




Knowing you're safe

Advanced, reliable and customized UV lamp
systems for water and air disinfection

PHILIPS



Water is an
essential part of
our daily lives
and as precious as the
air we breathe

Content overview

4 - 5 Knowing you're safe

6 - 7 InstantTrust

8 - 9 Integrated UV Modules



10 - 15 Residential water and air purification
Philips TUV PL-S
Philips TUV TL Mini



16 - 25 Municipal and industrial water purification
Philips TUV Amalgam XPT System
Philips Dynapower System
Philips Medium Pressure Mercury
Philips TUV T5



26 - 33 Commercial and Professional air purification
Philips TUV PL-L
Philips TUV PL-L Intelligent
Philips TUV T8

34 - 35 The right driver for the right lamp

Knowing you're **safe**

Water is an essential part of our daily lives and as precious as the air we breathe. As the population rises, demand for safe, clean water and air increases. But our lifestyle choices also increase the risk of pollution from micro-organisms, bacteria and viruses. It's a challenge that has inspired us to think of innovative ways that we can make a difference.

At Philips we care about the things that matter to you most. From a clear glass of water that quenches your thirst, to the pure and clean air you breathe when indoors. It's what drives our thinking and sets us apart from the rest. Our innovative, reliable and sustainable UV lamp systems have the power to disinfect water and air and protect you from contaminants that could make you seriously ill. So you can live well, enjoy life and know you're safe.

Innovative

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. For example, InstantTrust is our cutting-edge water disinfection technology that's optimized for point-of-use applications like taps, water pitchers and under-the-sink water filters. For the first time it has enabled water to be disinfected instantly, efficiently and independent of water temperature. Furthermore, 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.

Partnership

We're also naturally inquisitive and love working with others to refine our ideas and make sure they fit perfectly within an application. 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. So we can be absolutely certain that our innovations will make a meaningful difference to people's lives.

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 provide safe 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.



As the population rises, the demand for clean and safe water increases

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





Tested. Trusted. Clean.

Philips InstantTrust is our new standard in the industry for disinfection solutions in drink/water dispensers, providing clean water in an instant, independent of water temperature. It is now certified to all major water standards. Already being designed-in by several OEMs, InstantTrust is available in a range of tested, validated solutions including inline and point-of-dispense versions.

Fit for purpose

The major benefits of integrating InstantTrust into your equipment are:

- **Peace of mind:** has all the relevant approvals required for use in water purifiers
- **Design freedom and versatility:** very compact, so it can be built into systems with limited space. Can be used in gravity systems due to very limited pressure drop
- **Energy efficient:** no power consumed when no water dispensed (helps to fulfill Energy Star requirements)
- **Simple controls:** easy on/off switch; easy to interact with control board of the purifier; electrical signal flags end of life or failure
- **Temperature independence:** effective performance in cold or hot water applications

Why your customers will love it

InstantTrust ensures that the water is cleaned at the moment it is dispensed.

- **Freshness:** cold water remains cold
- **Worry-free:** InstantTrust is designed to disinfect 10,000 liters of water and will signal when it should be replaced
- **Almost zero energy costs:** only switches on when water is flowing, so energy costs are around 40 cents for 10,000 liter (calculated at 0.20 EUR kWh!)
- **A sustainable choice:** contains no mercury, and fulfills ROHS requirements
- **Reliable disinfection:** InstantTrust has been designed to always exceed the minimum required disinfection level as agreed with the customer during its entire life. There is a stringent quality control during production to ensure that all products meet their requirements
- **Environmental impact:** it is completely mercury free.

A range of solutions to meet your needs

In-line solutions:

- 6-Pin connector or jack plug
- With or without cooling plate

Point-of-dispense:

- Water dispensed directly out of InstantTrust

General specifications:

- Input voltage: 9V DC
- System Power: 21 – 27W
- Water flow of up to 4 liter/minute
- Treatment capacity: 5000 liter up to 15000 liter of water depending on water quality, flow rate and required disinfection performance
- Different connections to water possible

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.

These integrated modules can be tailored to best match your requirements – both in terms of ergonomics and functionality.



YourSource

Designed for optimal performance

By integrating the lamp and driver we can ensure maximum compatibility between these different components. As a result the delicate balance and interaction between these components is optimized, allowing for the best performance and efficiency of the complete UV lamp system.

Customized
product

Integrated
driver



Smart cap

The Smart cap now activates an additional safety switch in the lamp holder.

Customized
product

Double
safety
measure

Application and technological expertise

Philips Lighting has been closely associated with the progress in UVC technology by developing, manufacturing and marketing UVC lamp systems. 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 believe we are the best partner for the design of UV modules that are optimized for your application. To learn more about how our integrated modules could benefit you, go to 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 (%)	Packaging type	Packaging configuration	Ordering number 12 NC
PL-S YourSource 9W/230V	IP65	9	230	2.4	5000	20	1CT	20BOX	929709090901
PL-S YourSource 12W/230V	IP65	12	230	3.6	5000	20	1CT	20BOX	929710090901
PL-S YourSource 11W/120V	IP65	11	120	2.8	5000	20	1CT	20BOX	929709890901
PL-S YourSource 15W/120V	IP65	15	120	4.1	5000	20	1CT	20BOX	929710890901

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 (%)	Packaging type	Packaging configuration	Ordering number 12 NC
TUV 36T5 HO Smart	4 Pins Single Ended	75	97	23.0	0.800	9000	15	UNP	18	927973704099
TUV 36T5 HE Smart	4 Pins Single Ended	40	97	14.0	0.425	9000	15	UNP	18	927973904099



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.



Philips TUV PL-S
page 12-13



Philips TUV TL Mini
page 14-15



Philips TUV T5
page 24-25



Philips TUV PL-L
Page 28-29



Philips TUV T8
page 32-33



Philips drivers
page 34-35



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

Compact design

Simple single-ended connection

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

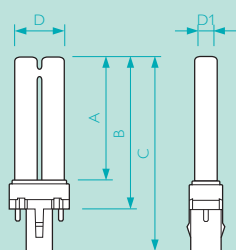
Effective disinfection over the useful lifetime of the lamp

Good environmental choice because of lowest amount of mercury

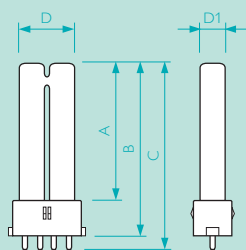
Technical data



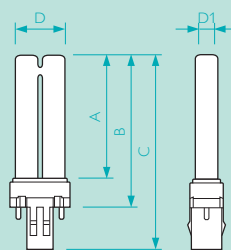
Type	Cap-Base	Dim. no.	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC at 100h (W)	Lamp Current (A)	Useful life (h)	Depreciation at useful lifetime (%)	Packaging type	Packaging configuration	Ordering number 12 NC
5W/2P	G23	1	5.5	35	1	0.18	9000	20	1CT	6x10BOX	927900504007
5W/4P	2G7	2	5.1	27	1	0.19	9000	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	927901704008
9W/4P	2G7	5	8.6	60	2.2	0.17	9000	20	1CT	6x10BOX	927901904007
11W/2P	G23	6	11.6	89	3.2	0.16	9000	20	1CT	6x10BOX	927902304007
11W/4P	2G7	7	11.6	89	3.5	0.16	9000	20	1CT	6x10BOX	927902404007
13W/2P	GX23	8	13.0	56	3.4	0.29	9000	20	1CT	6x10BOX	927902804007



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

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
7	198	213,3	219,9	28	13

Dim.*	A	B	C	D	D1
no.	max.	max.	max.	max.	max.
8	139,5	155,2	178,2	28	13

* Dimensions (mm)

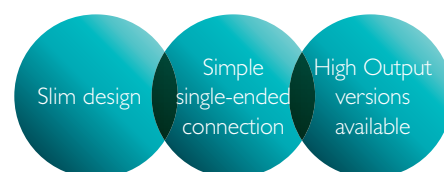


Philips TUV TL Mini

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

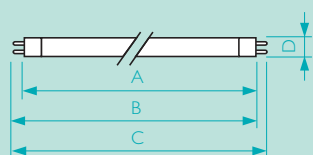
Good environmental choice because of lowest amount of mercury

Technical data

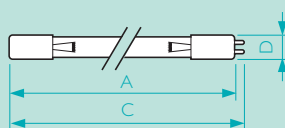


Type	Cap-Base	Dim. no.	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC at 100h (W)	Lamp Current (A)	Useful life (h)	Depreciation at useful lifetime (%)	Packaging type	Packaging configuration	Ordering number 12 NC
4W	G5	1	4	29	0.9	0.17	6000	20	1FM	10x25BOX	928000104013
6W	G5	2	6	42	1.5	0.16	9000	20	1FM	10x25BOX	928000704013
8W	G5	3	8	56	2.4	0.15	11000	15	1FM	10x25BOX	928001104013
11W*	G5	2	11	26	2.6	0.43	11000	15	1FM	10x25BOX	928002204013
16W*	G5	4	15	43	4.0	0.40	11000	15	1FM	10x25BOX	928002004013
20W*	G5	5	20	45	6.0	0.45	11000	15	1FM	10x25BOX	928003404013
25W*	G5	6	25	55	7.2	0.45	5000	15	1FM	10x25BOX	928002604013
6W 4P SE*	4 Pins Single Ended	7	6	42	1.7	0.16	9000	20	UNP	32	927971604099
11W 4P SE*	4 Pins Single Ended	8	11	26	2.6	0.43	9000	15	UNP	32	927971204099
16W 4P SE*	4 Pins Single Ended	9	15	43	4.0	0.40	9000	15	UNP	32	927971404099
20W 4P SE*	4 Pins Single Ended	10	20	45	6.0	0.45	11000	15	UNP	32	927973404099
25W 4P SE*	4 Pins Single Ended	11	25	55	8.0	0.45	9000	20	UNP	32	927972204099

* High Output lamps



G5



4 Pins Single Ended

Dim.*	A	B	B	C	D
no.	max.	min.	max.	max.	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
6	516.9	521.6	524.0	531.1	16

Dim.*	A	C	D
no.	max.	max.	max.
7	244.1	251.8	19
8	244.1	251.8	19
9	320.3	328.0	19
10	430.0	437.7	19
11	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.

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.



Philips TUV
Amalgam XPT System
page 18-19



Philips Dynapower
System
page 20-21



Philips Medium
Pressure Mercury
page 22-23



Philips TUV T5
page 24-25



Philips drivers
page 34-35



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 for the T6 range, depending on lamp type and sleeve dimensions

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



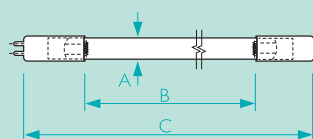
Type	Cap-Base	Dim. no.	Technical Lamp Wattage (W)	Lamp Voltage (V)	Lamp Current (A)	Useful life ² (h)	UVC ¹ at 0h (W)	UVC ¹ at 100h (W)	Depreciation at useful lifetime (%)	Ordering number 12 NC
TUV 130W XPT SE	4 Pins Single Ended	1	140	67	2.1	12000	48	46	10	928101805112
TUV 180W XPT SE	4 Pins Single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

¹ Nominal UVC output (fixed current) under laboratory conditions

² 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 9137...
TUV 130W XPT SE	TUV 130W XPT driver	00729703
TUV 180W XPT SE	TUV 180-200W XPT driver	10054695
TUV 200W XPTSE	TUV 180-200W XPT driver	10054695
TUV 325W XPT HO SE	TUV 325W XPT (HO) driver	10054995
TUV 330W XPT SE	-	-
TUV 800W XPT SE	-	-



4 Pins Single Ended

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	38	1609	1791

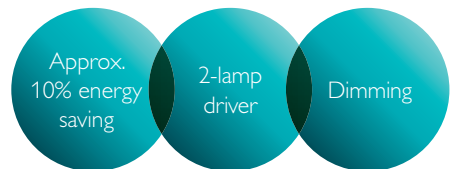
* Dimensions (mm)

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 optimised 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 and 335W 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 cost savings of approximately 10% compared with similar drivers or lamps

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



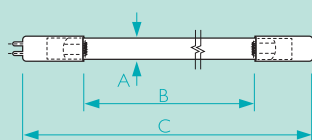
Type	Cap-Base	Technical Lamp Wattage (W)	Lamp Voltage (V)	Useful life ² (h)	UVC ¹ at 0h (W)	UVC ¹ at 100h (W)	Depreciation at useful lifetime (%)	Ordering number 12 NC
TUV 230W WE XPT SE	4 Pins Single Ended	230	88	16000	80	78	10	928104005112
TUV 260W XPT DIM	4 Pins Single Ended	222	76	16000	82	80	10	928102805112
TUV 335W XPT SE	4 Pins Single Ended	293	77	16000	97	93	10	928103105112
TUV 335W WP XPT SE	4 Pins Single Ended	293	77	16000	97	93	10	928105705112

¹ Nominal UVC output (fixed current) under laboratory conditions

² 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 9137...
TUV 230W WE XPT SE	DynaPower	3229695
TUV 260W XPT DIM	DynaPower	3229695
TUV 335W XPT SE	DynaPower	3229695
TUV 335W WP XPT SE	DynaPower	3229695



4 Pins Single Ended

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

Philips Medium Pressure Mercury

Philips Medium Pressure Mercury lamps are available in a wide range of up to 180 W per centimeter, with an arc length between 10 and 140 centimeter. The lamps can be fitted with various types of end fitting from our catalogue, or equipped with customer special 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

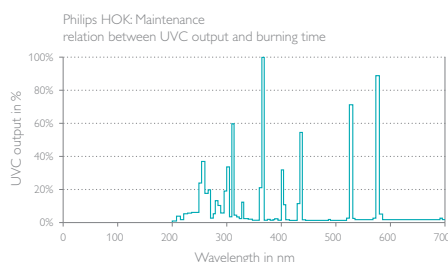
- Deactivation of bacteria, viruses and other micro-organisms
- Water treatment (waste-, drinking- or process water)
- Surface treatment
- Advanced oxidation (with special quartz glass)
- Ship ballast water treatment

Very high
power

Compact

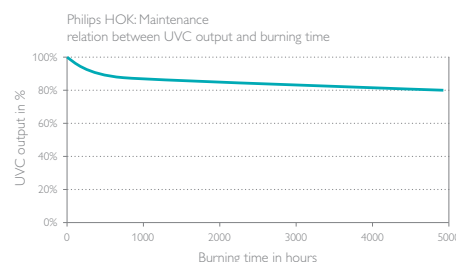
Spectral output

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, for HTK type lamps 500 – 700 C. Permissible pinch temperature is 300 C, higher pinch temperatures up to 420 C are possible using the Philips patented Pinch Protection.



Technical data



Type	Tube diameter mm	Arc length mm	Technical Lamp Wattage (W)	Lamp Voltage typical (V)	Lamp Current typical (A)	UVC at 100h (W)	Irradiance $\mu\text{W}/\text{cm}^2$
HOK 10/120	22	105	1100	130	8.5	140	1400
HOK 20/100	22	195	2100	240	9.5	250	2500
HOK 25/120	22	250	2900	420	7.0	380	3800
HOK 35/120	22	350	4200	490	8.5	520	5200
HOK 50/120	22	500	6000	670	8.8	750	7500
HOK 65/120	22	650	7800	840	9.2	1000	10000
HOK 80/120	22	800	9600	1030	9.2	1200	12000
HOK 105/120	22	1050	13000	1300	9.4	1600	16000
HOK 140/120	22	1400	16800	1850	9.0	2100	21000
HOK 50/180	25	550	8700	430	20.0	1130	11300
HTK 7/30	14	700	2000	1400	1.6	160	1600
HTK 7/60	14	700	4000	1400	3.1	310	3100

Note: bulb diameters for HOK lamps are typically around 22 mm nominal for 120 W/cm lamps. For lamp loading up to 180 W/cm, the bulb diameters is around 27.5 mm. HTK bulb diameters are 14 mm nominal. Standard lamps are available (contact our sales department for details), different dimensions are available on request.

Customization possible on

- Connectors
- Pens
- Cables

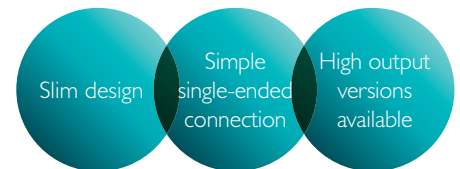
Philips TUV T5



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

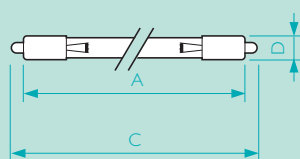
Effective disinfection over the useful lifetime of the lamp

Good environmental choice because of lowest amount of mercury

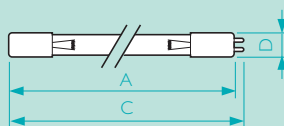
Technical data



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 2P SE	2 Pins Single Ended	3	75	178	29.0	0.425	9000	15	UNP	32	927970904099
TUV 64T5 HE 4P SE (Rapid Start)	4 Pins Single Ended	4	75	178	29.0	0.425	9000	15	UNP	32	927970704099
TUV 64T5 HE 4P SE (Instant Start)	4 Pins Single Ended	4	75	178	29.0	0.425	9000	15	UNP	32	927970804099
TUV 64T5 HO 4P SE	4 Pins Single Ended	4	140	175	45.0	0.800	9000	15	UNP	32	927971104099



Single Pin



2 Pins / 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	1564.5	19
4	1556.6	1564.4	19



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
page 28-29



Philips TUV PL-L
Intelligent
page 30-31



Philips TUV T8
page 32-33



Philips TUV T5
page 24-25



Philips drivers
page 34-35

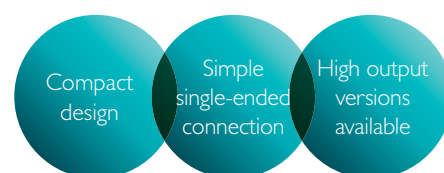


Philips TUV PL-L

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.

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

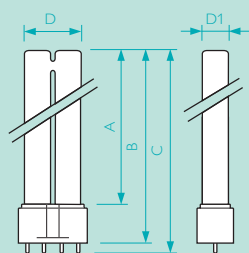
Effective disinfection over the useful lifetime of the lamp

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	0.370	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	0.540	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	115	27.0	0.800	9000	15	1CT	25	927909804007



2G11

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 PL-L Intelligent

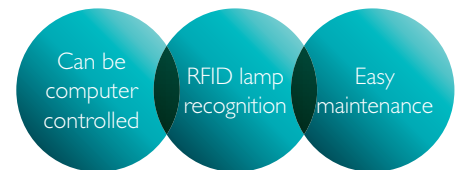
Philips TUV PL-L Intelligent system is a system consisting of a lamp and driver. The system is designed for use in professional air disinfection or air conditioning equipment to deactivate micro-organisms. TUV PL-L Intelligent uses an advanced RFID (Radio-Frequency Identification) system that allows to transfer data from the lamp to the driver and vice versa. The intelligent lamp system can store and read usage data such as the number of times that lamps are switched on and the cumulative number of energized hours. The system has the possibility to connect to an external controller via the RS485 bus. Via this controller the system can communicate to the building control system, for example to switch the system on and off or to transfer data.

This system is only available on request.

Main applications

Any professional applications with air disinfection or air conditioning equipment for air and surface disinfection, e.g.:

- Office buildings
- Hospitals
- Food processing industry



Features

Lamp type data (wattage, current manufacturing code etc) and operational data (number of switches, burning hours etc.) are stored on the RFID chip

Information on the RFID chip will be read and checked by the driver before starting the lamp

Warning levels for burning hours and/or number of switches can be programmed in the chip and compared to actual reached data

System will check proper functioning of the lamp and driver

The system can operate 4 lamp types, both standard and high output version. The system will recognize the lamp type used and adapt itself to the right settings

In case of over-heating, the system will automatically be switched off

In case of lamp or driver failure the system will be switched off and a failure code will be stored on the RFID chip

Benefits

Customer info can be stored on the RFID chip and read by driver before starting the lamp

Only correct lamps will be switched on

Warnings can be sent to the building management system for preventive maintenance based on actual burning hours and switches

Manual check-ups can be minimized as building engineers are automatically notified when the lamps need replacement failure and information can be checked via the bus

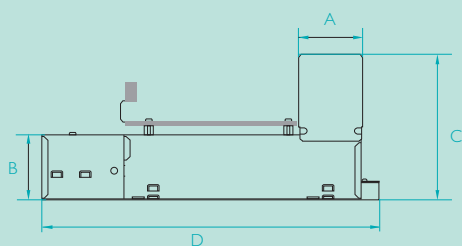
Thanks to software on the controller; both individual systems and groups of systems can be addressed and switched on or off at the same time

Technical data

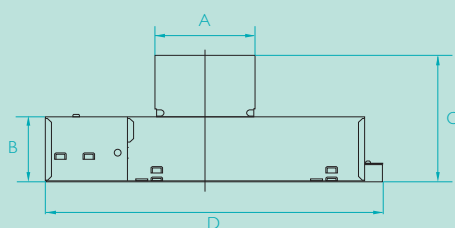


System	Lamp ordering number	Driver ordering number 9137...			Cap-Base	Lifetime	UVC at 100 hrs	Depreciation at useful lifetime (%)	Packaging type	Packaging configuration
		Horizontal version	Vertical version (V1)	Vertical version (V2)						
TUV PL-L Intelligent 36W	9279 335 04007	132 29795	132 29495	132 29395	2G11	9000	12.0	15%	1CT	25
TUV PL-L Intelligent 55W	9279 338 04007	132 29795	132 29495	132 29395	2G11	9000	17.0	15%	1CT	25
TUV PL-L Intelligent 60W	9279 341 04007	132 29795	132 29495	132 29395	2G11	9000	19.0	15%	1CT	25
TUV PL-L Intelligent 95W	9279 344 04007	132 29795	132 29495	132 29395	2G11	9000	27.0	15%	1CT	25

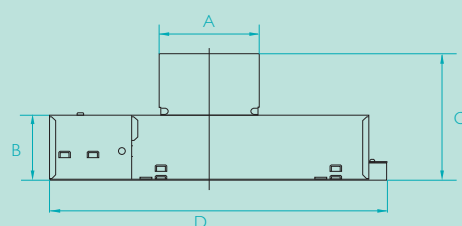
	120 V		230 V		277 V	
	System wattage (W)	System Current (A)	System wattage (W)	System Current (A)	System wattage (W)	System Current (A)
TUV PL-L Intelligent 36W	43.8	0.37	42.7	0.20	42.7	0.17
TUV PL-L Intelligent 55W	61.5	0.52	61.4	0.27	62.3	0.24
TUV PL-L Intelligent 60W	76.8	0.64	73.9	0.33	74.9	0.28
TUV PL-L Intelligent 95W	97.1	0.81	94.9	0.42	95.2	0.35



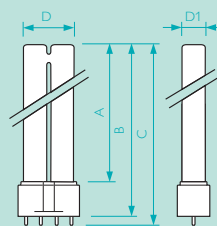
TUV PL-L Intelligent driver – horizontal version (H)



TUV PL-L Intelligent driver – vertical version (V1)



TUV PL-L Intelligent driver – vertical version (V2)



2G11

For dimensions see page 27

Dimensions	A max. (mm)	B max. (mm)	C max. (mm)	D max. (mm)
TUV PL-L Intelligent driver – horizontal version (H)	51	52	117	271
TUV PL-L Intelligent driver – vertical version (V1)	80	52	102	271
TUV PL-L Intelligent driver – vertical version (V2)	78	52	102	271

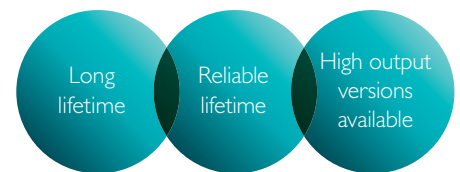


Philips TUV T8

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

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

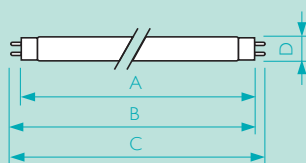
Good environmental choice because of lowest amount of mercury

* based on operation on a Philips electronic driver

Technical data



Type	Cap-Base	Dim. no	Technical Lamp Wattage (W)	Lamp Voltage (V)	UVC (W) at 100h on EM gear (W)	UVC (W) 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	G13	1	9.0	44.5	2.5	-	0.230	9000	-	15	SLV	25	928024204005
15W	G13	2	15.9	54.0	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	25.5	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	14.7	0.440	9000	18000	10	SLV	6	928048604003
55W HO	G13	4	54.0	86.0	17.5	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



G13

Dim.*	A	B	C	D
1	331.5	338.6	345.7	28
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)

The right driver for the right lamp

	12 NC Philips Electronic driver 50 Hz	Philips Electronic Driver 50 Hz	Philips Advance Electronic driver 60 Hz	Philips Advance Electromagnetic driver 60 Hz
TUV PL-S				
TUV PL-S 5W/2P				LC49CTP
				LPL59TP
				H1B9TPW
				H2B9TPW
TUV PL-S 5W/4P	913700422666	HF-M BLUE 105 LH TL/PL-S 230-240V		
TUV PL-S 7W/2P				LC49CTP
				LPL59TP
				H1B9TPW
				H2B9TPW
TUV PL-S 7W/4P	913700421366	HF-M BLUE 109 LH TL/PL-S 230-240V	RMB1P1 13S1 1L	
		HF-M RED 109 SH TL/PL-S 230-240V	RMB1P1 13S1 2L	
TUV PL-S 9W/2P				LC49CTP
				LPL59TP
				H1B9TPW
				H2B9TPW
TUV PL-S 9W/4P	913700421366	HF-M BLUE 109 LH TL/PL-S 230-240V	RMB1P1 13S1 1L	
	913700422866	HF-M RED 109 SH TL/PL-S 230-240V	RMB1P1 13S1 2L	
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		
TUV PL-S 13W/2P				LC13TP
				LO1322TP
				H1B13TPW
				H2B9TPW
TUV TL Mini				
Philips TUV 4W	913700422666	HF-M BLUE 105 LH TL/PL-S 230-240V		LC49CTP w/starter
				LPL59TP w/starter
Philips TUV 6W	913700421366	HF-M BLUE 109 LH TL/PL-S 230-240V		LC49CTP w/starter
				LPL59TP w/starter
Philips TUV 8W	913700422866	HF-M RED 109 SH TL/PL-S 230-240V	RMB13S1 1L	LC49CTP w/starter
			RMB13S1 2L	LPL59TP w/starter
Philips TUV 11W				LO1322TP w/starter
				RLQ120TP
				RL2SP20TP
Philips TUV 16W				LC1420CPT w/starter
				HM2SP20TP
Philips TUV 20W	913713031066	HF-P 1 14-35 TL5 HE III 220-240V 50/60Hz		
	913713031166	HF-P 2 14-35 TL5 HE III 220-240V 50/60Hz		
TUV T5				
Philips TUV 6W 4P SE	913700421366	HF-M BLUE 109 LH TL/PL-S 230-240V		LC49CTP w/starter
				LPL59TP w/starter
Philips TUV 11W 4P SE				LO1322TP w/starter
				RLQ120TP
				RL2SP20TP
Philips TUV 16W 4P SE				LC1420CPT w/starter
				HM2SP20TP
Philips TUV 25W 4P SE			IUV2S36M2LD 1L	
			IUV2S36M2LD 2L	
			ICN2S39 1L	
			ICN2S39 2L	



	12 NC Philips Electronic driver 50 Hz	Philips Electronic Driver 50 Hz	Philips Advance Electronic driver 60 Hz	Philips Advance Electromagnetic driver 60 Hz
TUVT5				
Philips TUV 36T5 HE SP			ICN2P60SC 1L	RSM175STP
			ICN2P60SC 2L	
Philips TUV 36T5 HE 4P SE	913713031866	HF-P 158 TL-D III 220-240V 50/60 Hz	ICN2P60SC 1L	RSM175STP
	913713028266	HF-P 154/155 TL5 HO/PLL III 220-240V IDC	ICN2P60SC 2L	
	913713031566	HF-P 136 TL-D III 220-240V 50/60 Hz	ICN2S5490C 1L	
	913713031666	HF-P 236 TL-D III 220-240V 50/60 Hz	ICN2S5490C 2L	
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)	
Philips TUV PL-L				
Philips TUV PL-L 18W/4P	913700420666	HF-M RED 124 SH TL/TL5/PL-L 230-240V	IUV2S18H1LD 1L	LC25TP w/starter
	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	
			ICN2S39 1L	
			ICN2S39 2L	
Philips TUV PL-L 35W/4P HO		IUV2S60M4LD 1L (914499999001)	IUV2S60M4LD 1L	
		IUV2S60M4LD 2L (914499999001)	IUV2S60M4LD 2L	
Philips TUV PL-L 36W/4P	913713028466	HF-P 136 PL-L III 220-240V 50/60 Hz IDC	IUV2S36M2LD 1L	
	913713028566	HF-P 236 PL-L III 220-240V 50/60 Hz IDC	IUV2S36M2LD 2L	
			ICN2S39 1L	
			ICN2S39 2L	
Philips TUV PL-L 55W/4P HF	913713028266	HF-P 154/155 TL5 HO/PLL III 220-240V IDC	ICN2S5490C 1L	
	913713028366	HF-P 254/255 TL5 HO/PLL III 220-240V IDC	ICN2S5490C 2L	
			ICN1S80 1L	
Philips TUV PL-L 60W /4P HO		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
Philips TUV PL-L 95W/4P HO		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
TUVT8 and TUVT8 Xtra				
Philips TUV 10W	913700648566	HF-P 118 PL-T/C III 220-240V 50/60Hz		
	913700648666	HF-P 218 PL-T/C III 220-240V 50/60Hz		
Philips TUV 15W	913713031266	HF-P 118 TL-D III 220-240V 50/60 Hz		LC1420CTP w/starter
	913713031366	HF-P 218 TL-D III 220-240V 50/60 Hz		HM25P20TP
Philips TUV 25W		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
Philips TUV 30W	913713031566	HF-P 136 TL-D III 220-240V 50/60 Hz	REL1B540SC 1L	LX1140FTP
	913713031666	HF-P 236 TL-D III 220-240V 50/60 Hz	RELB2540SC 2L	
Philips TUV 36W	913713031566	HF-P 136 TL-D III 220-240V 50/60 Hz	IUV2S36M2LD 1L	
	913713031666	HF-P 236 TL-D III 220-240V 50/60 Hz	IUV2S36M2LD 2L	
			ICN2S5490C 1L	
			ICN2S5490C 2L	
Philips TUV 55W HO		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	
Philips TUV 75W HO		IUV2S60M4LD (914499999001)	IUV2S60M4LD (914499999001)	

LGH Leuchten-Großhandel GmbH
Mühlenstrasse 10, 85567 Grafing
Tel.: +49 (0)8092/8507940
www.LGH-Licht.de



© 2013 Koninklijke Philips N.V. (Royal Philips)
All rights reserved.

Document order number: 3222 635 69246