



Knowing you're safe

Philips UV purification lamp systems offer highest reliability, enabling maximum protection of water and air quality

PHILIPS

sense and simplicity

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Knowing you're safe

As the population rises, the demand for clean and safe water increases - but so does the risk of pollution. Water is more and more often contaminated with different micro-organisms such as Cryptosporidium and Giardia. Moreover, more than one billion people around the world still have no access to safe drinking water. At the same time, the air we breathe in indoor environments can be contaminated with micro-organisms such as bacteria and viruses that can make us ill.

Philips Lighting provides innovative, reliable and sustainable UV lamp systems that have the power to disinfect water and air, resulting in a healthier environment for all.

Innovation

Our comprehensive portfolio of UV lamp and driver systems is always on the forefront of innovation. Just think of the eXtreme Power Technology (XPT) amalgam systems that contain high wattages of low pressure lamps, resulting in amazing power which allows even more flexibility in system design and application. Evidently, we work closely with our customers to develop and produce the most efficient solutions, creating tailor-made lamp systems when required.

Reliability

To achieve the best performance from any installation, the delicate balance and interaction between lamp and

driver needs to be optimized. We are the only manufacturer that offers a complete in-house manufactured package of lamps, drivers and sleeves, ensuring the ultimate performance. Evidently, all our products are tested to the most stringent standards to ensure they provide the ultimate quality, reliability and performance.

When you choose Philips as a partner, you can be sure that we take complete responsibility for the system performance and reliability. You deal with one supplier for the total system. This helps to avoid problems on any compatibility failures and makes life easier for you.



Sustainability

Sustainability has always been at the heart of Philips. We're leading the way towards systems that improve quality of life of people around the world with minimum environmental impact:

- It's estimated that absence of a safe water supply contributes to 80% of diseases and deaths in the developing world. With its UV lamp systems, Philips helps provide safe drinking water and air in a cost-effective way.
- Philips UV solutions contribute to a better environment, because they substitute potentially dangerous chemicals.
- Moreover our products contain industry-leading low amounts of mercury, help reduce waste thanks to their long lifetime and reduce energy use thanks to their high efficacy.

You can recognize our most sustainable products by the Green Logo. The Green Logo is only awarded when the product offers a significant environmental improvement.



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UV technology

Ultra-Violet (UV) radiation is invisible to human eyes. It can be subdivided into three categories, UVA, UVB and UVC. UVC radiation is known to break the DNA of bacteria, viruses and spores. As a result, they are rendered harmless. UV radiation can be used for multiple purposes in water and air treatment, but is primarily employed as a disinfection process that inactivates micro-organisms without chemicals. For other applications, UV is used for the removal of organic and inorganic chemicals, including chlorine, chloramines, ozone and Total Organic Carbon (TOC) emerging contaminants.

Benefits of UV are:

- Effective for all types of microorganisms, including bacteria, viruses, fungi, and protozoa such as Cryptosporidium and Giardia
- No disinfection by-products (DBPs) of health concern formed
- UVC acts instantly
- Low capital and operating cost
- Easy to operate and maintain
- Does not change the taste of water
- Safe and environmentally-friendly
- No overdose issues and dose can be easily adapted to specific needs



Integrated UV modules

In addition to our extensive range of individual UV lamps, drivers and sleeves 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.

Designed for optimal performance

By integrating the lamp, driver and sleeve we can ensure the 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.

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 are your partner in the design of UV modules, optimized for your application.

To learn more about how our integrated modules could benefit you, go to www.philips.com/uvpurification





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 pure, clean and safe 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 lamps and drivers. 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, for maximum security of disinfection and high system efficacy. 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

Warning sign on lamp indicates that the lamp radiates UVC

Benefits

Effective disinfection over the useful lifetime of the lamp

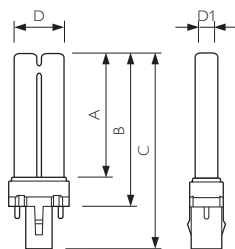
High system efficacy because it is not required to over-design the purification system to maintain effectiveness of disinfection

Good environmental choice because of lowest amount of mercury

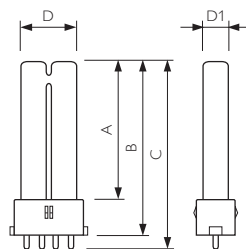
Technical data

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 92790...
TUV PL-S 5W/2P	G23	1	5.5	35	1.0	0.180	9000	20	1CT	6x10 BOX	0504007
TUV PL-S 5W/4P	G23	2	5.1	27	1.0	0.190	9000	15	1CT	5x10 CC	0804007
TUV PL-S 7W/2P	G23	3	7.1	46	1.6	0.175	9000	20	UNP	5x10 CC	1104008
TUV PL-S 7W/4P	2G7	4	7.0	37	1.6	0.190	9000	20	1CT	5x10 CC	1504007
TUV PL-S 9W/2P	G23	5	9.0	60	2.4	0.170	9000	20	1CT	6x10 BOX	1704008
TUV PL-S 9W/4P	2G7	6	9.0	45	2.4	0.200	9000	20	1CT	6x10 BOX	1904007
TUV PL-S 11W/2P	G23	7	11.0	89	3.6	0.160	9000	20	1CT	6x10 BOX	2304007
TUV PL-S 11W/4P	2G7	8	11.3	77	3.5	0.150	9000	20	1CT	6x10 CC	2404007
TUV PL-S 13W/2P	GX23	9	13.0	56	3.4	0.290	9000	20	1CT	6x10 BOX	2804007

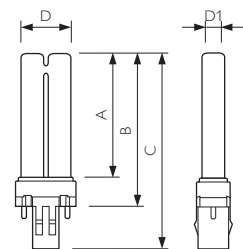
Type	Sleeve	Ordering number
TUV PL-S 5W/2P	Quartz sleeve 31/129	322201953921
TUV PL-S 5W/4P	Quartz sleeve 31/129	322201953921
TUV PL-S 7W/2P	Quartz sleeve 31/129	322201953921
TUV PL-S 7W/4P	Quartz sleeve 31/129	322201953921
TUV PL-S 9W/2P	Quartz sleeve 31/129	322201953921
TUV PL-S 9W/4P	Quartz sleeve 31/129	322201953921
TUV PL-S 11W/2P	Quartz sleeve 31/198	322201953931
TUV PL-S 13W/2P	Quartz sleeve 31/198	322201953931



G23 2-pins



G23 4-pins



2G7

Dim.* no.	A max.	B max.	C max.	D max.	D1 max.
1	67	83	105	28	13
3	97	112.5	135.5	28	13
5	129	145	167	28	13
7	198	213.3	236	28	13

Dim.* no.	A max.	B max.	C max.	D max.	D1 max.
2	67	83	105	28	13
4	97	112.5	119.1	28	13
6	129	145	167	28	13
8	196	213.3	219.9	28	13

Dim.* no.	A max.	B max.	C max.	D max.	D1 max.
9	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, for maximum security of disinfection and high system efficacy.

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

Warning sign on lamp indicates that the lamp radiates UVC

Benefits

Effective disinfection over the useful lifetime of the lamp

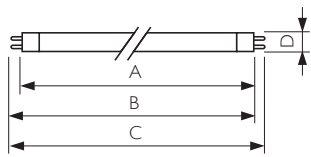
High system efficacy because it is not required to over-design the purification system to maintain effectiveness of disinfection

Good environmental choice because of lowest amount of mercury

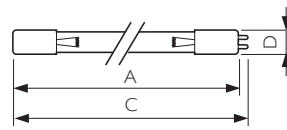
Technical data

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
TUV 4W	G5	1	4	29	0.9	0.17	6000	20	1FM	10x25 BOX	928000104013
TUV 6W	G5	2	6	42	1.5	0.16	9000	20	1FM	10x25 BOX	928000704013
TUV 8W	G5	3	8	56	2.1	0.15	11000	15	1FM	10x25 BOX	928001104013
TUV 11W	G5	2	11	26	2.6	0.33	11000	15	1FM	10x25 BOX	928002204013
TUV 16W	G5	4	15	43	3.9	0.40	11000	15	1FM	10x25 BOX	928002004013
TUV 20W	G5	5	20	45	6.0	0.45	11000	15	1FM	10x25 BOX	928003404013
TUV 6W 4P SE	4 Pins Single Ended	6	6	42	1.7	0.160	9000	20	UNP	32	927971604099
TUV 11W 4P SE	4 Pins Single Ended	7	11	34	2.6	0.330	9000	15	UNP	32	927971204099
TUV 16W 4P SE	4 Pins Single Ended	8	15	43	4.0	0.400	9000	15	UNP	32	927971404099
TUV 25W	4P SE 4 Pins Single Ended	9	23	82	8.0	0.350	9000	20	UNP	32	927972204099

Type	Sleeve	Ordering number
TUV 11W 4P SE	Quartz sleeve 25/225	322201953841
TUV 16W 4P SE	Quartz sleeve 25/300	322201953851
TUV 25W 4P SE	Quartz sleeve 25/530	322201953861



G5



4-Pin Single Ended

Dim.* no.	A max.	B min.	B max.	C max.	D max.
1	135.9	140.6	143	150.1	16
2	212.1	216.8	219.2	226.3	16
3	283.3	293	295.4	302.5	16
4	288.3	293	295.4	302.5	16
5	398	402.7	405.1	412.2	16

Dim. no.	A max.	C max.	D max.
6	244.1	251.8	19
7	244.1	251.8	19
8	320.3	328	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.

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 drivers
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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

Philips electronic driver available for a perfect interface

Minimized amount of mercury

Universal burning position possible for the T6 range, depending on lamp type and sleeve dimensions

Tailor-made solutions possible

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

Benefits

Effective disinfection over the useful lifetime of the lamp

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

High system efficacy because it is not required to over-design the purification system to maintain effectiveness of disinfection

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%

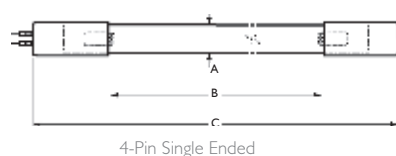
High efficiency during dimming thanks to unique amalgam temperature control of the 800W lamps

Technical data

Lamp type	Cap-Base	Dim. no.	Technical Lamp Wattage (W)	Lamp Voltage (V)	Lamp Current (A)	UVC at 100h (W)	Useful Life (h)	Depreciation at useful lifetime (%)	Ordering number 92810...
TUV 130W XPT	4p-SE	1	140	70	2.1	48	12000	15	1805112
TUV 180W XPT	4p-SE	2	180	90	2.1	60	12000	15	6805112
TUV 200W XPT	4p-SE	3	200	100	2.1	66	12000	15	6905112
TUV 325W XPT	4p-SE	4	280	141	2.1	100	12000	15	2205112
TUV 325W XPT HO	4p-SE	5	325	158	2.1	110	12000	15	7005112
TUV 330W XPT	4p-SE	6	325	72	4.6	107	12000	15	1705112
TUV 800W XPT	4p-SE	7	800	100	8.0	> 240	12000	15	On request

Lamp type	Driver	Ordering number 9137...	Sleeve	Ordering number
TUV 130W XPT	TUV 130W XPT driver	00729703	Quartz sleeve 28/885	3222 019 53891
TUV 180W XPT	TUV 180-200W XPT driver	10054695	Quartz sleeve 28/1120	9298 005 00401
TUV 200W XPT	TUV 180-200W XPT driver	10054695	On request	-
TUV 325W XPT	TUV 325W XPT (HO) driver	10054995	Quartz sleeve 28/1625	3222 019 53901
TUV 325W XPT HO	TUV 325W XPT (HO) driver	10054995	Quartz sleeve 28/1625	3222 019 53901
TUV 330W XPT	-	-	On request	-
TUV 800W XPT	TUV 800W XPT driver	Prototype	-	-

All drivers are pre-heat and dimmable from 100 to 50%.



Dim.*	C	A	B
no.	max.	nom.	nom.
1	842	19	740
2	1032	19	930
3	1147	19	1040
4	1582	19	1480
5	1582	19	1480
6	1554	32	1440
7	1790	38	1600

* 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)

Benefits

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

3-year guarantee on driver and 12,000 operating hours guarantee on lamp*

Energy cost savings of approximately 10% compared with similar drivers or lamps

Dimmable up to 60% power level for additional energy savings

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

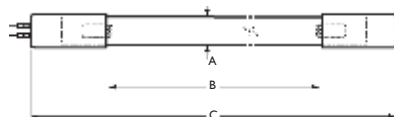
Best environmental choice thanks to maximum lifetime reliability, in combination with minimum substances, packaging and product weight

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

Technical data

Lamp type	Cap-Base	Technical Lamp Wattage (W)	UVC at 100h (W)	Useful Life (h)	Depreciation at useful lifetime (%)	Ordering number 92810...
TUV 230W XPT WE	4p-SE	230	78	12000	15	4005112
TUV 260W DIM XPT	4p-SE	235	87	12000	15	2805112
TUV 335W XPT SE	4p-SE	300	100	12000	15	3105112
TUV 335W/WP XPT SE	4p-SE	300	100	12000	15	5705112

Lamp type	Driver	Ordering number 91371...
TUV 230W XPT WE	DynaPower	3229695
TUV 260W DIM XPT	DynaPower	3229695
TUV 335W XPT SE	DynaPower	3229695
TUV 335W/WP XPT SE	DynaPower	3229695



4-Pin Single Ended

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



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

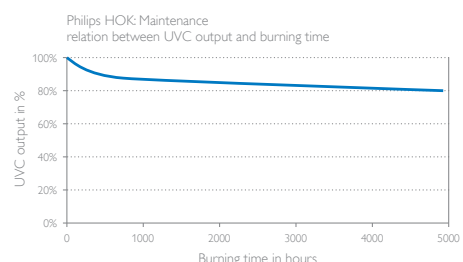
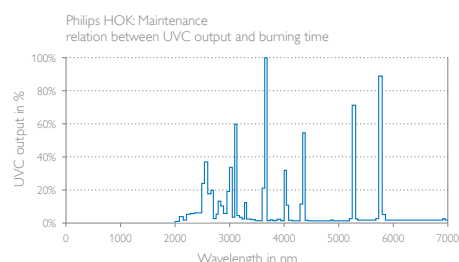
- Deactivation of bacteria, viruses and other micro-organisms
- Water treatment (waste-, drinking- or process water)
- Surface treatment
- Advanced oxidation (with special quartz glass)
- Ship ballast water treatment

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. Lamps in special frames for single ended operation are available on request. 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 max (W)	Lamp Voltage typical (V)	Lamp Current typical (A)	UVC at 100h (W)	Irradiance muW/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	310	1600
HTK 7/60	14	700	4000	1400	3.1	160	3100

Note: bulb diameters for HOK lamps are typically around 22 mm nominal for 120W/cm lamps. For lamp loading up to 180W/cm, the bulb diameters is around 27.5mm. HTK bulb diameters are 14mm 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, for maximum security of disinfection and high system efficacy.

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
- Residential drinking water units (6, 11 and 16W lamps)
- 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

High temperature and UV-resistant lamp bases

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

Warning sign on lamp indicates that the lamp radiates UVC

Benefits

Effective disinfection over the useful lifetime of the lamp

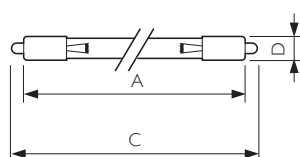
High system efficacy because it is not required to over-design the purification system to maintain effectiveness of disinfection

Good environmental choice because of lowest amount of mercury

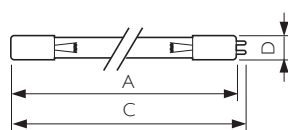
Technical data

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
TUV 36T5 HE SP	Single Pin	1	40.0	94	14.0	0.425	9000	15	UNP	32	927970004099
TUV 36T5 HO 4P SE	4 Pins Single Ended	2	75.0	97	23.0	0.800	9000	15	UNP	32	927972104099
TUV 36T5 HE 4P SE	4 Pins Single Ended	3	40.0	94	14.0	0.425	9000	15	UNP	32	927970204099
TUV 64T5 HE 2P SE	2 Pins Single Ended	4	75.0	176	29.0	0.425	9000	15	UNP	32	927970904099
TUV 64T5 HE 4P SE (Rapid Start)	4 Pins Single Ended	5	75.0	176	29.0	0.425	9000	15	UNP	32	927970704099
TUV 64T5 HE 4P SE (Instant Start)	4 Pins Single Ended	5	75.0	176	29.0	0.425	9000	15	UNP	32	927970804099
TUV 64T5 HO 4P SE	4 Pins Single Ended	6	145.0	175	45.0	0.800	9000	15	UNP	32	927971104099

Type	Sleeve	Ordering number
TUV 36T5 HO 4P SE	Quartz sleeve 25/885	322201953871
TUV 36T5 HE 4P SE	Quartz sleeve 25/885	322201953871
TUV 64T5 HE 4P SE	Quartz sleeve 25/1585	322201953881
TUV 64T5 HE 4P SE	Quartz sleeve 25/1585	322201953881
TUV 64T5 HO 4P SE	Quartz sleeve 25/1585	322201953881



Single Pin



2-Pin / 4-Pin Single Ended

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

* Dimensions (mm)

Dim. no.	A max.	C max.	D max.
2	845.1	853.1	19
3	845.1	1564.4	19
4	1556.6	1564.5	19
5	1556.6	1564.4	19
6	1555.2	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 26-27

NEW!



Philips TUV PL-L Intelligent
page 28-29



Philips TUV T8
page 30-31



Philips TUV T8 Xtra
page 32-33



Philips TUV T5
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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, for maximum security of disinfection and high system efficacy. 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

High Output versions contain wind-chill correction for improved performance in moving air and reducing amount of required lamps

Warning sign on lamp indicates that the lamp radiates UVC

Benefits

Effective disinfection over the useful lifetime of the lamp

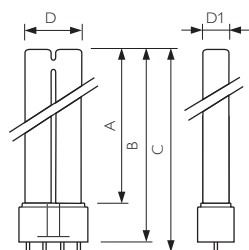
High system efficacy because it is not required to over-design the purification system to maintain effectiveness of disinfection

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 92790...
TUV PL-L 18W/4P	2G11	1	18	60	5.5	0.370	9000	15	1CT	25	3004007
TUV PL-L 24W/4P	2G11	2	24	87	7.0	0.345	9000	15	UNP	50	3204016
TUV PL-L 36W/4P Secura	2G11	3	36	108	7.6	0.440	9000	15	1CT	25	9104001
TUV PL-L 36W/4P	2G11	4	36	105	12.0	0.440	9000	15	1CT	25	3404007
TUV PL-L 36W/4P	2G11	4	36	105	12.0	0.440	9000	15	UNP	50	3404016
TUV PL-L 55W/4P HF	2G11	5	55	103	17.0	0.540	9000	15	1CT	25	8704007
TUV PL-L 35W/4P HO	2G11	6	35	42	11.0	0.850	9000	15	1CT	25	4204007
TUV PL-L 60W/4P HO	2G11	4	60	118	19.0	0.680	9000	15	1CT	25	9004007
TUV PL-L 95W/4P HO	2G11	5	90	115	27.0	0.800	9000	15	1CT	25	9804007

Type	Sleeve	Ordering number
TUV PL-L 18W/4P	Quartz sleeve 44/195	322201953941
TUV PL-L 35W/4P HO	Quartz sleeve 44/195	322201953941
TUV PL-L 36W/4P	Quartz sleeve 44/385	322201953951
TUV PL-L 36W/4P	Quartz sleeve 44/385	322201953951
TUV PL-L 55W/4P HF	Quartz sleeve 44/505	322201953961
TUV PL-L 60W/4P HO	Quartz sleeve 44/385	322201953951
TUV PL-L 95W/4P HO	Quartz sleeve 44/505	322201953961



2G11

Dim.*	A	B	C	D1
no.	max.	max.	max.	max.
1	195	220	225	18
2	290	315	320	18
3	405	430	437	18
4	385	410	415	18
5	505	530	535	18
6	195	220	225	18

* Dimensions (mm)

NEW!



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 microorganisms. 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.

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

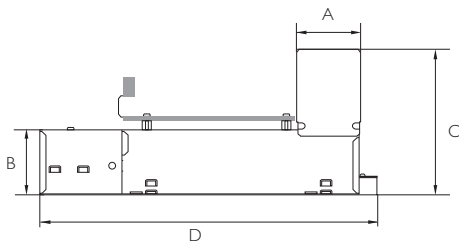
Manual check-ups can be minimized as building engineers are automatically notified when the lamps need replacement failure and information can be checked via the bus

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

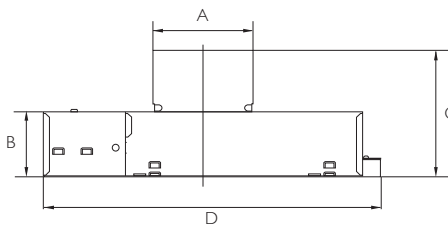
Technical data

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

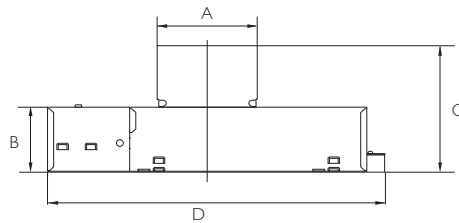
	120V		230V		277V	
	System wattage (W)	System Current (A)	System wattage (W)	System Current (A)	System wattage (W)	System Current (A)
TUV PL-L Intelligent 36W	43.8	0.37	42.7	0.20	42.7	0.17
TUV PL-L Intelligent 55W	61.5	0.52	61.4	0.27	62.3	0.24
TUV PL-L Intelligent 60W	76.8	0.64	73.9	0.33	74.9	0.28
TUV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



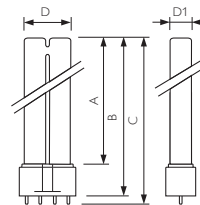
TUV PL-L Intelligent driver – horizontal version (H)



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, for maximum security of disinfection and high system efficacy. 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

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

Warning sign on lamp indicates that the lamp radiates UVC

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 system efficacy because it is not required to over-design the purification system to maintain effectiveness of disinfection

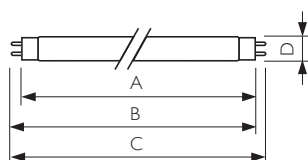
Good environmental choice because of lowest amount of mercury

* based on operation on a Philips electronic driver

Technical data

Type	Cap-Base	Dim. no	Technical Lamp Wattage (W)	Lamp Voltage (V)	Lamp Current (A)	Useful life on EM gear (h)	Useful life on HF gear (h)	Depreciation at useful lifetime (%)
TUV 10W	G13	1	9.0	44.5	0.230	9000	-	15
TUV 15W	G13	2	15.9	54.0	0.340	9000	18000	10
TUV T8 F17	G13	3	16.7	72.0	0.265	9000	-	15
TUV 25W	G13	2	25.5	48.0	0.600	9000	18000	15
TUV 30W	G13	4	30.0	102.0	0.370	9000	18000	10
TUV 36W	G13	5	36.0	103.0	0.440	9000	18000	10
TUV 55W HO	G13	4	54.0	86.0	0.770	9000	18000	10
TUV 75W HO	G13	5	75.0	110.0	0.840	9000	18000	10

Type	Packaging type	Packaging configuration	Ordering number	UVC (W) at 100h on EM gear	UVC (W) at 100h on HF gear
TUV 10W	SLV	25	928024204005	2.5	-
TUV 15W	SLV	25	928039004005	4.9	5.1
TUV T8 F17	SLV	25	927941904020	4.5	-
TUV 25W	SLV	25	928039404005	7.0	7.5
TUV 30W	SLV	25	928039504005	12.0	13.1
TUV 36W	SLV	6	928048604003	15.0	14.7
TUV 55W HO	SLV	6	928049504003	17.5	19.6
TUV 75W HO	SLV	6	928049404003	25.5	28.1



G13

Dim.*	A	B	B	C	D
no.	max.	min.	max.	max.	max.
1	331.5	336.2	338.6	345.7	28
2	437.4	442.1	444.5	451.6	28
3	589.8	594.5	596.9	604	28
4	894.6	899.3	901.7	908.8	28
5	1199.4	1204.1	1206.5	1213.6	28

* Dimensions (mm)



Philips TUV T8 Xtra



TUVT8 Xtra lamps are double-ended UVC (germicidal) lamps used in professional water and air disinfection units. Thanks to the unique X-technology TUVT8 Xtra lamps even double the life of conventional types. This extra long and reliable lifetime is even up to 36.000 hours when the lamps are operated on HF Gear. As a result these lamps need to be replaced less often, significantly reducing cost and disruption. Thanks to the reliable lifetime, maintenance can be planned 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 where absolute security of effective disinfection is crucial
- Areas where maintenance costs are high (e.g. high ceilings, difficult access) and/or disruptive costs are high (e.g. areas like operating theatres where lamp failure is unacceptable for safety reasons)

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 36,000 hours* (double the life of conventional types) thanks to unique X-technology

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 30,000 hours*)

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

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

Warning sign on lamp indicates that the lamp radiates UVC

Benefits

Effective disinfection over the useful lifetime of the lamp

Reduction of maintenance costs and disruption thanks to doubled lifetime

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

High system efficacy because it is not required to over-design the purification system to maintain effectiveness of disinfection

Good environmental choice because of lowest amount of mercury

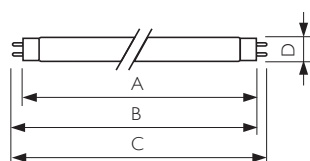
Directly replaces conventional T8 lamps, so it is not required to modify the system to enjoy the benefits

* based on operation on a Philips electronic driver

Technical data

Type	Cap-Base	Dim. no	Technical Lamp Wattage (W)	Lamp Voltage (V)	Lamp Current (A)	Useful life on EM gear (h)	Useful life on HF gear (h)	Depreciation at useful lifetime (%)
TUV 15W Xtra	G13	1	15.9	54.0	0.335	18000	36000	10
TUV 25W Xtra	G13	1	25.5	48.0	0.612	18000	36000	15
TUV 30W Xtra	G13	2	30.0	102.0	0.365	18000	36000	10
TUV 36W Xtra	G13	3	36.0	103.0	0.440	18000	36000	10
TUV 55W Xtra	G13	2	54.0	86.0	0.770	18000	36000	10
TUV 75W Xtra	G13	3	75.0	110.0	0.835	18000	36000	10

Type	Packaging type	Packaging configuration	Ordering number 9280...	UVC (W) at 100h on EM gear	UVC (W) at 100h on HF gear
TUV 15W Xtra	SLV	25	39104008	4.9	5.1
TUV 25W Xtra	SLV	25	39704008	7.0	7.5
TUV 30W Xtra	SLV	25	39804008	12.0	13.1
TUV 36W Xtra	SLV	6	39904008	15.0	14.7
TUV 55W Xtra	SLV	6	49104008	17.5	19.6
TUV 75W Xtra	SLV	6	49904008	25.5	28.1



G13

Dim.* no.	A max.	B min.	B max.	C max.	D max.
1	437.4	442.1	444.5	451.6	28
2	894.6	899.3	901.7	908.8	28
3	1199.4	1204.1	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 HF-M RED 109 SH TL/PL-S 230-240V	RMB1P1 13S1 1L RMB1P1 13S1 2L	
TUV PL-S 9W/2P				LC49CTP LPL59TP H1B9TPW H2B9TPW
TUV PL-S 9W/4P	913700421366 913700422866	HF-M BLUE 109 LH TL/PL-S 230-240V HF-M RED 109 SH TL/PL-S 230-240V	RMB1P1 13S1 1L RMB1P1 13S1 2L	
TUV PL-S 11W/4P	913700631166 913700631266	HF-P 1 13-17 PL-T/C/R EII 220-240V 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 RMB13S1 2L	LC49CTP w/starter LPL59TP w/starter
Philips TUV 11W	913713031066 913713031166	HF-P 1 14-35 TL5 HE III 220-240V 50/60Hz HF-P 2 14-35 TL5 HE III 220-240V 50/60Hz		LC1322TP w/starter RLQ120TP RL25P20TP
Philips TUV 16W	913713031066 913713031166	HF-P 1 14-35 TL5 HE III 220-240V 50/60Hz HF-P 2 14-35 TL5 HE III 220-240V 50/60Hz		LC1420CPT w/starter HM25P20TP
Philips TUV 20W	913713031066 913713031166	HF-P 1 14-35 TL5 HE III 220-240V 50/60Hz 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	913713031066 913713031166	HF-P 1 14-35 TL5 HE III 220-240V 50/60Hz HF-P 2 14-35 TL5 HE III 220-240V 50/60Hz		LO1322TP w/starter RLQ120TP RL25P20TP
Philips TUV 16W 4P SE	913713031066 913713031166	HF-P 1 14-35 TL5 HE III 220-240V 50/60Hz HF-P 2 14-35 TL5 HE III 220-240V 50/60Hz		LC1420CPT w/starter HM25P20TP
Philips TUV 25W 4P SE	913713031066 913713031166	HF-P 1 14-35 TL5 HE III 220-240V 50/60Hz HF-P 2 14-35 TL5 HE III 220-240V 50/60Hz	1UV2S36M2LD 1L 1UV2S36M2LD 2L ICN2S39 1L ICN2S39 2L	

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 T5				
Philips TUV 36T5 HE SP			ICN2P60SC 1L ICN2P60SC 2L	RSM175STP
Philips TUV 36T5 HE 4P SE	913713031866 913713028266 913713031566 913713031666	HF-P 158 TL-D III 220-240V 50/60 Hz HF-P 154/155 TL5 HO/PLL III 220-240V IDC HF-P 136 TL-D III 220-240V 50/60 Hz HF-P 236 TL-D III 220-240V 50/60 Hz	ICN2P60SC 1L ICN2P60SC 2L ICN2S5490C 1L ICN2S5490C 2L	RSM175STP
Philips TUV 36T5 HO 4P SE	913700180066	HF-P 1 60-120 PL-H 220-240V 50/60Hz*	IUV2S60M4LD 1L IUV2S60M4LD 2L	
Philips TUV 64T5 HE 4P SE	913700198966	HF-P 180 TL5/PL-L EII 220-240V 50/60Hz*		
Philips TUV 64T5 HO 4P SP			1UV2S60M4LD 1L 1UV2S60M4LD 2L	
Philips TUV PL-L				
Philips TUV PL-L 18W/4P	913700420666 913700418066	HF-M RED 124 SH TL/TL5/PL-L 230-240V HF-M BLUE 124 LH TL/TL5/PL-L 230-240V	1UV2S18H1LD 1L 1UV2S18H1LD 2L	LC25TP w/starter
Philips TUV PL-L 24W/4P	913700420666 913700418066	HF-M RED 124 SH TL/TL5/PL-L 230-240V HF-M BLUE 124 LH TL/TL5/PL-L 230-240V	1UV2S36M2LD 1L 1UV2S36M2LD 2L ICN2S39 1L ICN2S39 2L	
Philips TUV PL-L 35W/4P HO	913700180066	HF-P 1 60-120 PL-H 220-240V 50/60Hz	1UV2S60M4LD 1L 1UV2S60M4LD 2L	
Philips TUV PL-L 36W/4P	913700192066 913700192366	HF-P 136 PL-L EII 220-240V 50/60Hz HF-P 236 PL-L EII 220-240V 50/60Hz	1UV2S36M2LD 1L 1UV2S36M2LD 2L ICN2S39 1L ICN2S39 2L	
Philips TUV PL-L 55W/4P HF	913713028266 913713028366	HF-P 154/155 TL5 HO/PLL III 220-240V IDC HF-P 254/255 TL5 HO/PLL III 220-240V IDC	ICN2S5490C 1L ICN2S5490C 2L ICN1S80 1L	
Philips TUV PL-L 60W /4P HO	913700180066	HF-P 1 60-120 PL-H 220-240V 50/60Hz	1UV2S60M4LD 1L 1UV2S60M4LD 2L	
Philips TUV PL-L 95W/4P HO	913700180066	HF-P 1 60-120 PL-H 220-240V 50/60Hz	1UV2S60M4LD 1L	
TUV T8 and TUV T8 Xtra				
Philips TUV 10W	913700648566 913700648666	HF-P 118 PL-T/C III 220-240V 50/60Hz HF-P 218 PL-T/C III 220-240V 50/60Hz		
Philips TUV 15W	913713031266 913713031366	HF-P 118 TL-D III 220-240V 50/60 Hz HF-P 218 TL-D III 220-240V 50/60 Hz		LC1420CTP w/starter HM2SP20TP
Philips TUV 25W	913700180066	HF-P 1 60-120 PL-H 220-240V 50/60Hz		
Philips TUV 30W	913713031566 913713031666	HF-P 136 TL-D III 220-240V 50/60 Hz HF-P 236 TL-D III 220-240V 50/60 Hz	REL1B540SC 1L RELB2S40SC 2L	LX1140FTP
Philips TUV 36W	913713031566 913713031666	HF-P 136 TL-D III 220-240V 50/60 Hz HF-P 236 TL-D III 220-240V 50/60 Hz	IUV2S36M2LD 1L IUV2S36M2LD 2L ICN2S5490C 1L ICN2S5490C 2L	
Philips TUV 55W HO	913700180066	HF-P 1 60-120 PL-H 220-240V 50/60Hz	1UV2S60M4LD 1L 1UV2S60M4LD 2L	
Philips TUV 75W HO	913700180066	HF-P 1 60-120 PL-H 220-240V 50/60Hz	1UV2S60M4LD 1L 1UV2S60M4LD 2L	

* This driver is not to be used for new system design. We recommend to use the Philips Advance 60 Hz as alternative.



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