

**PHILIPS**

Special Lighting

UV Purification



**Together**  
we can be  
sure it's pure

Working together to deliver cleaner  
water and air, today and tomorrow

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[www.philips.com/uvpurification](http://www.philips.com/uvpurification)  
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Water is an **essential part** of our daily lives and as **precious** as the air we breathe

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# Together we can be sure it's pure

Water is an essential part of our daily lives and as precious as the air we breathe. As the population rises, demand for clean water and air increases. Water purification companies need to balance this increasing demand with the cost of energy use, maintenance and new legislation.

## Partnership

At Philips we offer equipment manufacturers and purification companies the state-of-the-art UV solutions they need to remain competitive. But our expertise goes far beyond innovative products. We also have a proven track record in UV technologies and offer solid development support, including microbiological performance testing. A level of service and support that sets industry standards.

We're also naturally inquisitive and love working with others to refine our ideas. We go out of our way to understand each application, immersing ourselves in the details to make sure that our UV solutions do exactly what you expect them to do for your equipment. In fact, we're the only manufacturer to have developed a complete package of UV lamps, drivers and modules in close co-operation with our partners. We're also pioneering the introduction of UVC LED solutions for equipment manufacturers that will revolutionize the industry. So together we can be sure it's pure, today and tomorrow.

## Innovation

Innovation is at the heart of everything we do. Our comprehensive portfolio of UV lamp and driver systems offers the next generation of innovation that improves lives. To achieve the best performance from our UV installations, we also optimize the delicate balance between lamp and driver and test them thoroughly to ensure the ultimate in quality, reliability and performance.

## Sustainability

The environment matters to us too. We're leading the way in caring for our planet with innovative systems that maximize quality of life and minimize environmental impact:

- A lack of safe water supply contributes to around 80% of diseases and deaths in the developing world. Our UV lamp systems help provide clean drinking water and air in a cost effective way.
- We contribute to create a better environment by substituting potentially dangerous chemicals in our UV solutions.
- Our products also contain industry-leading low amounts of mercury, have a long lifetime to reduce waste and a high efficacy to reduce energy use.

## About UV technology

UV technology deactivates bacteria, viruses and fungal spores and as a result renders them harmless. The technology is primarily used in areas where there is a risk of microbiological contamination.

### The main benefits of UV technology are:

- Effective against most viruses, spores and cysts including Cryptosporidium and Giardia
- Does not change the smell and taste of water
- There is no residual effect that can be harmful to humans or aquatic life
- UV disinfection is a physical process rather than a chemical disinfectant, which eliminates the need to generate, handle, transport, or store toxic/hazardous or corrosive chemicals

# Integrated UV modules

In addition to our extensive range of individual UV lamps and drivers for water and air purification systems, we offer integrated UV modules on a project by project basis.

At Philips, we have a strong reputation for high quality products, providing end users with purification equipment that they can rely on to remain competitive. It's something we're committed to maintaining. That's why we have developed the YourSource and the Smart cap features. The objective? Helping you to secure maximum disinfection performance, today and tomorrow.



## YourSource

### Customized, integrated module

Our YourSource UV module with integrated driver is customized to your equipment. As a result, it provides a seamless fit, both in terms of ergonomics and functionality. The end user can always be confident of the correct performance of the UV Module, because it can only be replaced by the original lamp the system has been designed for. A safety switch avoids exposure to UV.



## Smart cap



We can also provide our lamps with a special designed smart cap which allows for an easy lamp replacement. The lamp cap operates a safety switch inside the lamp holder to make sure that only the original lamp that the equipment has been designed for, can be installed. Moreover, the additional safety switch avoids exposure to UV.



Customized products are also available on request. Simply contact us with your requirements to find out what's possible.

### Application and technological expertise

Philips lighting has a proven track record in UV and UVC technologies. We're also the No.1 sold LED lighting. Thanks to our deep understanding of the complex factors that need to be taken into account for water and air purification (including quality of the water, water flow and water temperature), we're a partner you can trust to design UV models that are optimized for your application. To learn more about how our integrated modules could benefit you, go to [www.philips.com/uvpurification](http://www.philips.com/uvpurification)

## Technical data



YourSource - Available now\*:

Type	Connector	Total power (W)	Voltage (V)	UVC at 100h (W)	Useful life (h)	Depreciation at useful lifetime (%)
PL-S YourSource 12W/230V	IP65	12	230	3.6	5000	20
PL-S YourSource 15W/120V	IP65	15	120	4.1	5000	20
PL-S YourSource 25W/230V**	cable	25	230	7	9000	20
PL-S YourSource 40W/230V**	cable	40	230	9	9000	20

\* Customized products designed for your specific equipment.

\*\* At optimal bulb temperature in application.

Smart cap - Available now\*:

Type	Cap-Base	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC at 100h (W)	Lamp Current (A)	Useful life (h)	Depreciation at useful lifetime (%)
TUV 36T5 HO Smart	4 Pins Single Ended	75	97	23.0	0.800	9000	15
TUV 36T5 HE Smart	4 Pins Single Ended	40	97	14.0	0.425	9000	15

\* Customized products designed for your specific equipment.



# Residential water and air purification

The quality of the air we breathe and the water we drink has a profound effect on our health and well-being.

Many people do not have access to clean drinking water. Impure or contaminated drinking water can cause a range of diseases from typhoid and cholera to gastroenteritis and hepatitis A.

Households can purify their water by installing UV water purification systems at the point of entry in the home, at the point of use (such as the kitchen sink) or via separate purifiers. Combined with a filter to remove suspended particulates or organic materials, the result is clean water.

Next to that, many households are troubled with harmful germs that float through the air, such as the flu and pneumonia. These can be rendered harmless through air purifiers equipped with Philips UV lamp systems. As a result, illnesses that are easily transmitted via the air are minimized and the overall air quality is improved.

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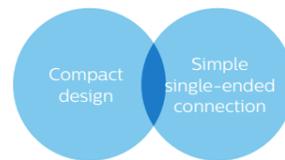


# Philips TUV PL-S

Philips TUV PL-S lamps are compact UVC (germicidal) lamps used in residential water and air disinfection units. The compact size of the lamp allows for a small system design and design flexibility. Philips TUV PL-S lamps offer almost constant UV output over their complete lifetime. Thanks to the single-ended lamp base, lamp replacement is easy.

## Main applications

- Deactivation of bacteria, viruses and other micro-organisms
- Residential drinking water units
- Pond water units
- Air treatment units
- Stand-alone purifiers



## Features

Short-wave UV radiation with a peak at 253.7 nm (UVC) for disinfection purposes

Protective inside coating ensures almost constant UV output over the complete lifetime of the lamp

Special lamp glass filters out the 185 nm ozone-forming radiation

2-Pin PL-S lamp base contains a special starter for almost instant starting on electromagnetic drivers

4-Pin PL-S lamps are designed for use on electronic drivers

## Benefits

Compact system design

Simple single-ended connection

Effective disinfection over the useful lifetime of the lamp

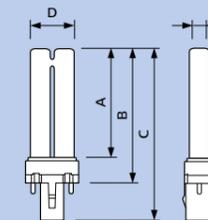
Good environmental choice because of lowest amount of mercury

## Technical data

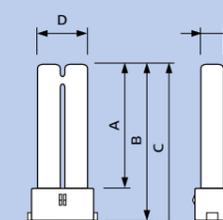


Type	Cap-Base	Dim. no	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC at 100h (W)	Lamp Current (A)	Useful life (h)	Depreciation at useful lifetime (%)	Packaging type	Packaging configuration	Ordering number 12 NC
5W/2P	G23	1	5.5	35	1	0.18	9000	20	1CT	6x10BOX	927900504007
5W/4P	2G7	2	5.1	27	1	0.19	9000	15	1CT	5x10CC	927900804007
7W/2P	G23	3	7.1	46	1.5	0.18	9000	20	1CT	5x10CC	927901104007
9W/2P	G23	4	8.6	60	2.2	0.17	9000	20	1CT	6x10BOX	927901704007
9W/4P	2G7	5	8.6	60	2.2	0.17	9000	20	1CT	6x10BOX	927901904007
11W/2P	G23	6	11.6	89	3.5	0.16	9000	20	1CT	6x10BOX	927902304007
13W/2P	GX23	7	13.0	56	3.5	0.29	9000	20	1CT	6x10BOX	927902804007

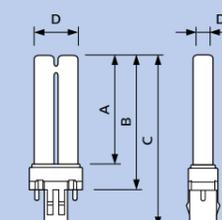
Other 4-pin variations for all lamp types are available on request. Please contact us with your requirements.



G23



2G7



GX23

Dim.*	A	B	C	D	D1
no.	max.	max.	max.	max.	max.
1	67	83	105	28	13
3	97	112,5	135,5	28	13
4	129	145	167	28	13
6	198	213,3	236	28	13

\* Dimensions (mm)

Dim.*	A	B	C	D	D1
no.	max.	max.	max.	max.	max.
2	65,2	83	89	28	13
5	129	145	167	28	13

\* Dimensions (mm)

Dim.*	A	B	C	D	D1
no.	max.	max.	max.	max.	max.
7	139,5	155,2	178,2	28	13

\* Dimensions (mm)

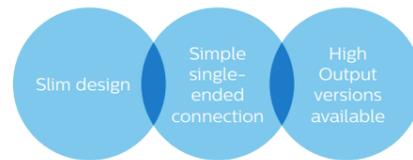
# Philips TUV TL Mini



Philips TUV TL Mini lamps are slim double-ended UVC (germicidal) lamps used in residential water and air disinfection units. The small 16 mm diameter of the lamp allows for a small system design and design flexibility. Philips TUV TL Mini lamps offer almost constant UV output over their complete lifetime.

## Main applications

- Deactivation of bacteria, viruses and other micro-organisms
- Residential drinking water units
- Fish pond water units
- Stand alone air purifiers



## Features

Short-wave UV radiation with a peak at 253.7 nm (UVC) for disinfection purposes

Protective inside coating ensures almost constant UV output over the complete lifetime of the lamp

Special lamp glass filters out the 185 nm ozone-forming radiation

## Benefits

Slim system design

Simple single-ended connection

Large range of High Output versions available for optimum UVC output per lamp length, allowing for reduction of system size

Effective disinfection over the useful lifetime of the lamp

Good environmental choice because of lowest amount of mercury

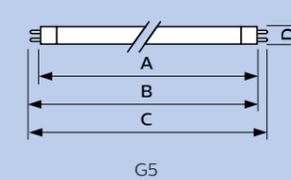
## Technical data



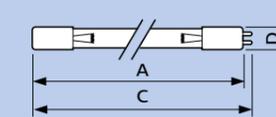
Type	Cap-Base	Dim. no	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC at 100h (W)	Lamp Current (A)	Useful life (h)	Depreciation at useful lifetime (%)	Electrode distance mm	Packaging type	Packaging configuration	Ordering number 12 NC
4W	G5	1	4.5	25	0.9	0.165	6000	20	84	1FM	10x25BOX	928000104013
6W	G5	2	6	37	1.7	0.165	9000	20	158	1FM	10x25BOX	928000704013
8W	G5	3	8	47	2.6	0.170	11000	15	235	1FM	10x25BOX	928001104013
11W*	G5	2	11.5	34	2.6	0.400	11000	15	158	1FM	10x25BOX	928002204013
16W*	G5	3	15	33	4.0	0.425	11000	15	235	1FM	10x25BOX	928002004013
20W*	G5	5	20	45	6.0	0.450	11000	15	345	1FM	10x25BOX	928003404013
11W 4P SE*	4 Pins Single Ended	6	11	34	2.6	0.425	9000	15	158	UNP	32	927971204099
16W 4P SE*	4 Pins Single Ended	7	15	43	4.0	0.425	9000	15	235	UNP	32	927971404099
20W 4P SE*	4 Pins Single Ended	8	20	45	6.0	0.450	11000	15	345	UNP	32	927973404099
25W 4P SE*	4 Pins Single Ended	9	25	55	8.0	0.450	9000	20	463	UNP	32	927972204099

\* High Output lamps

Customized products with bespoke caps, dimensions and power are possible upon request. Please contact us with your requirements.



G5



4 Pins Single Ended

Dim.* no.	A max.	B min.	B max.	D max.	D1 max.
1	135.9	140.6	143.0	150.1	16
2	212.1	216.8	219.2	226.3	16
3	288.3	293.0	295.4	302.5	16
4	288.3	293.0	295.4	302.5	16
5	398.0	402.7	405.1	412.2	16

\* Dimensions (mm)

Dim.* no.	A max.	C max.	D max.
6	244.1	251.8	19
7	320.3	328.0	19
8	430.0	437.7	19
9	548.9	556.6	19

\* Dimensions (mm)



# Municipal and industrial water purification

Every government aims to provide its citizens with safe and clean drinking water.

If they can de-activate the micro-organisms in water cost-effectively by avoiding, or reducing, the use of chlorine, all the better. Philips is helping to do just that with a range of lamp systems designed to meet all the main municipal requirements and comply with new legislation..

Waste water must also be disinfected before it is discharged into the environment. Not only does this minimize the risk to the local population, it also helps to protect vulnerable natural eco systems in the discharge areas. Here too, our UV lamp systems are becoming increasingly popular.

Highly cost-effective, they treat waste water without adding chemicals or residues. Safeguarding our communities and the environment.

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 Philips TUV T5 page 22-23	 Philips drivers page 30-31	

# Philips TUV Amalgam XPT System



Philips TUV Amalgam XPT system consists of an electronic driver that operates one TUV Amalgam XPT lamp, mounted in a sleeve. The electrical specifications are tailored to the lamp, ensuring an optimized performance of the Philips TUV Amalgam XPT system. Thanks to extensive testing before a lamp system is released, we can ensure maximum reliability and long lifetime.

## Main applications

- Deactivation of bacteria, viruses and other micro-organisms
- Municipal drinking water treatment equipment
- Municipal waste water treatment equipment
- Process water treatment equipment
- Swimming pool units
- Equipment for the production of ultra-pure water, for example for the semiconductor, pharmaceuticals and cosmetics industries (ozone version)



## Features

Short-wave UV radiation with a peak at 253.7 nm (UVC) for disinfection

Special amalgam used for highest efficiency over wide temperature range

Protective inside coating ensures constant UV output over the complete lifetime of the lamp

Special lamp glass filters out the 185 nm ozone-forming radiation

Philips electronic driver available for a perfect interface

Universal burning position possible depending on the application

Lamp can be made from special quartz (open / synthetic) to maximize 185nm Ozone generation

## Benefits

High Power allows for design of compact installations

High system efficiency

Approximately 10% energy savings, because lamps can be dimmed to reach the same UV output compared to similar lamps on the market

Effective disinfection over the useful lifetime of the lamp

Best environmental choice because of long reliable life, less waste and industry leading low amount of mercury

Extreme reliability of driver, with annual failure rate of less than 1%

High efficiency during dimming thanks to unique amalgam temperature control of the 800W lamps

## Technical data



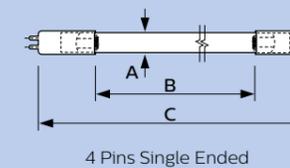
Type	Cap-Base	Dim. no	Technical Lamp Wattage (W)	Lamp Voltage (V)	Lamp Current (A)	UVC <sup>1</sup> at 0h (W)	UVC <sup>1</sup> at 100h (W)	Useful life <sup>2</sup> (h)	Depreciation at useful lifetime (%)	Ordering number 12 NC
TUV 130W XPT SE	4 Pins Single Ended	1	140	67	2.1	48	46	12000	10	928101805112
TUV 180W XPT SE	4 Pins Single Ended	2	180	90	2.1	63	61	12000	10	928106805112
TUV 200W XPT SE	4 Pins Single Ended	3	200	94	2.1	68	66	12000	10	928106905112
TUV 325W XPT HO SE	4 Pins Single Ended	4	305	160	2.0	118	115	12000	10	928107005112
TUV 330W XPT SE	4 Pins Single Ended	5	275	78	3.6	100	97	12000	10	928101705112
TUV 350W XPT HO SE	4 Pins Single Ended	6	350	73	4.8	123	120	12000	10	928103505112
TUV 800W XHO SE	4 Pins Single Ended	7	815	103	8.0	277	265	12000	15	928107605112

<sup>1</sup> Nominal UVC output (fixed current) under laboratory conditions

<sup>2</sup> Expected useful lifetime is 12000 h with an intensity decrease of 10% at 254 nm, based on the 100 h UVC value. \*\* TUV800W depreciation is 15%

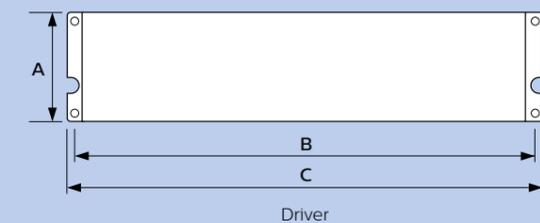
# Lifetime and depreciation strongly depends on operation conditions

Lamp type	Driver	Ordering number
TUV 130W XPT SE	TUV 130W XPT driver	913700729703
TUV 180W XPT SE	TUV 180-200W XPT driver	913710054695
TUV 200W XPTSE	TUV 180-200 W XPT driver	913710054695
TUV 325W XPT HO SE	TUV 325W XPT (HO) driver	913710054995
TUV 330W XPT SE	advice on request	-
TUV 350W XPT HO SE	advice on request	-
TUV 800W XHO SE	advice on request	-



Dim.*	A	B	C
no.	nom.	nom.	max.
1	19	740	842
2	19	930	1032
3	19	1040	1147
4	19	1480	1582
5	32	1440	1556
6	32	967	1100
7	38	1609	1791

\* Dimensions (mm)



Dim.*	A	B	C
	nom.	nom.	max.
	50.8	279.4	279.4

\* Dimensions (mm)

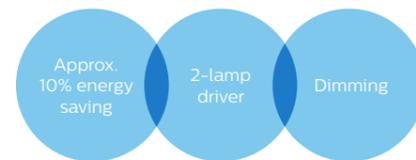
# Philips Dynapower System



The Philips DynaPower lamp and driver offers you a best-in-class, no-risk alternative for specific amalgam open channel systems. The delicate balance between lamp and driver has been optimized to achieve the best possible performance. The Philips lamps and drivers are all designed and manufactured in-house, to give you guaranteed peace of mind.

## Main applications

- Deactivation of bacteria, viruses and other micro-organisms
- Municipal drinking water treatment equipment
- Municipal waste water treatment equipment
- Process water treatment equipment



## Features

Operates 230W, 260W (HO) and 335W (HO) TUV Amalgam XPT lamps

Single lamp operation possible

Cooler operating temperature for additional energy savings

100% stress testing minimizing 0-hour failures

Protection against voltage peaks

Permanent overvoltage protection

Approximately 20 seconds start-up time (compared with 90 seconds for similar drivers on the market)

Special lamp glass filters out the 185 nm ozone-forming radiation

## Benefits

Energy savings of approximately 10% compared with similar drivers or lamps, and up to as much as a 35% for the HO system

Dimmable up to 60% power level for additional energy savings

The highest levels of service and support with a single supplier for lamp and driver

3-year guarantee on driver and 16,000 operating hours guarantee on lamp

Easier maintenance thanks to single lamp operation, allowing to detect easily which lamps need to be replaced

Best environmental choice thanks to maximum lifetime reliability, in combination with minimum substances, packaging and product weight

Easier to maintain compliance with regulations thanks to reduced risk of failures

## Technical data



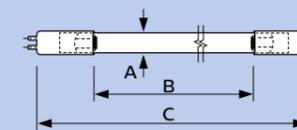
Type	Cap-Base	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC <sup>1</sup> at 100h (W)	Useful life <sup>2</sup> (h)	Depreciation at useful lifetime (%)	Packaging type	Packaging configuration	Ordering number 12 NC
TUV 230W WE XPT SE	4 Pins Single Ended	230	88	78	16000	10	UNP	32	928 104 005112
TUV 260W XPT DIM	4 Pins Single Ended	222	76	80	16000	10	UNP	32	928 102 805112
TUV 260W XPT HO	4 Pins Single Ended	240	89	98	16000	10	UNP	32	928 104 405112
TUV 335W XPT SE	4 Pins Single Ended	293	77	93	16000	10	UNP	32	928 103 105112
TUV 335W WP XPT SE	4 Pins Single Ended	293	77	93	16000	10	UNP	32	928 105 705112
TUV 335W XPT HO	4 Pins Single Ended	315	94	123	16000	10	UNP	32	928 103 505112

<sup>1</sup> Nominal UVC output (fixed current) under laboratory conditions

<sup>2</sup> Expected useful lifetime is 16000 h with an intensity decrease of 10% at 254 nm, based on the 100 h UVC value

# Lifetime and depreciation strongly depends on operation conditions

Lamp type	Driver	Ordering number
TUV 230W WE XPT SE	DynaPower	91373229695
TUV 260W XPT DIM	DynaPower	91373229695
TUV 260W XPT HO	DynaPower	91373229695
TUV 335W XPT SE	DynaPower	91373229695
TUV 335W WP XPT SE	DynaPower	91373229695
TUV 335W XPT HO	DynaPower	91373229695



4 Pins Single Ended

Dimensions	A	B	C
TUV 230W WE XPT SE	25	1400	1514
TUV 260W XPT DIM	32	1400	1514
TUV 260W XPT HO	32	1400	1514
TUV 335W XPT SE	32	1400	1514
TUV 335W WP XPT SE	32	1400	1514
TUV 335W XPT HO	32	1400	1514

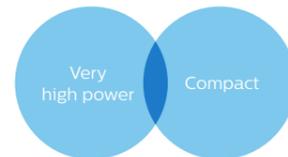
# Philips Medium Pressure Mercury



Philips Medium Pressure Mercury lamps are available in a wide range of up to 120 W/cm, with an arc length between 10 and 140 centimeters. The lamps can be fitted with various types of end fitting, or equipped with customer-specific fittings, cables or pins. The lamps are made from selected types of quartz glass, with transmission characteristics tailored to the application. Philips Medium Pressure Mercury lamps contain sophisticated quantities of mercury bromides, providing a self-cleaning halogen cycle, to control the depreciation of UV radiation over lamp life.

## Main applications

- Deactivation of bacteria, viruses and other micro-organisms
- Water treatment (waste-, drinking- or process water)
- Surface treatment
- Advanced oxidation (with special quartz glass)
- Ship ballast water treatment



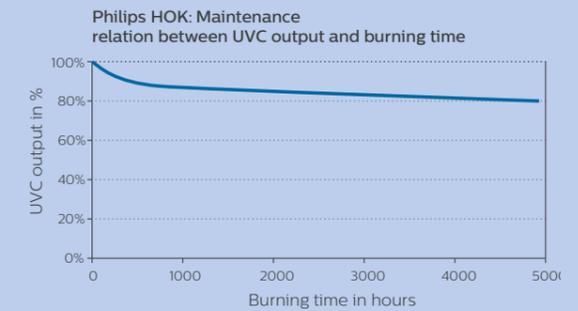
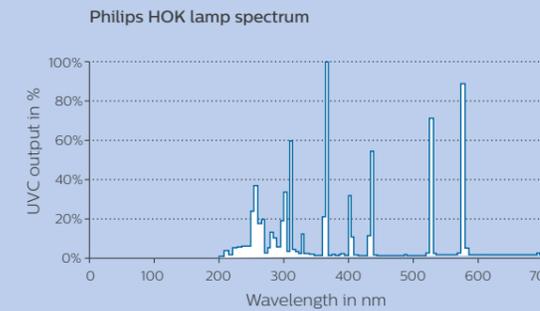
## Spectral output

The lamps emit a wide band spectrum in the UVC range. In contrast to Low Pressure lamps, considerable amounts of radiation around the 254 nm is emitted. The power density is very high compared with Low Pressure lamps. Lamps can be made in special quartz to either substantially lower the emission below 240 nm, or to maximize radiation at 185 nm. The former type is used in installations where nitrite formation must be avoided; the latter type is used in installations for ozone production or advanced oxidation.

## Operation

Philips Medium Pressure Mercury lamps can be tailored to operate on conventional electromagnetic or electronic drivers. A permissible bulb temperature for HOK type lamps is in the 600 – 900 C range. Permissible pinch temperature is 300 C, higher pinch temperatures up to 420 C are possible using the Philips patented Pinch Protection.

## Technical data



Technical data	MP Lamps
Tube diameter	22 mm
Arc Length	105-1400 mm
Power range	1100W -16800W
Specific electrical power	80-120 W/cm
Irradiance	1400-21000 $\mu\text{W}/\text{cm}^2$

Note: bulb diameters for HOK lamps are typically around 22 mm nominal for 120 W/cm lamps. Standard lamps are available (contact our sales department for details), different dimensions are available on request.

## Customization possible on

- Connectors
- Pins
- Cables
- Design
- Special glass

Please contact us with your requirements.

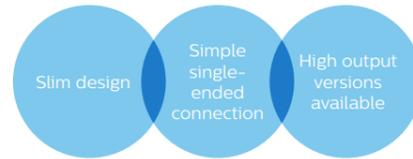
# Philips TUV T5



TUV T5 lamps are single- or double-ended UVC (germicidal) lamps used in professional water and air disinfection units. The small 16 mm diameter of the lamp allows for a small system design and design flexibility. TUV T5 lamps offer almost constant UV output over their complete lifetime.

## Main applications

- Deactivation of bacteria, viruses and other micro-organisms
- Industrial water disinfection equipment, e.g. for food & beverage industry
- Small municipal water treatment systems
- Swimming pool units
- Air treatment systems (High Output lamp versions)



## Features

Short-wave UV radiation with a peak at 253.7 nm (UVC) for disinfection

Small diameter

Protective inside coating ensures almost constant UV output over the complete lifetime of the lamp

Special lamp glass filters out the 185 nm ozone-forming radiation

## Benefits

Slim system design

Simple single-ended connection

High Output versions for improved performance in moving air and reducing amount of required lamps

Effective disinfection over the useful lifetime of the lamp

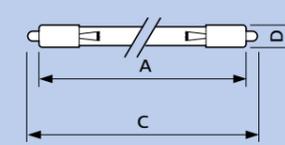
Good environmental choice because of lowest amount of mercury

## Technical data

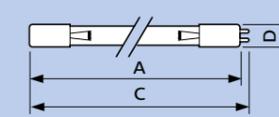


Type	Cap-Base	Dim. no	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC at 100h (W)	Lamp Current (A)	Useful life (h)	Depreciation at useful lifetime (%)	Packaging type	Packaging configuration	Ordering number 12 NC
TUV 36T5 HE SP	Single Pin	1	40	97	14.0	0.425	9000	15	UNP	32	927970004099
TUV 36T5 HO 4P SE	4 Pins Single Ended	2	75	97	23.0	0.800	9000	15	UNP	32	927972104099
TUV 36T5 HE 4P SE	4 Pins Single Ended	2	40	97	14.0	0.425	9000	15	UNP	32	927970204099
TUV 64T5 HE 4P SE	4 Pins Single Ended	3	75	178	29.0	0.425	9000	15	UNP	32	927970704099
TUV 64T5 HO 4P SE	4 Pins Single Ended	3	140	175	45.0	0.800	9000	15	UNP	32	927971104099

Customized products with bespoke caps, dimensions and power are possible upon request. Please contact us with your requirements.



Single Pin



4 Pins Single Ended

Dim.*	A	C	D
no.	max.	max.	max.
1	845.4	863.9	19

\* Dimensions (mm)

Dim.*	A	C	D
no.	max.	max.	max.
2	845.4	853.1	19
3	1556.6	1564.4	19

\* Dimensions (mm)



# Commercial and Professional air purification

Increasingly, we spend more time indoors, for example at work, on trains and in aircrafts, in schools, cinemas and shopping centres. The air we breathe in these environments is anything but clean. In fact, it's often re-circulated along with all the bacteria, viruses, pollen, smoke and toxic gases that are trapped along with it.

In hospitals this can be a real problem. Hospital acquired infections affect around 10% of patients during their stay. And there is increasing evidence that up to 20% of these infections, like the flu, moulds, pneumonia and MRSA, is transmitted via the air - at a huge price, both in terms of human life and financial costs. Tuberculosis is even 100% transmitted via the air. Philips UV purification lamp systems provide a safe, reliable and sustainable solution. Ideal for use in ventilation air ducts, air disinfection units or stand-alone air purifiers, they help protect against airborne pathogens, creating a safer and healthier indoor environment with the power of light.



Philips TUV PL-L  
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Intelligent  
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Philips TUV T5  
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Philips drivers  
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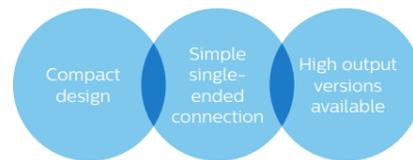


# Philips TUV PL-L

Philips TUV PL-L lamps are compact UVC (germicidal) lamps used in water and air disinfection units. The compact size of the lamp allows for a small system design and design flexibility. Philips TUV PL-L lamps offer almost constant UV output over their complete lifetime. Thanks to the single-ended lamp base, lamp replacement is easy, making maintenance hassle free.

## Main applications

- Deactivation of bacteria, viruses and other micro-organisms
- Air disinfection systems in for example hospitals, universities and laboratories
- In-duct air treatment units
- Stand alone air purifiers
- Residential drinking water units
- Fish pond and process water units



## Features

Short-wave UV radiation with a peak at 253.7 nm (UVC) for disinfection purposes

Protective inside coating ensures almost constant UV output over the complete lifetime of the lamp

Special lamp glass filters out the 185 nm ozone-forming radiation

## Benefits

Compact system design

Simple single-ended connection

High Output versions for improved performance in moving air and reducing amount of required lamps

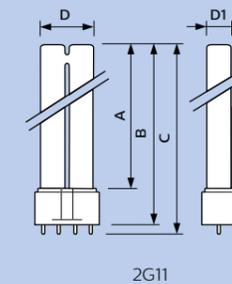
Effective disinfection over the useful lifetime of the lamp

Good environmental choice because of lowest amount of mercury

## Technical data



Type	Cap-Base	Dim. no	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC at 100h (W)	Lamp Current (A)	Useful life (h)	Depreciation at useful lifetime (%)	Packaging type	Packaging configuration	Ordering number 12 NC
18W/4P	2G11	1	18	60	5.5	0.375 (0.370)	9000	15	1CT	25	927903004007
24W/4P	2G11	2	24	87	7.0	0.350	9000	15	UNP	50	927903204016
36W/4P	2G11	3	36	106	12.0	0.440	9000	15	1CT	25	927903404007
55W/4P	2G11	4	55	105	17.0	0.525 (0.540)	9000	15	1CT	25	927908704007
35W/4P HO	2G11	5	35	42	11.0	0.850	9000	15	1CT	25	927904204007
60W/4P HO	2G11	3	65	82	19.0	0.800	9000	15	1CT	25	927909004007
95W/4P HO	2G11	4	90	84 (82)	27.0	0.800	9000	15	1CT	25	927909804007



Dim.*	A	B	C	D1
no.	max.	max.	max.	max.
1	195	220	225	18
2	290	315	320	18
3	385	410	415	18
4	505	530	535	18
5	195	220	226	18

\* Dimensions (mm)

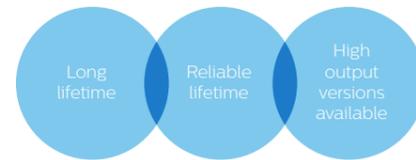
# Philips TUV T8



TUV T8 lamps are double-ended UVC (germicidal) lamps used in professional air disinfection units. TUV T8 lamps offer almost constant UV output over their complete lifetime. Moreover, they have a long and reliable lifetime, which allows maintenance to be planned for in advance.

## Main applications

- Air disinfection systems in professional applications such as universities, hospitals, jails and laboratories
- Upper air and whole room disinfection equipment in hospitals, intensive care units and surgery rooms
- Areas with low maintenance and/or disruptive costs
- Fish ponds and process water units



## Features

Short-wave UV radiation with a peak at 253.7 nm (UVC) for disinfection purposes

Protective inside coating ensures constant UV output over the complete lifetime of the lamp

Long lifetime of 18,000 hours\*

High reliability with the lowest percentage of lamps that fail prematurely in the market (90% of all lamps still operate on full output and quality after 15,000 hours\*)

Special lamp glass filters out the 185 nm ozone-forming radiation

\* based on operation on a Philips electronic driver

## Benefits

Effective disinfection over the useful lifetime of the lamp

Maintenance can be planned in advance, virtually eliminating the need for expensive spot replacement of prematurely failed lamps

High Output versions available for optimum UVC output per lamp length, allowing for reduction of system size

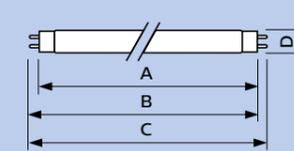
Good environmental choice because of lowest amount of mercury

## Technical data

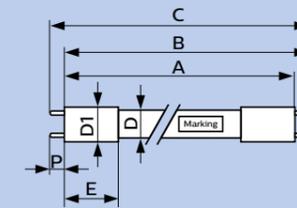


Type	Cap-Base	Dim. no	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC at 100h on EM gear (W)	UVC at 100h on HF gear (W)	Lamp Current (A)	Useful life on EM gear (h)	Useful life on HF gear (h)	Depreciation at useful lifetime (%)	Packaging type	Packaging configuration	Ordering number 12 NC
10W T5*	G5 to G13	1	9.0	48.5	-	2.8	0.220	9000	-	15	1FM	25	927801304011
15W	G13	2	15.5	55.0	4.9	5.1	0.335	9000	18000	10	SLV	25	928039004005
T8 F17	G13	3	16.7	72.0	4.5	-	0.265	9000	-	15	SLV	25	927941904020
25W	G13	2	25.0	48.0	7	7.5	0.600	9000	18000	15	SLV	25	928039404005
30W	G13	4	30.0	102.0	12	13.1	0.370	9000	18000	10	SLV	25	928039504005
36W	G13	5	36.0	103.0	15	15.5	0.440	9000	18000	10	SLV	6	928048604003
55W HO	G13	4	54.0	86.0	18.5	20.0	0.770	9000	18000	10	SLV	6	928049504003
75W HO	G13	5	75.0	110.0	25.5	28.1	0.840	9000	18000	10	SLV	6	928049404003

\* with T5 to T8 adapters



G13



TUV 10W T5 with T5 to T8 adapter

Dim.*	A	B	C	D
2	437.4	444.5	451.6	28
3	589.8	596.9	604.0	28
4	894.6	901.7	908.8	28
5	1199.4	1206.5	1213.6	28

\* Dimensions (mm)

Dim.*	A	B	C	D	D1	E	P
1	331.5	338.6	345.7	16	19.6	3.1	7

\* Dimensions (mm)



# The right driver for the right lamp



Driver development is possible on request. Please contact us with your requirements.

	12 NC Philips Electronic driver 50 Hz	Philips Electronic Driver 50 Hz	Philips Advance Electronic driver 60 Hz	Philips Advance Electromagnetic driver 60 Hz
<b>TUV PL-S</b>				
TUV PL-S 5W/2P*				LC49CTP LPL59TP H1B9TPW
TUV PL-S 7W/2P*				LC49CTP LPL59TP H1B9TPW
TUV PL-S 9W/2P*				LC49CTP LPL59TP H1B9TPW
TUV PL-S 13W/2P*				LC13TP LO1322TP H1B13TPW
TUV PL-S 9W/4P	913700421366	HF-M BLUE 109 LH TL/PL-S 230-240V		
	913700422866	HF-M RED 109 SH TL/PL-S 230-240V		
TUV PL-S 11W/4P	913700631166	HF-P 1 13-17 PL-T/C/R EII 220-240V		
	913700631266	HF-P 2 13-17 PL-T/C/R EII 220-240V		
<b>TUV TL Mini</b>				
Philips TUV 4W	913700422866	HF-M RED 109 SH TL/PL-S 230-240V		LC49CTP w/starter
Philips TUV 6W	913700422866	HF-M RED 109 SH TL/PL-S 230-240V		LC49CTP w/starter
Philips TUV 8W	913700422866	HF-M RED 109 SH TL/PL-S 230-240V		LC49CTP w/starter
				LC49CTP w/starter
Philips TUV 11W	913713032266	HF-S 158 TL-D II		LOI322TP w/starter RLQ120TP RL2SP20TP
Philips TUV 16W	913713032266	HF-S 158 TL-D II		LC1420CPT w/starter HM2SP20TP
Philips TUV 20W	913713032266	HF-S 158 TL-D II		
<b>TUV T5</b>				
Philips TUV 11W 4P SE	913713032266	HF-S 158 TL-D II		LOI322TP w/starter RLQ120TP RL2SP20TP
Philips TUV 16W 4P SE	913713032266	HF-S 158 TL-D II		LC1420CPT w/starter HM2SP20TP
Philips TUV 25W 4P SE	913713032266	HF-S 158 TL-D II		IUV2S36M2LD ICN2S39N

	12 NC Philips Electronic driver 50 Hz	Philips Electronic Driver 50 Hz	Philips Advance Electronic driver 60 Hz	Philips Advance Electromagnetic driver 60 Hz
<b>TUV T5</b>				
Philips TUV 36T5 HE SP	913713031866	HF-P 158 TL-D III 220-240V 50/60 Hz	ICN2P60N	
Philips TUV 36T5 HE 4P SE	913713031866	HF-P 158 TL-D III 220-240V 50/60 Hz	ICN2S5490CN	
Philips TUV 36T5 HO 4P SE		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
Philips TUV 64T5 HE 4P SE	913713034266	HF-P 180 TL5 III 220-240V 50/60 Hz		
Philips TUV 64T5 HO 4P SP		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
<b>Philips TUV PL-L</b>				
Philips TUV PL-L 18W/4P	913700420666	HF-M RED 124 SH TL/TL5/PL-L 230-240V	IUV2S18H1LD 1L	
	913700418066	HF-M BLUE 124 LH TL/TL5/PL-L 230-240V	IUV2S18H1LD 2L	
Philips TUV PL-L 24W/4P	913700420666	HF-M RED 124 SH TL/TL5/PL-L 230-240V	IUV2S36M2LD 1L	
	913700418066	HF-M BLUE 124 LH TL/TL5/PL-L 230-240V	IUV2S36M2LD 2L	
			ICN2S39N	
			ICN2S39T	
Philips TUV PL-L 35W/4P HO		IUV2S60M4LD (914499999001)	IUV2S60M4LD	
		IUV2S60M4LD 2L (914499999001)	IUV2S60M4LD 2L	
Philips TUV PL-L 36W/4P	Driver on request		IUV2S36M2LD ICN2S39N ICN2S39T	
Philips TUV PL-L 55W/4P HF	913713028266	HF-P 154/155 TL5 HO/PLL III 220-240V IDC	ICN2S5490CN	
	913713028366	HF-P 254/255 TL5 HO/PLL III 220-240V IDC		
Philips TUV PL-L 60W /4P HO		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
Philips TUV PL-L 95W/4P HO		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
<b>TUV T8 and TUV T8 Xtra</b>				
TUV 10W T5 with T5 to T8 adapters	913713033466	HF-S 149 TL5 II CCC		LC1420CPT w/starter HM2SP20TP
Philips TUV 15W	913713033466	HF-S 149 TL5 II CCC		
Philips TUV 18W	913713031266	HF-P 118 TL-D III 220/240V 50/60 Hz		
Philips TUV 25W		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
Philips TUV 30W	913713031566	HF-P 136 TL-D III 220-240V 50/60 Hz		
	913713031666	HF-P 236 TL-D III 220-240V 50/60 Hz		
Philips TUV 36W	913713031566	HF-P 136 TL-D III 220-240V 50/60 Hz	IUV2S36M2LD ICN2S5490CN	
	913713031666	HF-P 236 TL-D III 220-240V 50/60 Hz	IUV2S36M2LD ICN2S5490CN	
Philips TUV 55W HO		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
Philips TUV 75W HO		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	