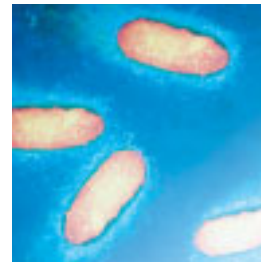


Perfection Preserved

by the purest of light

We're not the only ones who enjoy swimming in the water or flying in the air



For more information or support:

Philips Lighting B.V.
Zwaanhoefstraat 2
4702 LC Roosendaal
The Netherlands
Tel: +31 165 577906
Fax: +31 165 577907



www.uvdisinfection.philips.com

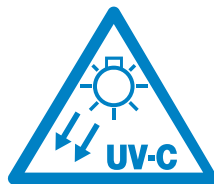
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Printed in The Netherlands

PHILIPS

TUV Low Pressure Mercury Lamps

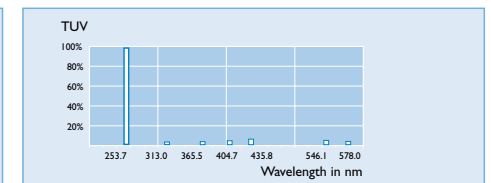
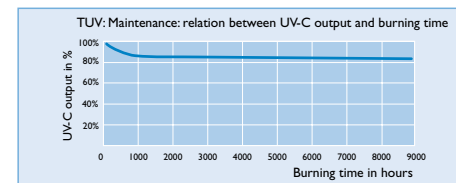
Philips TUV lamps emit short-wave ultraviolet radiation (UV-C) to kill or de-activate bacteria, viruses and other primitive organisms, even if the organisms have become immune to other disinfection methods. They are used for air, water and surface disinfection in equipment for hospitals, bacteriological research and pharmaceutical institutions, food processing industries such as dairies, breweries and bakeries, and also for disinfecting drinking and waste water, swimming pools, air conditioning systems, cold storage rooms, packing material etc.

- TUV disinfection lamps are low-pressure mercury-vapour discharge lamps consisting of a tubular glass envelope, emitting short-wave ultraviolet radiation with a radiation peak at 253.7 nm (UV-C) for germicidal action.
- The glass filters out the 185 nm ozone-forming line.
- A protective coating on the inside limits the depreciation of the useful UV-C radiation output.
- PL-S have a specially adapted starter providing almost instant starting characteristics already built into the lamp base.



NOTE: Radiation from UV-C lamps is harmful to eyes and skin. Equipment using these lamps must screen completely from direct view.

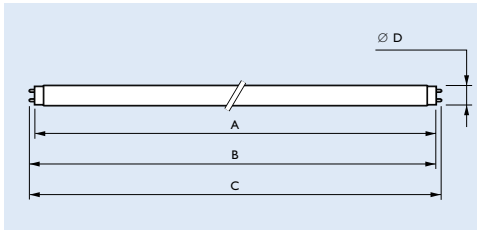
| Type | Cap/ base | Lamp voltage V | Lamp current A | UV-C 100h W | $\mu\text{W}/\text{cm}^2$ at 1 meter W | Depreciation 8000 hr % | Useful lifetime h | |
|-----------------|-----------|----------------|----------------|-------------|--|------------------------|-------------------|------|
| TUV | | | | | | | | |
| TUV 4W | G5 | 29 | 0.17 | 0.9 | 9 | 25 | 6000 | |
| TUV 6W | G5 | 42 | 0.16 | 1.5 | 15 | 25 | 8000 | |
| TUV 8W | G5 | 56 | 0.15 | 2.1 | 21 | 25 | 8000 | |
| TUV 10W | G13 | 46 | 0.23 | 2.2 | 23 | 25 | 8000 | |
| TUV 11W | G5 | 37 | 0.33 | 2.2 | 21 | 20 | 8000 | |
| TUV 15W | G13 | 51 | 0.34 | 4.7 | 48 | 15 | 8000 | |
| TUV 16W | G5 | 46 | 0.35 | 3.2 | 33 | 20 | 8000 | |
| TUV 25W | G13 | 46 | 0.60 | 7.0 | 69 | 15 | 8000 | |
| TUV 30W | G13 | 100 | 0.37 | 11.2 | 100 | 15 | 8000 | |
| TUV 36W | G13 | 103 | 0.44 | 15.3 | 145 | 15 | 8000 | |
| TUV 55W | HO | G13 | 83 | 0.77 | 18.0 | 15 | 8000 | |
| TUV 75W | HO | G13 | 108 | 0.84 | 26.0 | 15 | 8000 | |
| TUV 115W-R | VHO | G13 | 92 | 1.50 | 33.5 | 20 | 5000 | |
| TUV 115W | VHO | G13 | 92 | 1.50 | 38.8 | 15 | 5000 | |
| TUV PL-S | | | | | | | | |
| TUV 5W | G23 | 34 | 0.18 | 1.0 | 9 | 15 | 8000 | |
| TUV 9W | G23 | 60 | 0.17 | 2.4 | 22 | 15 | 8000 | |
| TUV 11W | G23 | 89 | 0.16 | 3.6 | 33 | 15 | 8000 | |
| TUV 13W | GX23 | 59 | 0.29 | 3.4 | 31 | 15 | 8000 | |
| TUV PL-L | | | | | | | | |
| TUV 18W | 2G11 | 60 | 0.37 | 5.5 | 51 | 15 | 8000 | |
| TUV 35W | HO | 2G11 | 40 | 0.85 | 11 | 105 | 15 | 8000 |
| TUV 36W | 2G11 | 105 | 0.44 | 12.0 | 110 | 15 | 8000 | |
| TUV 55W HF | 2G11 | 103 | 0.54 | 17.0 | 156 | 15 | 8000 | |
| TUV 60W | HO | 2G11 | 118 | 0.67 | 18.0 | 166 | 15 | 8000 |
| TUV 95W | HO | 2G11 | 100 | 0.95 | 32.0 | 304 | 15 | 8000 |



Better for the environment

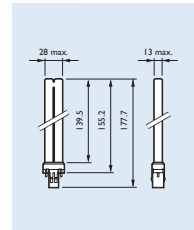
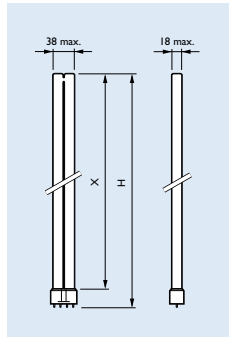
TUV Low Pressure Mercury Lamp

Better for your health

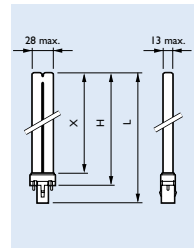


Dimensions in mm

| Type | A | B | B | C | D |
|---------------------|--------|--------|--------|--------|------|
| | max. | min. | max. | max. | max. |
| Cap/base G5 | | | | | |
| TUV 4W | 135.9 | 140.6 | 143.0 | 150.1 | 16.0 |
| TUV 6W | 212.1 | 216.8 | 219.2 | 226.3 | 16.0 |
| TUV 8W | 288.3 | 293.0 | 295.4 | 302.5 | 16.0 |
| TUV 11W | 212.1 | 216.8 | 219.2 | 226.3 | 16.0 |
| TUV 16W | 288.3 | 293.0 | 295.4 | 302.5 | 16.0 |
| Cap/base G13 | | | | | |
| TUV 10W | 331.5 | 336.2 | 338.6 | 345.7 | 28.0 |
| TUV 15W | 437.4 | 442.1 | 444.5 | 451.6 | 28.0 |
| TUV 25W | 437.4 | 442.1 | 444.5 | 451.6 | 28.0 |
| TUV 30W | 894.6 | 899.3 | 901.7 | 908.8 | 28.0 |
| TUV 36W | 1199.4 | 1204.1 | 1206.5 | 1213.6 | 28.0 |
| TUV 55W HO | 894.6 | 899.3 | 901.7 | 908.8 | 28.0 |
| TUV 75W HO | 1199.4 | 1204.1 | 1206.5 | 1213.6 | 28.0 |
| TUV 115W VHO, -RVHO | 1199.4 | 1204.1 | 1206.5 | 1213.6 | 40.5 |



TUV PL-S 13W GX23

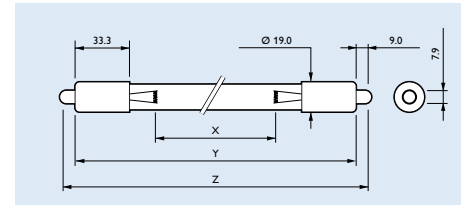


Type X H max.max.

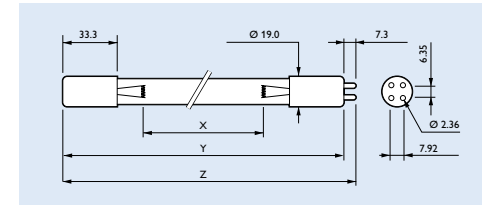
| Type | X | H |
|-----------------|------|------|
| | max. | max. |
| Cap/base 2G11 | | |
| TUV 18W PL-L | 195 | 225 |
| TUV 35W HO PL-L | 195 | 225 |
| TUV 36W PL-L | 385 | 415 |
| TUV 55W HF PL-L | 505 | 535 |
| TUV 60W HO PL-L | 385 | 415 |
| TUV 95W HO PL-L | 505 | 535 |

Type X H L max.max.max.

| Type | X | H | L |
|--------------|------|------|------|
| | max. | max. | max. |
| Cap/base G23 | | | |
| TUV 5W PL-S | 67 | 83 | 105 |
| TUV 9W PL-S | 129 | 145 | 167 |
| TUV 11W PL-S | 198 | 214 | 236 |



| Type | X | Y | Z |
|---------------------|------|------------|------------|
| Cap/base single-pin | | | |
| TUV 36 SP T5 | 762 | 842.4±3.0 | 860.4±3.5 |
| TUV 64 SP T5 | 1473 | 1553.6±3.0 | 1571.6±3.5 |



| Type | X | Y | Z |
|------------------------------|------|------------|------------|
| Cap/base 4-pin, single-ended | | | |
| TUV 36 (HO) 4P-SET5 | 762 | 842.4±3.0 | 849.5±3.5 |
| TUV 64 (HO) 4P-SET5 | 1473 | 1553.6±3.0 | 1561.0±3.5 |
| TUV 11W 4P-SE | 161 | 241.1±3.0 | 248.4±3.5 |
| TUV 16W 4P-SE | 237 | 317.3±3.0 | 324.6±3.5 |
| TUV 25W 4P-SE | 466 | 545.9±0 | 553.2±3.5 |

| Type | Cap/base | Tube diameter mm | Lamp voltage V | Lamp current mA | Lamp wattage W | UV-C 100h W | µW/cm² at 1 meter W | Depreciation 8000h % | Useful lifetime h |
|--------------------|--------------------|------------------|----------------|-----------------|----------------|-------------|---------------------|----------------------|-------------------|
| TUV 36 T5 HO 4P-SE | 4-pin single-ended | 16 | 97* | 800* | 75* | 25.0 | 230 | 20 | 9000 |
| TUV 64 T5 HO 4P-SE | 4-pin single-ended | 16 | 175* | 800* | 145* | 48.0 | 442 | 20 | 9000 |
| TUV 36 SP T5 | single-pin | 16 | 94* | 425* | 40* | 15.0 | 144 | 15 | 9000 |
| TUV 64 SP T5 | single-pin | 16 | 176* | 425* | 75* | 31.0 | 280 | 15 | 9000 |
| TUV 36 4P-SET5 | 4-pin single-ended | 16 | 94* | 425* | 40* | 15.0 | 144 | 15 | 9000 |
| TUV 64 4P-SET5 | 4-pin single-ended | 16 | 176* | 425* | 75* | 31.0 | 280 | 15 | 9000 |
| TUV 11W 4P-SE | 4-pin single-ended | 16 | 37** | 330** | 11** | 2.2 | 21 | 25 | 8000 |
| TUV 16W 4P-SE | 4-pin single-ended | 16 | 46** | 400** | 16** | 3.9 | 23 | 25 | 8000 |
| TUV 25W 4P-SE | 4-pin single-ended | 16 | 82 | 350 | 25 | 7.2 | 66 | 25 | 8000 |

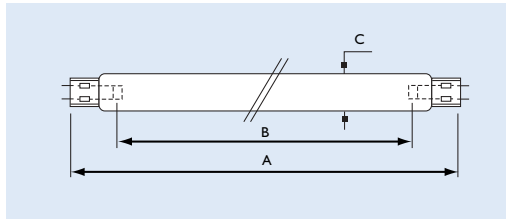
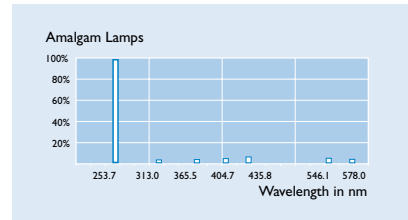
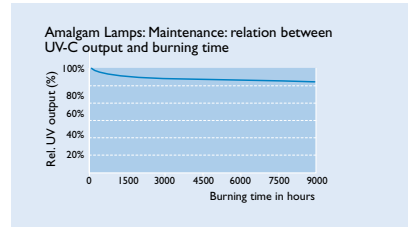
* When used with electronic gear 25 kHz HF

** When used with conventional magnetic ballast 50 Hz

Low Pressure Amalgam Lamps

The amalgam lamp combines advantages of the low-pressure and the medium-pressure lamp. By doing this the gap is filled between the low-pressure and the medium-pressure applications. The amalgam lamp combines high efficiencies with relative high power densities operating in a broad temperature range.

For Philips, the advantages of the amalgam concept are clear: By using our long history of lamp development we were able to design a lamp with a very high UV-C efficiency and by applying our patented coating technology we are able to guarantee a maintenance of 85% after 9000 hours operating in a broad temperature range.



| Type | Cap/base | Lamp voltage V | Lamp current mA | Lamp wattage W | UVC 100h W | Depreciation 9000h % | Useful lifetime h |
|--------------|----------|----------------|-----------------|----------------|------------|----------------------|-------------------|
| TUV 240W XPT | 4p-SE | 125 | 1.85 | 240 | 85 | 25 | 9000 |
| TUV 260W XPT | GY5.4 | 75 | 3.8 | 260 | 92 | 15 | 9000 |
| TUV 270W XPT | GX9.5/26 | 75 | 3.8 | 270 | 94 | 15 | 9000 |

| Type | A max (mm) | B max (mm) | C max (mm) | bf-bf (mm) |
|--------------|------------|------------|------------|------------|
| TUV 240W XPT | 1540 | 1440 | 19 | 1600 |
| TUV 260W XPT | 1480 | 1400 | 33 | 1500 |
| TUV 270W XPT | 1520 | 1440 | 33 | 1540 |

HOK/HTK/HTQ Medium Pressure Mercury Lamps

Medium Pressure Mercury UV lamps

Philips Lighting BV manufactures, and internationally distributes a wide range of high quality medium pressure mercury ultraviolet lamps.

These quartz lamps are available up to 120 Watts per cm, with an arc length of 4 to 140 cm, in a variety of end fittings. The lamps are made from selected types of quartz glass, manufactured at Philips Lighting's own factories.

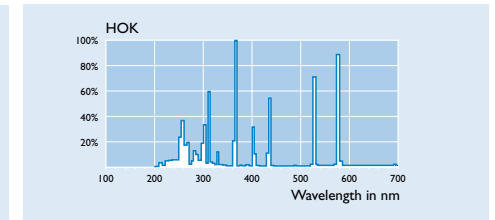
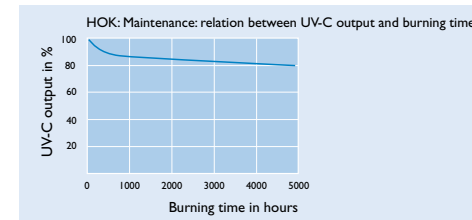
Philips Lighting medium pressure lamps contain sophisticated

quantities of mercury bromides, providing a self-cleaning halogen cycle, to control the decline of UV radiation over lamplife.

Spectral output

The lamps emit the characteristic spectrum of mercury discharge lamps. The HOK and HTK types also radiate wavelengths below 240 nm, whereby ozone is formed.

The special quartz of the HTQ lamps absorbs radiation below 240 nm.



| Type | Arc length mm | Tube diameter mm | Lamp wattage W | Lamp current A | Lamp voltage V | UV-C >210nm | μW/cm² at 1 meter W | UV-B W | UV-A W |
|---------------|---------------|------------------|----------------|----------------|----------------|-------------|---------------------|--------|--------|
| HOK 4/120 | 31 | 14 | 400 | 3.5 | 125 | 53 | 488 | 32 | 31 |
| HOK 4/120 SE* | 31 | 14 | 400 | 3.5 | 125 | 53 | 488 | 32 | 31 |
| HOK 10/120 | 106 | 22 | 1000 | 8.5 | 130 | 150 | 1380 | 90 | 80 |
| HOK 20/120 | 208 | 22 | 2000 | 9 | 230 | 305 | 2806 | 185 | 160 |
| HOK 35/120 | 348 | 22 | 4300 | 10.3 | 510 | 759 | 6983 | 403 | 351 |
| HOK 50/120 | 500 | 22 | 6000 | 10 | 1050 | 1060 | 9752 | 546 | 462 |
| HOK 65/120 | 637 | 22 | 7800 | 10.3 | 910 | 1278 | 11758 | 741 | 722 |
| HOK 80/120 | 800 | 22 | 9600 | 10.5 | 1080 | 1568 | 14426 | 926 | 829 |
| HOK 105/120 | 1057 | 22 | 12400 | 10 | 1430 | 2021 | 18593 | 1244 | 1042 |
| HOK 140/120 | 1407 | 22 | 17000 | 10 | 1920 | 2860 | 26312 | 1646 | 1380 |
| HOK 20/100 | 195 | 22 | 2000 | 9.6 | 245 | 325 | 2990 | 198 | 175 |
| HTK 7/60 | 700 | 14 | 4000 | 3.1 | 1400 | 593 | 5456 | 380 | 321 |
| HTQ 7 | 700 | 14 | 2000 | 1.7 | 1400 | 130 | 1196 | 165 | 142 |
| HTQ 14 | 1400 | 22 | 4000 | 3.1 | 1400 | 280 | 2576 | 350 | 300 |

* SE = single ended

Please note:

Permissible bulb temperatures: HOK: 600 - 900°C
HTK, HTQ: 500 - 70 °C

Permissible pinch temperatures: 300°C