

# Valtavallo G3 LED tube

VISIBLY BETTER LIGHTING THAT IS EASY TO INSTALL



## COST-EFFECTIVE

EASY TO INSTALL



LONG LIFESPAN



SIGNIFICANT  
ENERGY SAVINGS

## HIGH-QUALITY

MORE LIGHT



INSTANT FULL LIGHT



CLEAN,  
NATURAL LIGHT

## GREEN

NO PROBLEM WASTE



RECYCLABLE



NO TOXINS  
SUCH AS MERCURY

## SAFE

SHATTER-PROOF



NO UV LIGHT

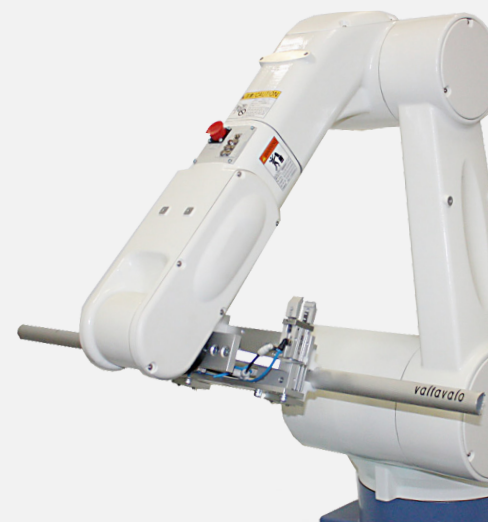


LOW SURFACE  
TEMPERATURE

The Valtavallo G3 LED tubes are a result of company's own product development. They are manufactured in the company's Finnish production plant using the latest automation technology. Each LED tube goes through an automatic and multi-stage electric and light property test. Our clients can be assured of the excellent quality of the products.



Designed and assembled in Finland



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## Why fluorescent lamps should be replaced with Valtavallo G3 LED tubes

### Significant cost savings



The Valtavallo G3 LED tubes use 50–90 percent less energy than other lamps, depending on the age and type of the lamp in question. The lifespan of an LED tube is many times that of a normal fluorescent lamp, thus reducing the upkeep costs of lighting significantly. Even the lamp body has a few extra years added to its life due to the fact that the inductor is not subjected to as much stress and the tube holders are subjected to a lower amount of heat. Moreover, there is no need to change the starters once they have been installed.

### Better light



The G3 LED tubes produce good-quality light with high colour rendering. The blue wavelength present in the LED light is essential for visibility and there is also an unbroken, full spectrum which helps us to distinguish colours, for the whole area of visible light. This pure, natural light is suitable for all environments where people have to be able to see well. The light is also available for your use without delay and without the flickering normally associated with the switching-on stage.

### The environment thanks you



By choosing a G3 LED tube, you will also have a positive impact on the environment. LED tubes do not contain mercury, lead or any other heavy metals. This is why LED tubes are not categorised as hazardous waste. The recyclability ratio of Valtavallo G3 LED tubes is extremely high: over 95 %. Valtavallo has also invested in manufacturing and packaging processes: our packaging uses as much recycled or recyclable cardboard and paper pulp as possible. Also, because of the energy efficiency of G3 LED tubes, the need for electricity produced from fossil fuels decreases.

### Safer lighting



By replacing your fluorescent lights with G3 LED tubes, you will eliminate many of the risks related to lighting, such as UV light that is harmful to people and many materials. In addition, the ends of fluorescent lamps that have come to the end of their lifespan and that remain incandescent are one of the most common causes of fire. LED lamps contain no dangerous substances, such as mercury, and the surfaces of the tubes are shatter-proof. This makes the G3 LED tubes highly suitable for use in the food industry, too.



*Install by simply replacing the tube and the starter in most T8 fluorescent tube luminaires*

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## Why the Valtavallo G3 tubes are superior to competing LED tubes



### Automated manufacturing guarantees quality

Valtavallo G3 LED tubes are manufactured in Finland with a completely new automated production line. The automatic processing ensures a uniform quality and reliability that has not been met before in LED light sources. At the end of the manufacturing process each G3 LED tube goes through a multiphase automated test process where the amount of light, the colour rendering index, the spectrum, light temperature, power, power ratio and harmonic distortion are measured.



### Long lifespan

Due to its technical supremacy Valtavallo is able to offer an exceptionally long lifespan for its products. This enables realization of extensive and long-lasting lighting projects in parts by applying the same product.



### Easy to install

It's possible to directly replace old T8 fluorescent tubes with Valtavallo G3 LED tubes in the majority of existing luminaires. Valtavallo also delivers the luminaire stem collection for new installments.



### Visibly better, non-dazzling light

The outstanding luminous efficacy (lm/W) is reached in collaboration with one of the biggest LED companies in business. The unique half-opal plastic dome maximizes light production and minimizes unwanted dazzle that bright LEDs might cause.



### Passive cooling taken to the max

The passive cooling of LED components ensures an extremely long lifespan. The relatively large cooling surface underneath the medium power LED components conveys the heat efficiently from the LED components to the full-aluminium circuit board. The heat is further conveyed from the circuit board to the aluminium frame which thus functions as a large cooling element.



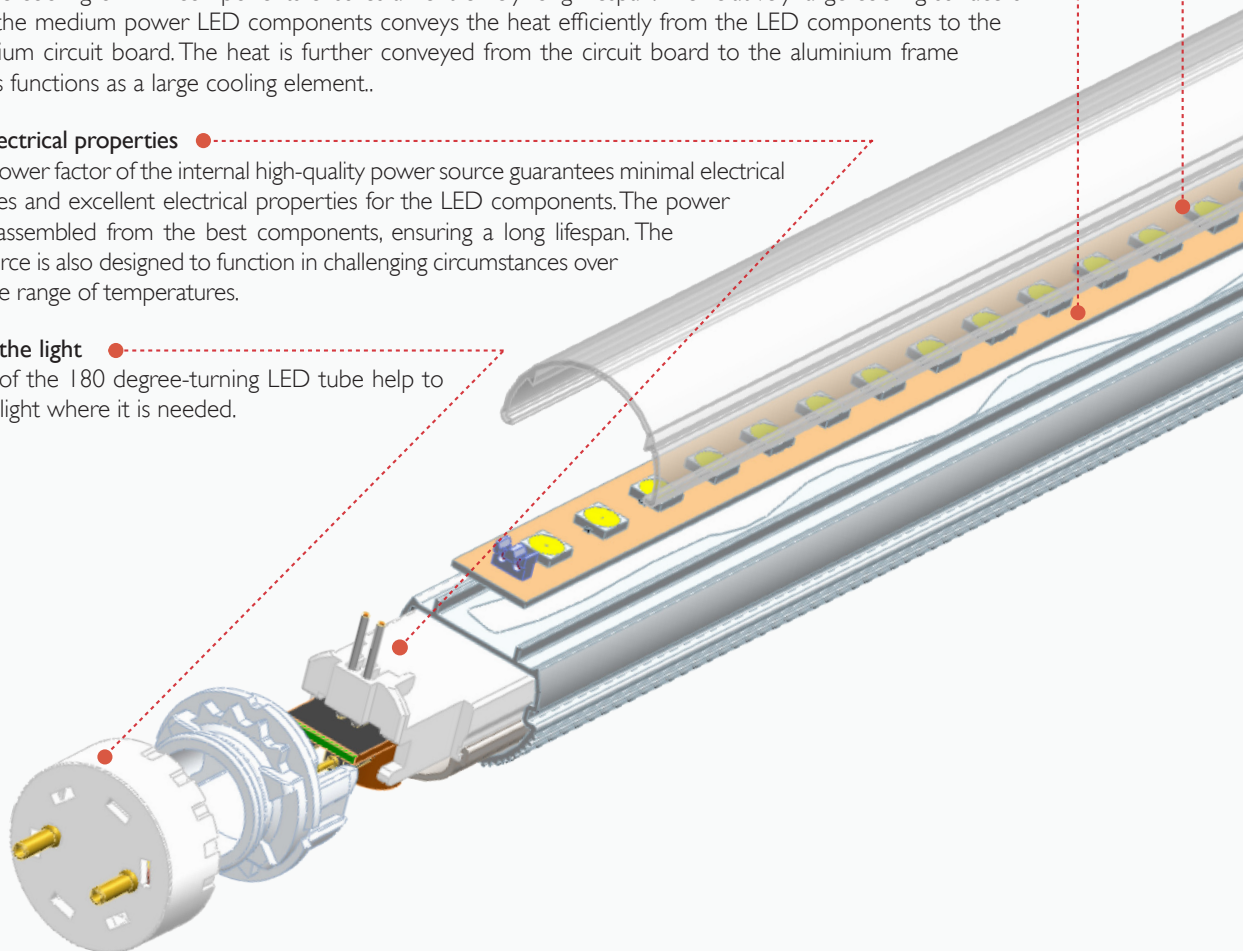
### Brilliant electrical properties

The high power factor of the internal high-quality power source guarantees minimal electrical disturbances and excellent electrical properties for the LED components. The power source is assembled from the best components, ensuring a long lifespan. The power source is also designed to function in challenging circumstances over a very wide range of temperatures.



### Directing the light

The ends of the 180 degree-turning LED tube help to direct the light where it is needed.



# Valtavallo G3 LED tube

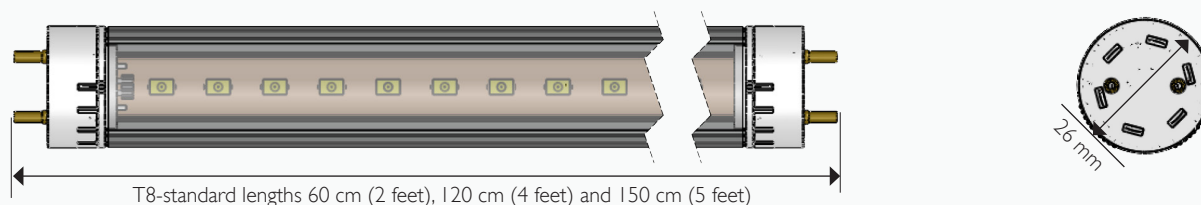
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## Technical specifications

Model	VV10E060G3	VV20E120G3	VV24E150G3
Rated Power	10 W	20 W	24 W
Rated Luminous Flux	1 100 lm	2 200 lm	2 600 lm
Length	60 cm (2 feet)	120 cm (4 feet)	150 cm (5 feet)
Socket Type	T8 / G13		
Input Voltage	230 V AC, 50/60 Hz		
Power Factor	> 95		
Luminous Efficacy	110 lm / W		
Colour Temperature	4 000 K and 5 700 K		
Colour Rendering Index (CRI)	> Ra 80		
Beam Angle	120°		
Average Lifespan	50 000 hours		
Luminous Flux Depreciation	0.7 (70 % of the luminous flux left at the end of normal lifespan)		
Warranty	3 years		
Operating Temperature	- 40 °C – + 50 °C		
Operating Humidity	< 95 %		
Housing Protection Rating	IP20		
Housing Material	Anodised aluminum, PC plastic		

## Dimensions

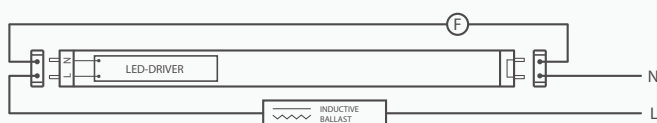


## Electrical Wiring

### A) luminaire with Valtavallo G3 LED tube

The electrical wiring of a luminaire – where a Valtavallo G3 LED tube is installed – must contain only an LED starter (F), which replaces the starter of the fluorescent tube, and an inductive ballast.

Suppression capacitors have not been found to cause any problems with LED tubes, but bigger power factor correction capacitors to correct inductive reactive power load should be removed as LED tubes are capacitive loads in themselves.



The G3 LED tubes can be inserted either way in the end sockets.

### B) stripped/modified luminaire with a Valtavallo G3 LED tube

If a luminaire is modified, a compliance inspection must be carried out by a qualified electrician and a new CE mark must be placed on the luminaire. Thus a new electrical piece of equipment is created and the original manufacturer ceases to be responsible for the functionality of the luminaire.

The Valtavallo G3 LED tube has been tested and approved for operation on mains voltage, and as such the wiring presented in the electrical diagrams below is designed specifically for the product and is safe to use.



The G3 LED tubes can be inserted either way in the end sockets.