

# Air sterilization O<sup>3</sup> free

## GermiTube

*Application:*

- Hospitals
- Surgeries
- Schools, nurseries
- Offices
- Waiting rooms
- Authority offices
- Households
- and many others

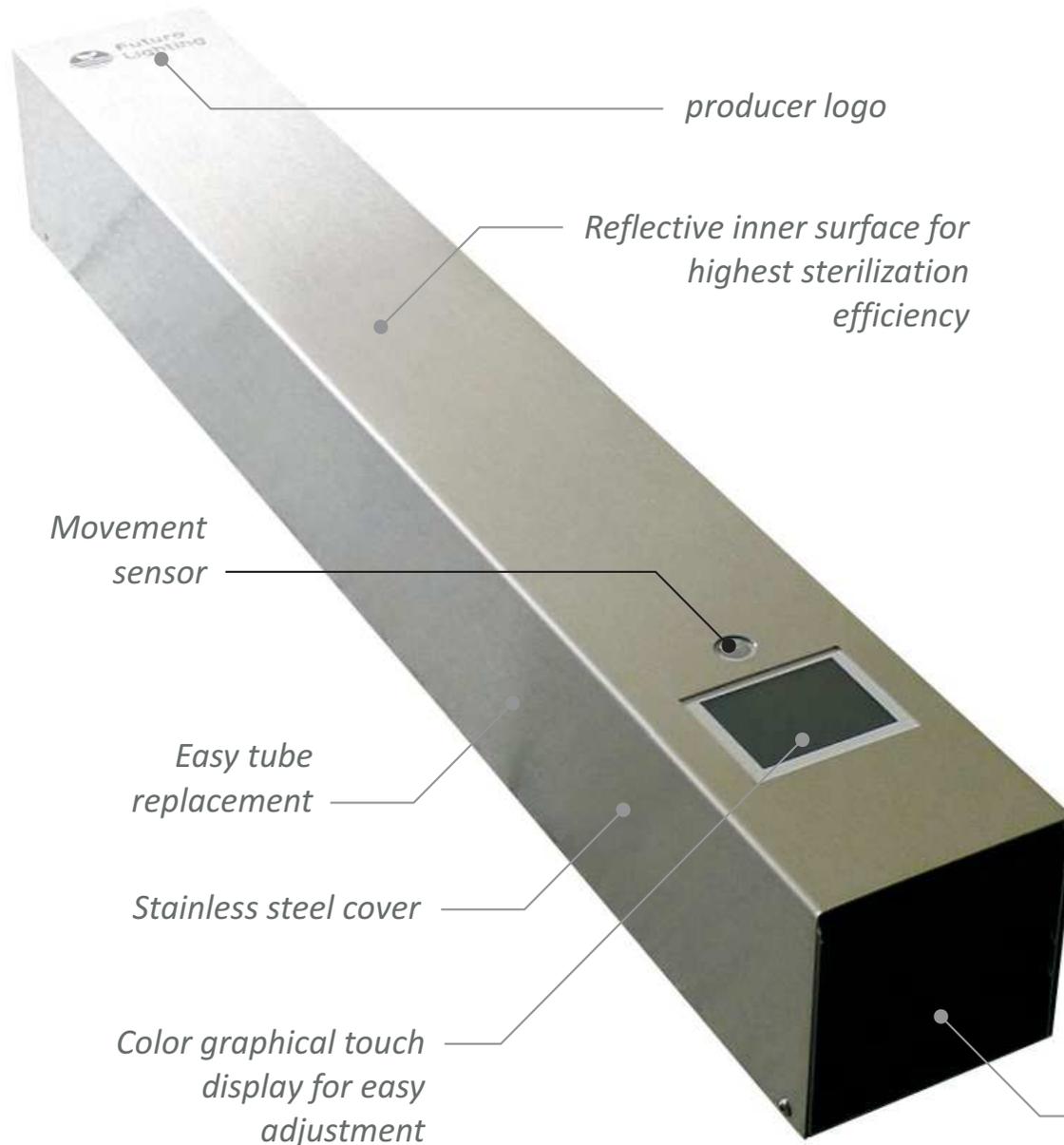


## Futuro Lighting *design*

## Leaf letter

# GermiTube

*Closed compact air disinfection unit  
Effective and environment-friendly disinfection without chemicals  
with automatic behavior during people presence*



*producer logo*

*Reflective inner surface for  
highest sterilization  
efficiency*

*Movement  
sensor*

*Easy tube  
replacement*

*Stainless steel cover*

*Color graphical touch  
display for easy  
adjustment*

## **Specification:**

Dimensions: 100x100x695 mm

Weight: 2,5 kg

Supply voltage: 230 VAC / 50 Hz

Supply Plug EU, backside

Power: < 40W in active

Power in standby < 1W

Airflow: 30-100% adjustable

-50m<sup>3</sup>/hod, depending on installed vent

Low Audio noise

Germicide tube: OSRAM Puritec L 36W

Long life: 8000 hours

Dominant wavelength: 254 nm,

Ozone-free

Simple adjustment and native menu:

- control: touch graphical display
- Adjustment of air volume exchange rate
- Detection failed vent
- Detection failed tube
- monitoring tube life
- after switch timer

*UV free outside  
Ozone free*



# GermiTube

*Kids easy adjustment*

*just touch and go through intuitive graphical menu*

## Benefits:

- Compact, low audio noise
- Solid construction
- Easy lamp replacement
- Built in intuitive menu
- Automatic self activation based on movement detection
- Built-in diagnostic

## Applications:

- Hospitals
- Clinics
- Waiting rooms
- Schools
- Households
- Laboratories
- pharmaceutical production
- maternity labor and delivery areas
- pathology labs, kidney dialysis
- animal husbandry
- cosmetics and electronic production

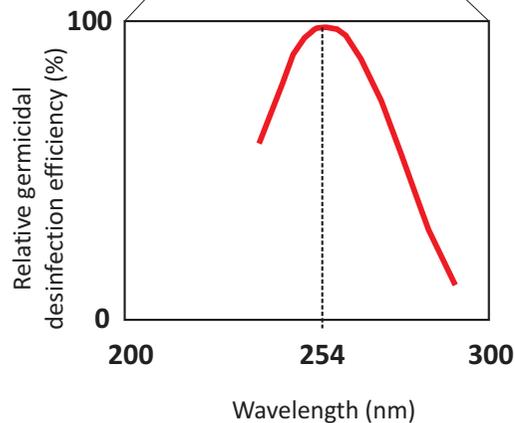
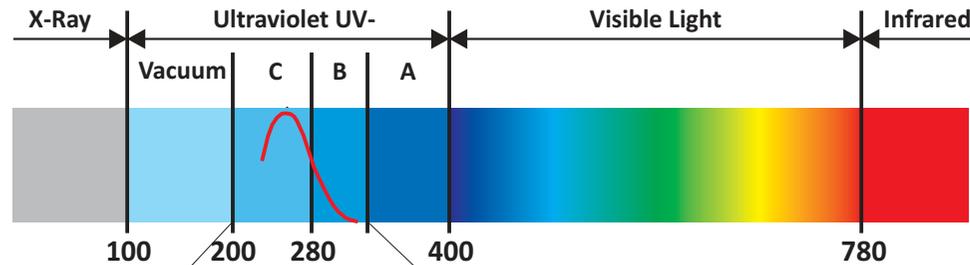


Future generation germicidal closed emitter



# GermiTube

## Principle of Ultraviolet disinfection



### UV disinfection Principle

Absorption of 254 nm radiation by microorganisms causes photochemical destruction of their DNS and thus shuts down their reproductive processes deactivating them and making them no more pathogenic

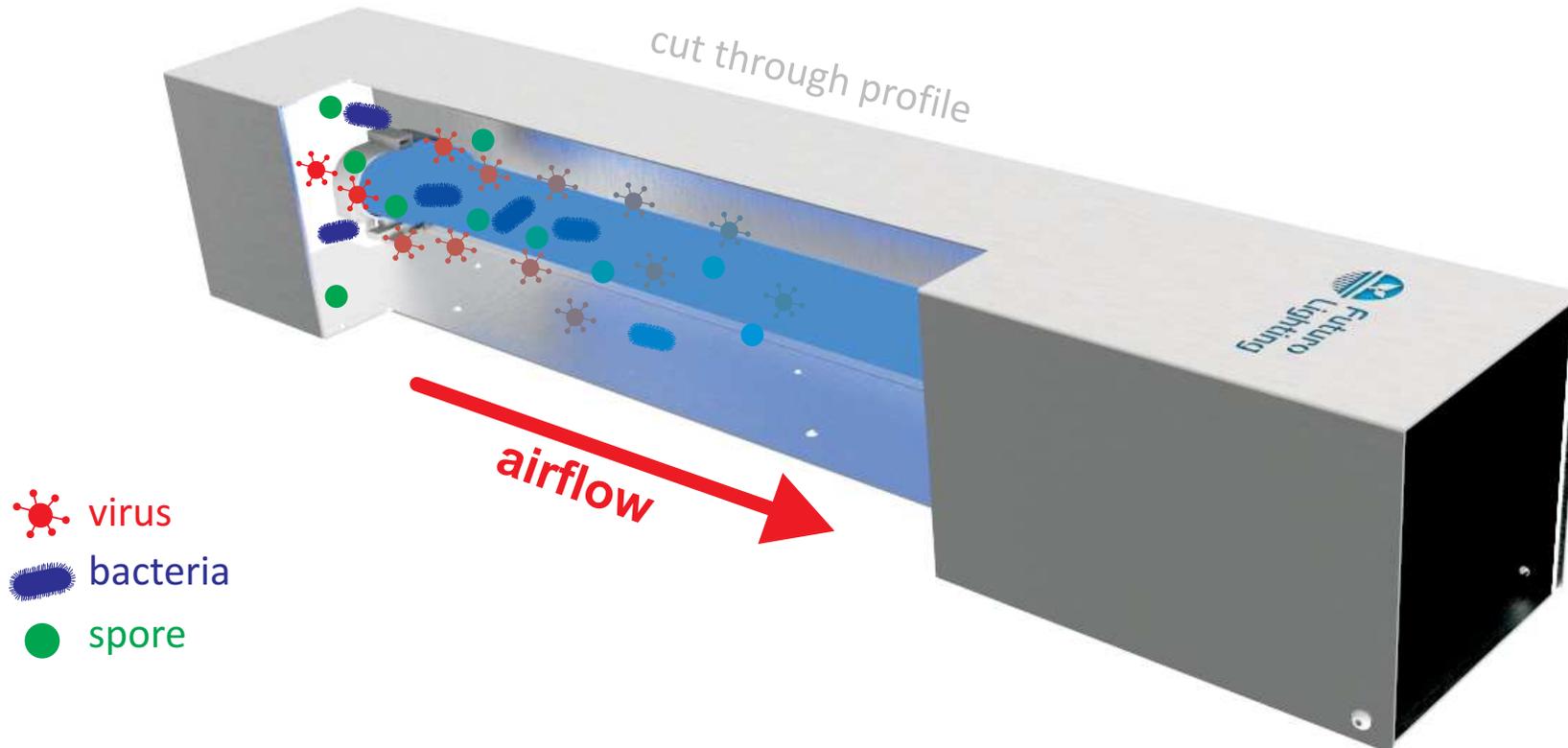
### Advantages:

- Environmentally friendly, no dangerous chemicals
- Low initial capital cost
- Low power consumption
- Safe to use, Ozone free, no UV radiation outside the lamp
- Automatic operation without special attention or measurement, operator friendly.
- Simplicity and ease of maintenance, due to monitoring system implemented
- Easy installation

Ultraviolet (UV) radiation is invisible to the human eye. It occupies the portion of the electromagnetic spectrum between X-ray and visible light. The sun emits ultraviolet light; however, much of it is absorbed by the earth's ozone layer. Specific range of UV wavelengths, those between 200 and 300 nanometers, are categorized as germicidal. This means, they are capable of inactivating microorganisms, such as bacteria, viruses and protozoa. This capability has allowed widespread adoption of UV light as an environmentally friendly and highly effective way to disinfect air against harmful microorganisms. Efficient disinfection requires appropriate UV exposition given by exposure time and UV-C radiation dose. Practically speaking in times from few seconds till minutes and doses from 500 uW to few Wats.

# GermiTube

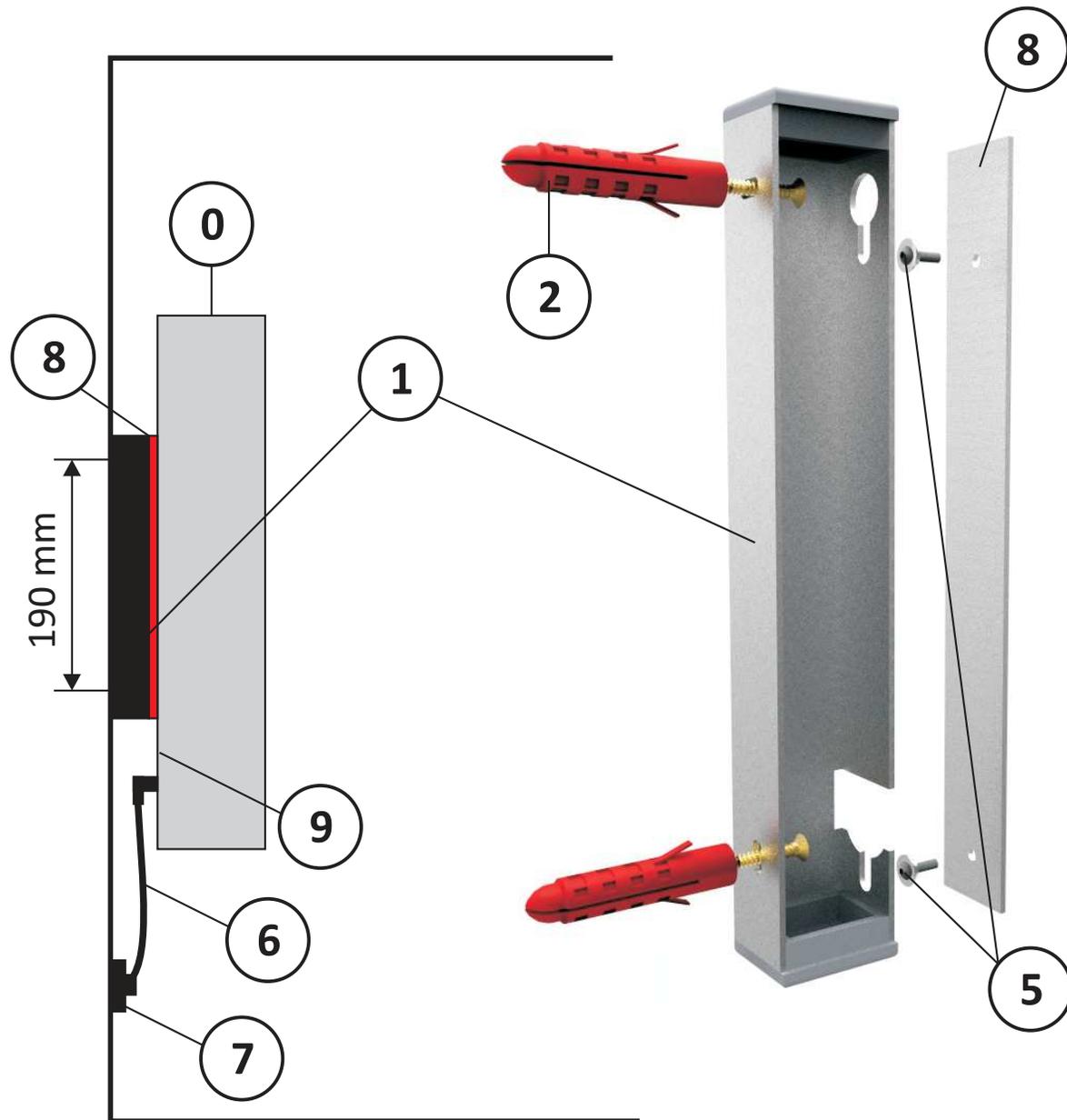
*Principle of operation*



GermiTube is used for disinfection of air contaminated by bacteria and viruses. Lamp uses UVC radiation with dominant wavelength of 254 nm. UV-C source is placed in air tunnel with vent, where air is flowing through in close vicinity to UV-C source. Distance from lamp is short and gives high radiation intensity due to size of air tunnel and reflective inner surface. Disinfection begins once air pass through the tunnel. GermiTube is designed to operate during presence of people, keeping UV-C radiation just inside the tunnel. Because different bacteria and viruses needs different dose (UV-C intensity x time) user can adjust flow rate. To overcome needs to set-up standard timers we have developed sensoric system, which monitors movement in front of the emitter. GermiTube operates always when people are present in a room, this excludes complicated and non efficient lamp operation at time when it dos need to operate. Once last movement is detected (last person leaves) Germitube executes after disinfection and prepare clean area are for a e.g. next day.

# GermiTube

one device three ways to install



## Wall mount installation, GTM-40F

GermiTube can be mounted directly on wall by use GMT-40 holder. This holder can be purchased separately as an option. We recommend to install GermiTube in  $\frac{1}{2}$  height of the room. Wall electric plug should be near and accessible.

### Advance:

1. mount two distance spacers (5) through aluminum strip 240mm (8) to back side of GermiTube (0).

2. Mount holder (1) to wall, using appropriate dowels and screws (2). The diameter of the holes in the holder is 5 mm. The distance of mounting holes is 19cm.

3. Connect the C15W cable (6) to GermiTube. The customer chooses the cable at the required length directly at the seller. This cable needs to be purchased separately.

4. hang GermiTube on the holder (1) and plug the power cord into the socket (7), switch ON power switch on back side (9)

Order code: GTM-40F

# GermiTube

## one device three ways to install

GermiTube can be placed on table using table stand 600, such creating mobile equipment that can be easily moved to another area.

### Advance:

1. after unpacking of GermiTube (0) and all stand components, attach stand stick (1) to stand platform (2). Note: thicker holes of the stick needs to be directed to the back of the stand platform.

2. Use two fixing screws (5) to mount GermiTube to the stand (1+2).

3. Place GermiTube to required area and connect electrical cable IEC 13 (3) from GermiTube socket (3) to electrical power network.

Electrical cable needs to be purchased separately, it may have different lengths

### Parameters:

Total height: ~0.84 m

Stand height: 620 mm

Platform dimensions: 300 x 300 mm

Weight of table stand: TBD

Order code: GTS-600

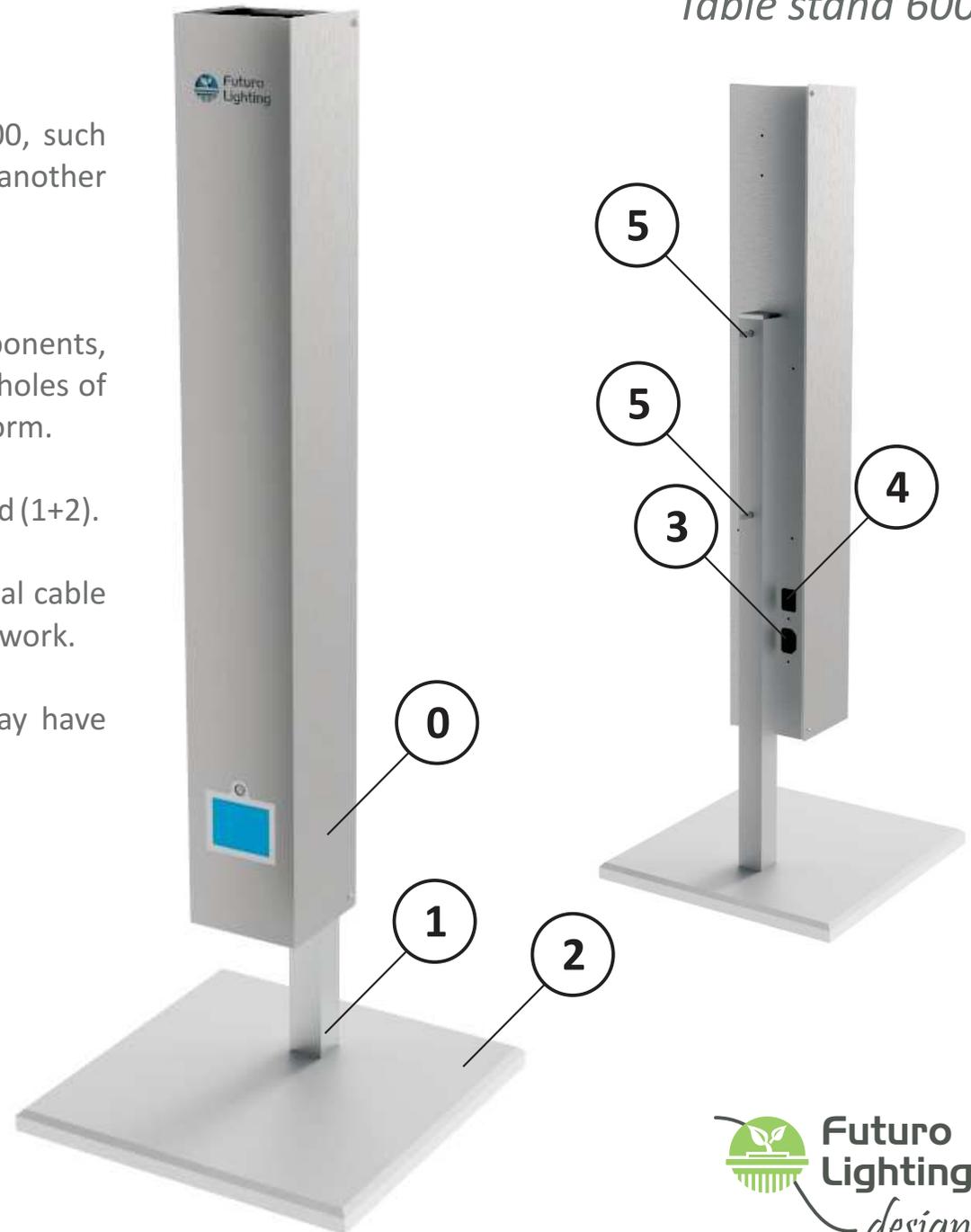
### Delivery content:

Stand stick (anodized aluminum) with HEX screw (1) - 1pc

Stand platform 300x300mm, color white (2) - 1pc

Fixing screws (5) - 2pcs

Table stand 600



# GermiTube

## one device three ways to install

GermiTube can be placed on floor using stand 1200, such creating mobile equipment that can be easily moved to another area easily.

### Advance:

1. after unpacking of GermiTube (0) and all stand components, attach stand stick (1) to stand platform (2). Note: thicker holes of the stick needs to be directed to the back of the stand platform.
2. Use two fixing screws (5) to mount GermiTube to the stand (1+2).
3. Place GermiTube to required area and connect electrical cable IEC 13 (3) from GermiTube socket (3) to electrical power network.

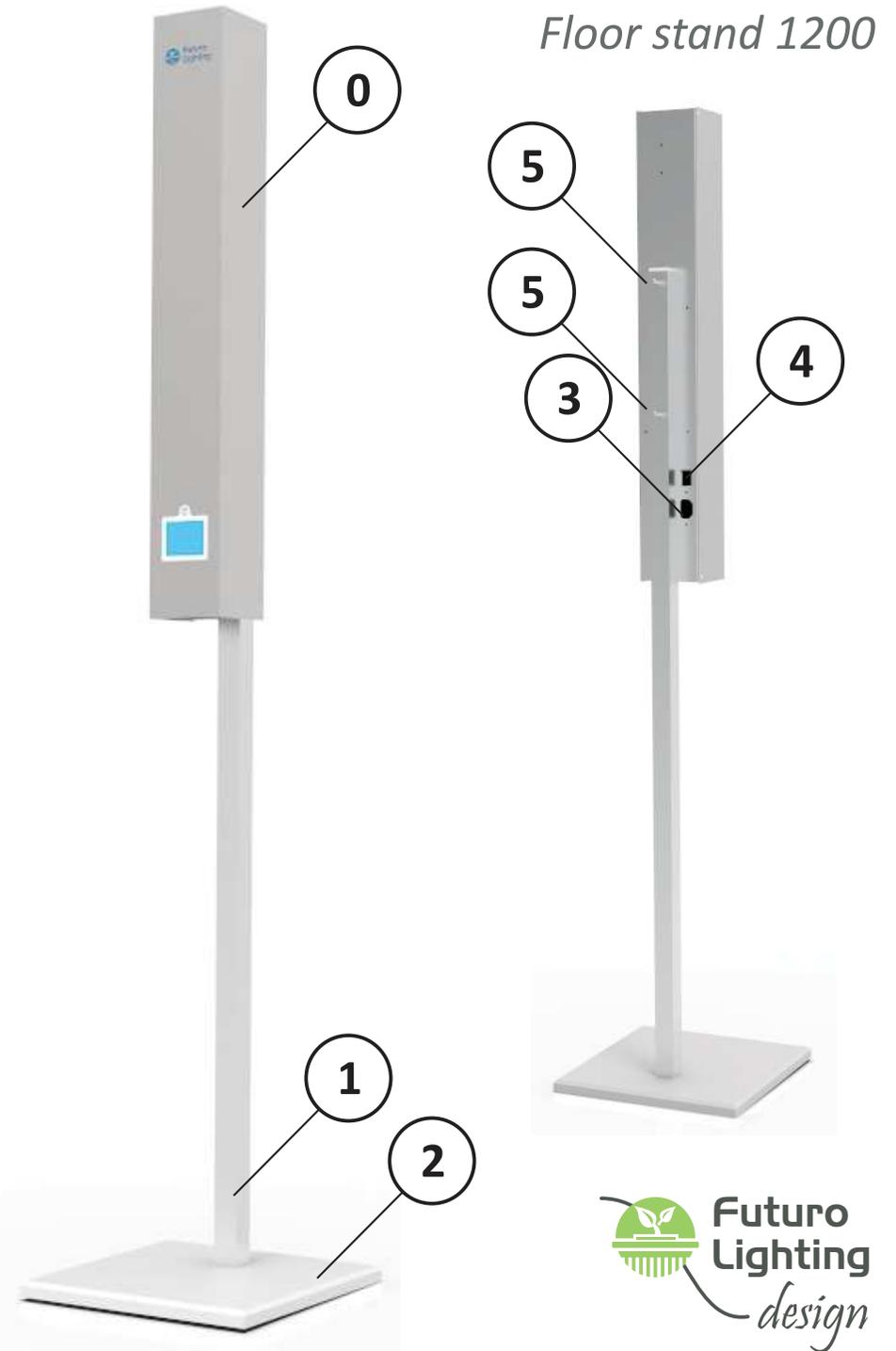
Electrical cable needs to be purchased separately, it may have different lengths

### Parameters:

Total height: ~ 1.45 m  
Stand height: 1220 mm  
Platform dimensions: 300 x 300 mm  
Weight of table stand: TBD  
Order code: GTS-1200

### Delivery content:

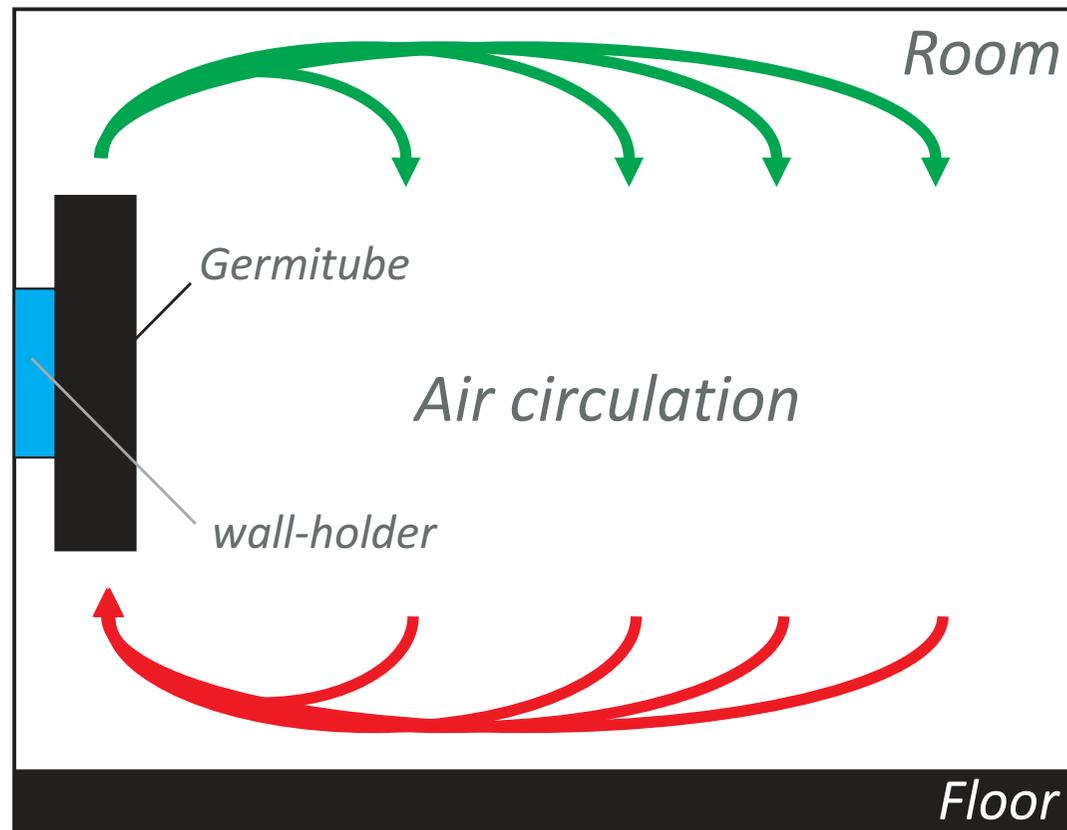
Stand stick (anodized aluminum) with HEX screw (1) - 1pc  
Stand platform 300x300mm, color white (2) - 1pc  
Fixing screws (5) - 2pcs



# GermiTube

## *Recommended installation*

GermiTube needs to be installed in vertical orientation to reach highest disinfection efficiency. This emitter uses standard IEC13 EU Power plug connector. GermiTube has several options for installation, please refer to previous pages for appropriate installation type.



**End of document**