembly / assembly on a flat work surface. Do not work freehand! This increases the risk of glass breakage by tilting, especially with long lamps! Some liquid (water, if necessary with dishwashing detergent) improves the sliding effect when inserting the submersion tube into the seals. It is sufficient to tighten the screw connection by hand. Too tight a screw connection can lead to the breakage of the submersion tube and makes it difficult to open the system later .



To avoid accidents caused by glass breakage, we recommend to wear cut-resistant protective gloves.

Of course the system can also be sent to our factory for lamp replacement. We renew both lamp and sealings.