

HORTICULTURE LIGHTING

HORTURION® lamp series and power supplies

Your partner for high quality components



USHIO



**MADE IN
EUROPE**



**GERMAN
ENGINEERING**

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Online version August 2021

BLV

BLV is a brand of the Ushio Group and is distributed by Ushio Germany GmbH

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BLV



HORTURION® series

Your trusted quality label

Ushio Germany, formerly BLV Licht- und Vakuumtechnik, has been an established name in the field of horticulture for almost two decades, and its HORTURION® HPS and MH lamp series enjoy a worldwide reputation.

In recent years the company further expanded its product portfolio, and has always invested with undiminished intensity in research and development of lamp technologies.

In 2017, a new and ultra-modern production facility was inaugurated at its sister company Ushio Poland in order to significantly expand production capacities and meet growing demand.

In 2020, the HORTURION® intense, the world's first HPS lamp with 1150 W / 2400 $\mu\text{mol/s}$ output, was launched, followed in 2021 by the HORTURION® supra plus, currently the most efficient HPS 1000 W lamp with 2180 $\mu\text{mol/s}$ output.

Besides the development, production and sales sites in Germany and Poland, the HORTURION® series is distributed via our Ushio sales office in Oude Meer, the Netherlands, and a global sales force.

In-house research & development center

Merging science and technology

In-house engineering facilities, equipped with latest technology and sophisticated devices for precise measurement and testing allowing for innovations and world premieres like the first 1150 W / 2400 $\mu\text{mol/s}$ and the first 1000 W / 2180 $\mu\text{mol/s}$ HPS lamps.



HORTURION® triple capacitor

 **GERMAN
ENGINEERING**

Quantum leap through technology

For a long period of time the output of a 1000 W HPS lamp was restricted below 2000 $\mu\text{mol/s}$. The reason for the restriction was the gas pressure inside the burner and the technology used to ignite the lamp. Our engineers optimised the gas pressure and developed a novel ignition technology, called HORTURION® triple capacitor. This opened the way for a new lamp generation making the HORTURION® HPS one of the most efficient and most stable HPS lamps currently available.

New production plant at Ushio Poland

Investing in the future



Our new production facility, inaugurated in 2017, has considerable capacity with a total area of almost 6000 m². At full capacity, 1 million lamps for professional greenhouse lighting can be manufactured here per year. This signifies that we are not only a trustable partner for lamps of highest quality, but are also able to reliably produce and deliver orders with very high quantities for large-scale projects.

HORTURION® HPS 1150 W DE EL 2.4 intense



Highly efficient growth lighting for professional greenhouses and turf lighting

- Best-in-class photosynthetically active radiation (PAR): 2400 $\mu\text{mol/s}$
- Optimised spectral distribution for high photosynthesis efficiency
- High red light content and blue light output for healthy plant growth and resistance
- High PAR value stability over the entire service life
- Simple lamp exchange

The HORTURION® HPS intense offers with 2400 $\mu\text{mol/s}$ a 12% higher light output compared to its 1000 W equivalent with 2140 $\mu\text{mol/s}$. Greenhouse operators thus benefit from higher yields, shorter growth cycles and year-round production, resulting in higher revenues and shorter ROI cycles.

HORTURION® HPS intense fits all standard luminaires available on the market that are operated with a 1150 W power supply. The lamp is based on the technology of the proven HORTURION® series: with the Triple Capacitor a reliable ignition and a long lifetime of up to 10000 hours is guaranteed. HORTURION® intense was developed by engineers in the company's own research and development department and is produced in its own factory.

HORTURION® HPS 1000 W DE EL supra plus



World's most efficient HPS 1000 W lamp with 2180 $\mu\text{mol/s}$ light output

- High proportion of red light and blue light output for healthy plant growth and resistance
- Compatible with 1000 W luminaires for double-ended lamps

HORTURION® HPS DE series



- Different power levels: 600 W / 750 W / 1000 W / 1150 W
- High efficiency (PAR value)
- High PAR value stability over the entire service life
- Very long service life, long maintenance intervals
- Optimised spectral distribution for healthy plant growth
- Precise positioning in the luminaires for improved light distribution
- 600 W to 1150 W lamps compatible with luminaires for double-ended lamps
- Optimum efficiency in combination with HORTURION® power supply units

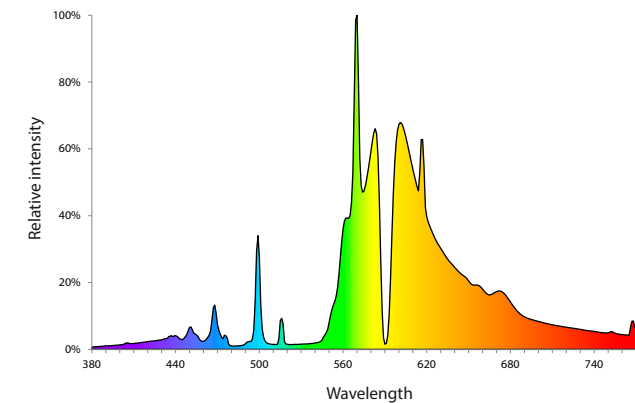
Over the last 30 years, high-pressure sodium lamps (HPS) have brought proven benefits to horticulture. The colour spectrum is rich in red and far-red light, which stimulates elongation growth and optimises fructification. Therefore, it is best suited to increase yield. Further, the heat emission of the lamps supports assimilation by slightly increasing the leaf temperature. This is especially an advantage during the colder months when low temperatures normally reduce plant growth.

In other words: HPS light helps to shorten the harvest cycle.

HORTURION® HPS E40 series



- Single-ended high-pressure sodium lamp
- Different power levels: 250 W / 400 W / 600 W / 750 W
- High efficiency (PAR value)
- High PAR value stability over the entire service life
- Very long service life
- Long maintenance intervals
- Optimised spectral distribution for healthy plant growth



The HPS spectrum stimulates production, yield and earlier harvest.

HORTURION® MH DE series

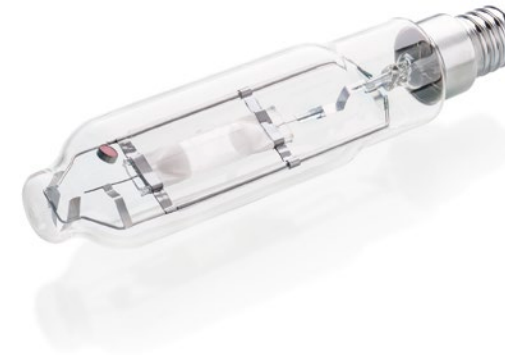


- Double-ended metal halide lamp
- Different power levels: 600 W / 750 W / 1000 W
- The 1000 W version is the world first double-ended MH 1000 W lamp with extreme efficiency of 1.8 $\mu\text{mol}/\text{Ws}$
- High PAR efficiency (PAR value)
- High PAR maintenance for the entire service life
- Good to very good colour rendering
- Optimised spectral distribution for healthy plant growth
- Compatible with luminaires for double-ended lamps
- Optimum efficiency in combination with HORTURION® power supply units
- Suitable for open fixtures

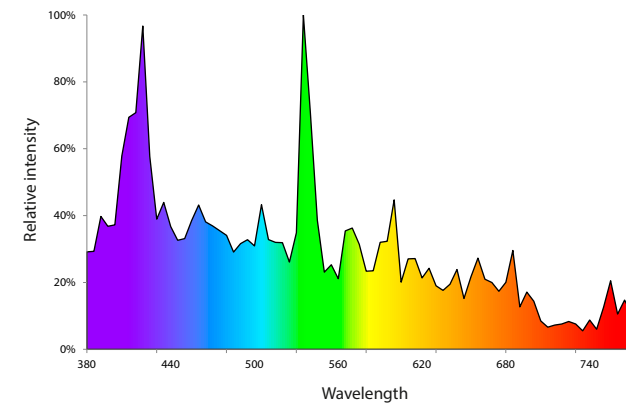
Metal halide (MH) lamps emit a high amount of violet and blue light, which suppresses stem elongation, increases beneficial compounds and promotes vegetative growth. It is, therefore, well-suited for encouraging compact growth in decorative plants, enhancing leaf pigments in coloured vegetables, enriching secondary metabolites in the pharmaceutical and cosmetic industry, and making crops more stress resistant in general.

As the spectrum is also much closer to that of sunlight, colour rendering is greatly improved which makes taking inventory and harvesting easier.

HORTURION® MH E40 series

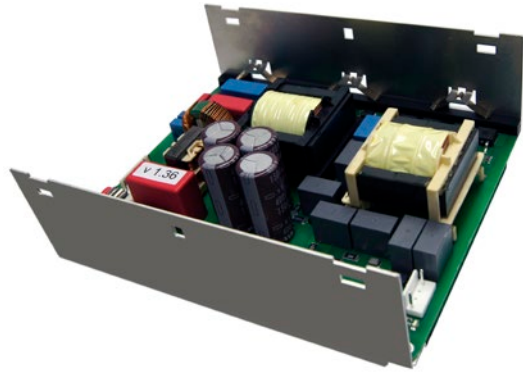


- Single-ended metal halide lamp
- Different power levels: 250 W / 400 W / 600 W
- High efficiency (PAR value)
- High PAR value stability over the entire service life
- Good to very good colour reproduction
- Optimised spectral distribution for healthy plant growth
- For closed luminaires only



The MH spectrum stimulates pigments, secondary metabolites and compact growth.

HORTURION® PS – Electronic power supply



- Reliable and efficient power supplies for all HORTURION® HPS and MH lamps up to 1150 W
- 0-10 V dimmable HPS 1000 W version available
- High efficiency up to 97% and optimised heat dissipation
- EMC-compliant and equipped with all necessary safety functions, including a wireless readout system
- Also ideal for hybrid solutions with interlighting
- Developed and manufactured in Germany

Like the HORTURION® HPS and MH lamps, the highly efficient HORTURION® PS power supplies are an in-house development and are therefore perfectly matched to these lamps. However, due to their standard design and electrical specification they are also suitable for comparable lamps and luminaires from other manufacturers. Temperature monitoring, lamp detection, and the detection of overvoltage and undervoltage ensure safe operation. An LED status display visually indicates the operating conditions. Status messages and internal data can be determined via an external readout device and made available for further processing.

Article no. (single packaging)*	Designation	Input voltage range / nominal [Vac]	Nominal frequency [Hz]	Nominal system power [W]	Power factor (nominal)	Efficiency (nominal) [%]	Nominal output power [W]	Lamp ignition voltage (min. / max.) [kV]
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HORTURION PS power supplies								
104098	HORTURION PS 600 W 400 V	360 - 440 / 400	50/60	630	0.99	96.5	610	3.0 / 3.25
104099	HORTURION PS 750 W 400 V	360 - 440 / 400	50/60	790	0.99	96.5	760	3.0 / 3.25
108258	HORTURION PS 1000 W 400 V	360 - 440 / 400	50/60	1 035	0.99	96.5	1 000	3.0 / 3.25
112068	HORTURION PS 1000 W 400 V 0-10 V	360 - 440 / 400	50/60	1 035	0.99	96.5	1 000	3.0 / 3.25
114547	HORTURION PS 1150 W 400 V	360 - 440 / 400	50/60	1 200	0.99	96.5	1 150	3.0 / 3.25

HORTURION PS accessories	
111095	HORTURION TL CTRL-CBL BL 100CM (control cable for 0-10V dimmable version)
104097	HORTURION READ OUT DEVICE KIT

*Larger quantities available in bulk packaging
 Compatible with most standard greenhouse luminaires • Highly efficient with HORTURION HPS and MH lamps • 0-10V dimmable version for 1000 W HPS lamps • Required input connector (from grid): Neltron 2114H-06; 4 contacts (L, empty, L, empty, 2xPE) • Required output connector (to lamp): Neltron 2114H-04; 2 contacts (HV, empty, empty, neutral) • Ambient temperatures 0-35°C (25°C nom.) • Dimensions L x B x H [mm]: 181 x 151 x 58 • Weight [kg]: 0.9

HORTURION HPS lamps

Article no. (single packaging)*	Designation	Ignition voltage [kV]	Lamp current [A]	Nominal lamp power [W]	PAR [μmol/s]	Colour temperature [K]	Colour rendering index Ra / Colour rendering level	Nominal service life [h]
HORTURION HPS E40								
103379	HPS 250 W 230 V E40	2.3	3.0	250	410	n.a.	n.a.	12 000
103384	HPS 400 W 230 V E40	2.3	4.6	400	675	n.a.	n.a.	12 000
103393	HPS 600 W 230 V E40	4.0	6.3	600	1000	n.a.	n.a.	12 000
103387	HPS 600 W 400 V E40	4.0	3.8	600	1150	n.a.	n.a.	12 000
103396	HPS 600 W 400 V E40 EL*	4.0	3.2	600	1150	n.a.	n.a.	10 000
103412	HPS 750 W 400 V E40 EL	4.0	3.6	750	1360	n.a.	n.a.	12 000
HORTURION HPS K12x30S								
103399	HPS 600 W DE EL	3.2	3.2	600	1150	n.a.	n.a.	10 000
103415	HPS 750 W DE EL	3.2	3.6	750	1450	n.a.	n.a.	10 000
103403	HPS 1000 W DE EL 2.2	3.2	4.8	1000	2100	n.a.	n.a.	10 000
107990	HPS 1000 W DE EL supra	3.2	4.4	1 000	2140	n.a.	n.a.	10 000
115342	HPS 1000W DE EL supra plus	3,2	4,4	1 000	2180	n.a.	n.a.	10000
112235	HPS 1150 W DE EL 2.4 intense	3,2	5,5	1150	2400	n.a.	n.a.	10000

HORTURION MH lamps

Article no. (single packaging)*	Designation	Ignition voltage [kV]	Lamp current [A]	Nominal lamp power [W]	PAR [μmol/s]	Colour temperature [K]	Colour rendering index Ra / Colour rendering level	Nominal service life [h]
HORTURION MH E40 – for enclosed luminaires only								
107224	MH 250 W 230 V E40	4.0	3.0	250	320	4 200	Ra80-89/1B	8 000
107227	MH 400 W 230 V E40	4.0	4.0	400	520	4 200	Ra70-79/2A	8 000
107233	MH 600 W 230 V E40	4.0	5.7	600	725	4 200	Ra80-89/1B	8 000
HORTURION MH K12x30S – suitable for open luminaires								
107290	MH 600 W DE EL 3.8K	3.2	3.4	600	1 000	3 800	Ra70-79/2A	6 000
107291	MH 750 W DE EL 3.8K	3.2	3.6	750	1 200	3 800	Ra60-69/2B	6 000
107292	MH 1000 W DE EL 3.8K	3.2	4.8	1 000	1 720	3 800	Ra70-79/2A	6 000
107293	MH 600 W DE EL 5.5K	3.2	3.4	600	1 040	5 500	Ra80-89/1B	6 000
107294	MH 750 W DE EL 5.5K	3.2	3.6	750	1 250	5 500	Ra80-89/1B	6 000
107241	MH 1000 W DE EL 5.5K	3.2	4.8	1 000	1 800	5 500	Ra>90/1A	6 000

*Larger quantities available in bulk packaging