



Light is pure

PURITEC[®] HNS[®] UV-C lamps

Efficient purification of air, water and surfaces

Light is OSRAM

OSRAM

UVC alternatives to chemical purification

OSRAM PURITEC® HNS® germicidal lamps for a wide range of applications

OSRAM PURITEC® HNS® are low-pressure lamps that emit mercury line radiation mainly in the short-wave ultraviolet range. They are the highly promising eco-friendly alternatives to chemical purification processes. OSRAM offers many different lamps for effective purification in a wide range of applications. OSRAM PURITEC® HNS® are available in different sizes and outputs to suit different requirements.

Working principle of UV-C lamps

UV-C radiation has a photolytic effect on DNA, micro-organisms such as bacteria, moulds, yeasts and virus cannot replicate. The purification effect is obtained with wavelengths below 320 nm, with maximum effectiveness at 260 nm. OSRAM HNS germicidal lamps emit light at 254 nm, about 85% of maximum effectiveness, and are ozone free.

OSRAM PURITEC® HNS® UV-C lamps for purification

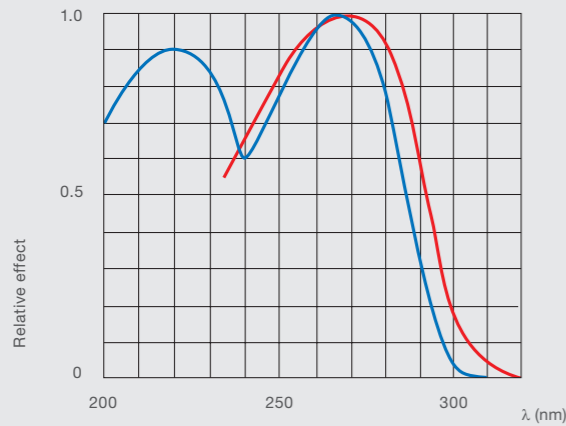
The UV-C radiation generated by high-energy UV-C lamps moves at a wavelength range between 200 nanometers (nm) and 280 nanometers. This gives the radiation a cell-destroying effect that is ideal for highly effective purification of water, air and surfaces and eliminates the need for chemical products.

Ozone-free lamps

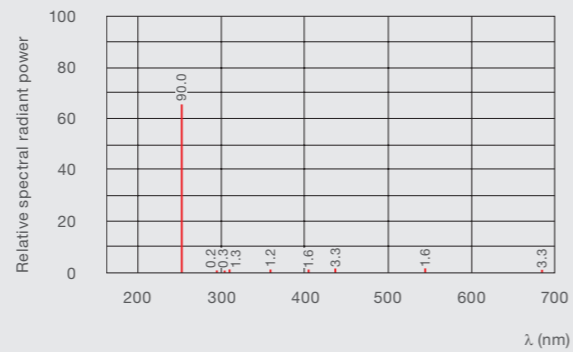
The main lines in the spectrum are at 254 nm and 185 nm. Ultraviolet light, which has a wavelength of less than 240 nm, produces ozone. High-energy radiation below 240 nm can pass through quartz. If ozone is not required then special glass or appropriate types of quartz are used. OSRAM PURITEC® HNS® are ozone-free lamps. They are transparent for the radiation that kills micro-organisms but do not let ozone-generating radiation through.

Functions

- General elimination of bacteria
- Deactivation of escherichia coli



Spectral power distribution of ozone-free lamps



PURITEC® HNS® lamp types



Compact S and L



Linear T5 and T8



4 Pin SE

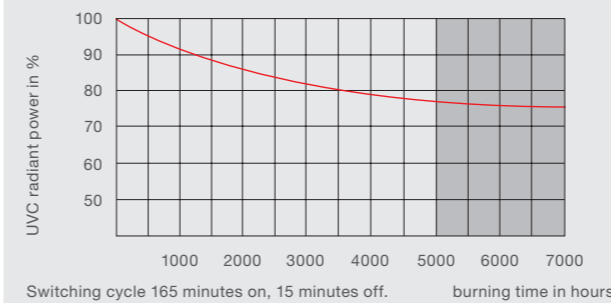
Product benefits

- Effective, environmentally friendly purification without chemicals
- Long lifetime due to specific coating
- Wide range of form factors
- Perfect ballast and lamp fit
- Very low mercury content
- 100% RoHS-conform
- Lead-free
- Ozone-free
- „Made in Europe“

Product features

- Single UV-C peak at wavelength of 254nm
- High efficiency (30% UV-C output)
- Non-ozone generating
- Soft glass tube
- With UV-C transparent long-life coating
- Without fluorescent coating
- Low pressure Hg discharge lamps

Decrease in UVC radiation for the HNS 55 W G13 HO



Areas of application

Water purification

Water must often be rid of pathogenic microorganisms to become safe for drinking. Ultraviolet radiation is employed to change the DNA structure of the microorganisms, either killing the bacteria immediately or rendering them unable to breed. Because UV purification is a physical disinfection method, without any harmful chemicals, it doesn't cause secondary pollution. This means there is no malodorous smell in the water or byproducts.

For water purification and cleansing in:

- private households
- water dispensers
- community water works
- mobile stations (camping, outdoor activities)
- swimming pools
- ultra-pure water systems
- ponds and aquariums
- fish farms
- food processing factories
- sewage systems



Air purification

Ultraviolet (UV) purification is a very effective method to clean the air of biological pollutants such as bacteria, viruses and fungal spores. UV germicidal lamps can be installed in ventilation ducts to clean the air passing through them. UV air purification is more economical and efficient than other air filtration and cleaning methods.

For air purification in:

- Hospitals
- Doctors' practices
- Clean rooms
- Offices with or without air-conditioning systems
- Cars
- Storage rooms
- Food processing
- Rooms with frequent public access
- Animal stalls

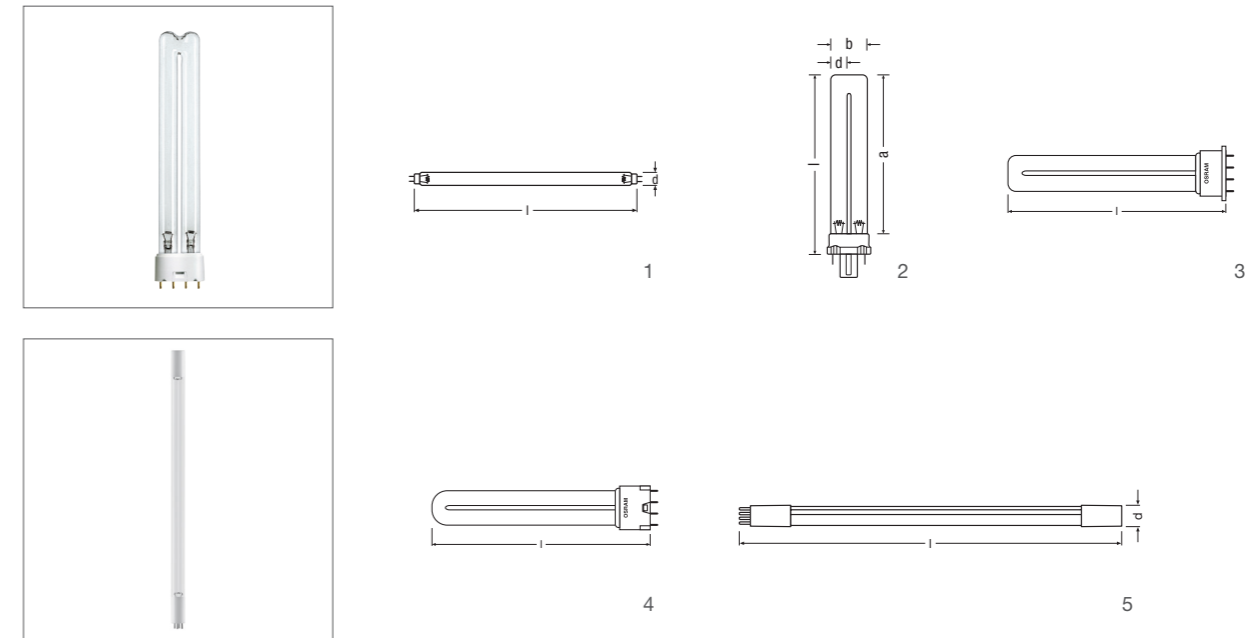


Surface cleaning

For packaging pharmaceuticals and food, in aseptic zones in hospitals and for surface cleaning of equipment and instruments objects are exposed directly to UV radiation.

For surface purification in:

- Hospitals and other aseptic zones
- Health care
- Food and pharmaceutical industry



PURITEC® HNS® UV-C

Product name	GTIN (EAN)	W	A	Ø (mm)	l (mm)		UVC/W		
HNS 4 W G5	4008321378316	4	0.17	16	136	G5	0.9	25	1
HNS 6 W G5	4008321378330	6	0.16	16	212	G5	1.7	25	1
HNS 8 W G5	4008321378385	8	0.15	16	288	G5	2	25	1
HNS 11W G5	4008321468796	11	0.41	16	212	G5	2.5	25	1
HNS 16 W G5	4008321620774	16	0.43	16	288	G5	4	25	1
HNS S 5 W G23 ¹⁾	4008321229946	5	0.18	28	108	G23	1.3	10	2
HNS S 7 W G23 ¹⁾	4050300941202	7	0.18	28	135.5	G23	1.8	10	2
HNS S 9 W G23 ¹⁾	4050300941226	9	0.18	28	165.5	G23	2.5	10	2
HNS S 11 W G23 ¹⁾	4050300941240	11	0.16	28	235.5	G23	3	10	2
HNS S/E 7 W 2G7	4008321383891	7	0.18	28	112	2G7	1.9	10	3
HNS S/E 9 W 2G7	4008321384911	9	0.17	28	142	2G7	2.5	10	3
HNS S/E 11 W 2G7	4008321384935	11	0.15	28	212	2G7	3.6	10	3
HNS S 13 W GX23	4052899040410	13	0.28	28	179	GX23	3.4	10	
HNS L 18 W 2G11	4008321220431	18	0.38	40	214	2G11	5.5	10	4
HNS L 24 W 2G11	4008321220561	24	0.35	40	314.5	2G11	7.3	10	4
HNS L 36 W 2G11	4008321220684	36	0.44	40	408	2G11	10.8	10	4
HNS L 55 W 2G11	4052899012394	55	0.55	40	533	2G11	17	10	4
HNS L 60 W 2G11	4052899012462	60	0.8	40	408	2G11	19	10	4
HNS L 95 W 2G11	4052899012509	95	0.8	40	533	2G11	27	10	4
HNS 15W G13	4008321770271	15	0.33	26	438	G13	4	25	1
HNS 30W G13	4008321770301	30	0.36	26	895	G13	12	25	1
HNS 36W G13	4052899084018	36	0.44	26	1200	G13	15	25	1
HNS 55W G13	4052899083936	55	0.77	26	895	G13	18	25	1
HNS 16W 4P SE	4052899437586	16	0.44	16	320.3	4P SE	4	40	5
HNS 20W 4P SE	4052899437562	20	0.45	16	430	4P SE	6	40	5
HNS 36W 4P SE	4052899437630	36	0.43	16	845.4	4P SE	14	40	5

1) UV irradiance 253.7 nm measured at a distance of 1 m at mid-lamp level, at 20 ° C ambient temperature, free-burning. Between 0.3...3.0 m, the irradiance is inversely proportional to the square of the distance

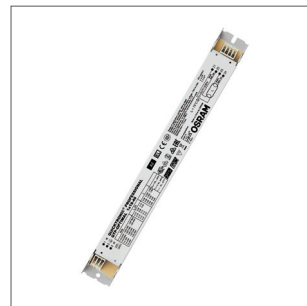
Warning: PURITEC® HNS® (UVC) lamp classification according IEC/EN 62471 (photo biological risk): Risk Group 3
 The radiation from PURITEC® HNS® lamps poses a health risk. It can cause conjunctivitis and erythema (sunburn) after only brief exposure. The skin and eyes must be protected against direct exposure. Suitable protective clothing must therefore be worn in rooms that do not offer direct protection. If germicidal lamps are used to purify rooms in which food is kept the relevant food regulations governing the use of germicidal lamps must be followed. UVC lamps are not be used for General Lighting application.

OSRAM ballasts for PURITEC® HNS® lamps

OSRAM as a system provider with know-how in lamp and ECG development offers VDE-accredited single and twin lamp ballasts for a wide range of different lamps.

Product benefits

- High performance
- Long lifetime
- Easy, quick and economic upgrade to energy-efficient ECG operation

**OSRAM PURITEC® HNS® UV-lamps ECG Overview**

Product name	Product number	Single lamp ballast	Product number	Twin lamp ballast	Product number
PURITEC HNS 4W G5	4008321378316	QT-ECO 1x4-16/220-240 S QT-ECO 1x4-16/220-240 L	4050300638584 4050300660370		
PURITEC HNS 6W G5	4008321378330	QT-ECO 1x4-16/220-240 S QT-ECO 1x4-16/220-240 L	4050300638584 4050300660370	QT-ECO 2x5-11/220-240 S	4050300821504
PURITEC HNS 8W G5	4008321378385	QT-ECO 1x4-16/220-240 S QT-ECO 1x4-16/220-240 L	4050300638584 4050300660370	QT-ECO 2x5-11/220-240 S	4050300821504
PURITEC HNS 11W G5	4008321468796	QTP - Optimal 1x18 - 40	4008321873743		
PURITEC HNS 16W G5	4008321620774	QTP - Optimal 1x18 - 40	4008321873743		
PURITEC HNS 16W 4P SE	4052899437586	QTP - Optimal 1x18 - 40	4008321873743		
PURITEC HNS 20W 4P SE	4052899437562	under investigation			
PURITEC HNS 36W 4P SE	4052899437630	under investigation			
PURITEC HNS 15W G13	4008321398826	QT-ECO 1x 18-24/220-240 S QT-ECO 1x 18-24/220-240 L	4050300638560	QTP-DL 2x 18-24/220-240 S QTP-DL 2x 18-24/220-240 L	4008321117885
PURITEC HNS 25W G13	4052899083851	QTP 5 1x80	4008321329059		
PURITEC HNS 30W G13	4008321398888	QTP-OPTIMAL 1x18-40	4008321873743		
PURITEC HNS 36W G13	4052899084018	QTP-OPTIMAL 1x18-40	4008321873743		
PURITEC HNS 55W G13	4052899083936	QTP-OPTIMAL 1x54-58 QTP5 1x80	4008321873729 4008321873729	QTP-OPTIMAL 2x54-58	4008321880253
PURITEC HNS S 5W G23	4008321229946	Starter included; only fo CCG			
PURITEC HNS S 7W G23	4050300941202	Starter included; only fo CCG			
PURITEC HNS S 9W G23	4050300941226	Starter included; only fo CCG			
PURITEC HNS S 11W G23	4050300941240	Starter included; only fo CCG			
PURITEC HNS S 13W GX23	4008321620774	Starter included; only fo CCG			
PURITEC HNS S/E 7W 2G7	4008321383891	QT-ECO 1x4-16/220-240 S	4050300638584	QT-ECO 2x5-11/220-240 S	4050300821504
PURITEC HNS S/E 9W 2G7	4008321384911	QT-ECO 1x4-16/220-240 S	4050300638584	QT-ECO 2x5-11/220-240 S	4050300821504
PURITEC HNS S/E 11W 2G7	4008321384935	QT-ECO 1x4-16/220-240 S	4050300638584	QT-ECO 2x5-11/220-240 S	4050300821504
PURITEC HNS L 18W 2G11	4008321220431	QT-ECO 1x 18-24/220-240 S QT-ECO 1x 18-24/220-240 L QTP-DL 1x18-40	4050300638560 4008321873743	QTP-DL 2x18-24/220-240	4008321117885
PURITEC HNS L 24W 2G11	4008321220561	QT-ECO 1x 18-24/220-240 S QT-ECO 1x 18-24/220-240 L QTP-DL 1x18-40	4050300638560 4008321873743	QTP-DL 2x18-24/220-240	4008321117885
PURITEC HNS L 36W 2G11	4008321220684	QTP-DL 1x36-40/220-240	4008321117908	QTP-DL 2x36-40/220-240	4008321117922
PURITEC HNS L 55W 2G11	4052899012394	QTP-DL 1x55 GII	4008321390158	QTP-DL 2x55 GII	4008321390172
PURITEC HNS L 60W 2G11	4052899012462	QTP 5 1x80	4008321329059		
PURITEC HNS L 95W 2G11	4052899012509	QTP 5 1x80	4008321329059		

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