

POWERSTAR® HQI®-TS

Technical Information

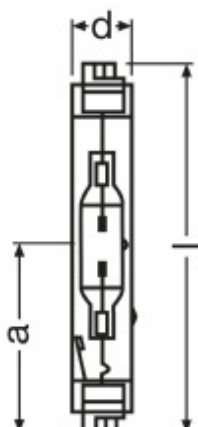


POWERSTAR® HQI®-TS

General product description

- Metal halide lamps POWERSTAR® HQI® with quartz technology
- Warm white light WDL, neutral white light NDL and daylight D
- High efficiency
- Excellent color rendering
- Hot restrikeable
- Uniform distribution of light
- Long life time
- UV filter technology

Basic technical description



Product reference	Nominal lamp wattage	Cap	Cor-related colour temp	Comp. Cap. @50hz, cos φ ≈0.9	Light colour code	Length max. (l)	Diameter (d)	Weight per piece	Light centre length (a)	Typical lamp voltage ¹	Typical lamp current ¹
	[W]		[K]	[μF]		[mm]	[mm]	[g]	[mm]	[V]	[A]
HQI-TS 250W/WDL UVS	250	Fc2	3200	32	830	162	25	52	81	112	2.8
HQI-TS 250W/NDL UVS	250	Fc2	4200	32	842	162	25	52	81	98	3.0
HQI-TS 250W/D PRO	250	Fc2	5500	32	955	162	25	52	81	98	3.0
HQI-TS 400W/NDL	400	Fc2	4200	45	842	206	33	92	103	118	4.1
HQI-TS 400W/D PRO	400	Fc2	5500	45	955	206	33	92	103	116	4.0

Performance specification²

Product reference	Rated lamp wattage	Rated system wattage ³	Luminous flux	Luminous efficacy	Colour rendering index Ra	Colour rendering level	Average life (B50) [h]
	[W]	[W]	[lm]	[lm/W]			
HQI-TS 250W/WDL UVS	250	n.a.	22000	88	80	1B	12000
HQI-TS 250W/NDL UVS	250	n.a.	20000	80	88	1B	12000
HQI-TS 250W/D PRO	250	n.a.	21500	86	93	1A	12000
HQI-TS 400W/NDL	410	n.a.	36000	88	85	1B	12000
HQI-TS 400W/D PRO	420	n.a.	35000	83	93	1A	12000

¹ Refers to 50 Hz operation with a reference electromagnetic ballast (IEC 60923).

² The specified values refer to 50 Hz operation with electromagnetic control gear at rated wattage, unless otherwise stated. They refer to horizontal burning position, in line with IEC 61167. Other burning positions may result in differing values.

³ With OSRAM POWERTRONIC PTi, PT-FIT or PTo

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Product reference	Lamp lumen maintenance factor (LLMF) vs. operation hours				
	2000h	4000h	6000h	8000h	12000h
HQI-TS 250W/WDL UVS	70%	60%	55%	52%	50%
HQI-TS 250W/NDL UVS	80%	75%	65%	55%	50%
HQI-TS 250W/D PRO	70%	60%	55%	52%	50%
HQI-TS 400W/NDL	70%	60%	55%	52%	50%
HQI-TS 400W/D PRO	70%	60%	55%	52%	50%

Product reference	Lamp survival factor ⁴ (LSF) vs. operation hours				
	2000h	4000h	6000h	8000h	12000h
HQI-TS 250W/WDL UVS	95%	90%	85%	80%	50%
HQI-TS 250W/NDL UVS	95%	90%	85%	80%	50%
HQI-TS 250W/D PRO	95%	90%	85%	80%	50%
HQI-TS 400W/NDL	95%	90%	85%	80%	50%
HQI-TS 400W/D PRO	95%	90%	85%	80%	50%

Operation conditions

Product reference	Burning position	Max. permitted outer bulb temperature [°C]	Max. permitted pinch temperature [°C]	Ignition voltage min. / max. [kV]	Required control gear ⁵	Suitable OSRAM electronic control gear	Dimming
HQI-TS 250W/WDL UVS	p45	650	300	4 / 25	CCG	n.a.	Not allowed ⁶
HQI-TS 250W/NDL UVS	p45	650	300	4 / 25	CCG	n.a.	Not allowed
HQI-TS 250W/D PRO	p45	650	300	4 / 25	CCG	n.a.	Not allowed
HQI-TS 400W/NDL	p45	650	300	4 / 25	CCG	n.a.	Not allowed
HQI-TS 400W/D PRO	p45	650	300	4 / 25	CCG	n.a.	Not allowed

⁴ Indicates the percentage of operational lamps after a given period of operation time.

⁵ ECG stands for low frequency square wave electronic ballast. See the respective lamp data sheet in IEC 61167 and Annexes G and H, therein.

CCG stands for electromagnetic ballast (see IEC 61347).

⁶ Depending on the dimming level both correlated colour temperature and colour rendering index Ra may substantially change. Average life may not increase.

Safety, materials and environment

Product description	Typical specific effective radiant UV power [mW/1000 lm]	Typical mercury content [mg]
HQI-TS 250W/WDL UVS	<2	31
HQI-TS 250W/NDL UVS	<2	14
HQI-TS 250W/D PRO	<2	16
HQI-TS 400W/NDL	<2	35
HQI-TS 400W/D PRO	<2	35

- Compliant with safety specifications according to EN 62035
- Compliant with RoHS.
- Only for luminaires with protective shield according to IEC 60598-1
- For operation with an electromagnetic ballast⁷ a protection against rectifying effect at end-of-life required
- Staring to operating light source to be avoided because of high brightness

Energy labelling⁸

Product description	Energy efficiency class	Weighted energy consumption E _c [kWh/1000h]
HQI-TS 250W/WDL UVS	A+	275
HQI-TS 250W/NDL UVS	A	275
HQI-TS 250W/D PRO	A+	275
HQI-TS 400W/NDL	A+	451
HQI-TS 400W/D PRO	A	462

Logistics data

Product description	ILCOS	EAN 10	EAN 40	Standard pack quantity
HQI-TS 250W/WDL UVS	MD/UB-250/832-H/E/SL-Fc2s-25/162/H	4008321689177	4008321689184	12
HQI-TS 250W/NDL UVS	MD/UB-250/842- H/E/SL-Fc2s-25/162/H	4008321766878	4008321766885	12
HQI-TS 250W/D PRO	MD/UB-250/955- H/E/SL-Fc2s-25/162/H	4008321689139	4008321689146	12
HQI-TS 400W/NDL	MD/UB-400/842- H/E/SL-Fc2s-25/162/H	4008321689214	4008321689221	12
HQI-TS 400W/D PRO	MD/UB-400/955- H/SL-Fc2s-25/162/H	4008321689191	4008321689207	12

⁷ See IEC 61347.

⁸ According to Regulation (EU) No 874/2012 of July 12, 2012

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Typical spectral power distribution

Light colour code	Fig. no.
WDL	1
NDL	2
D PRO	3

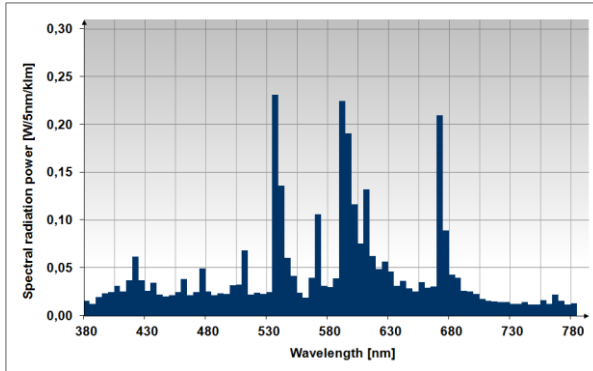


Fig 1

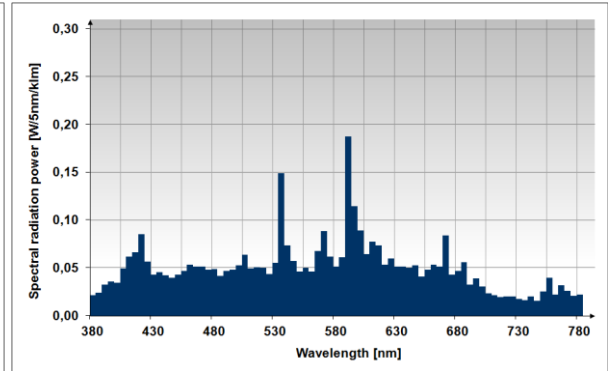


Fig 2

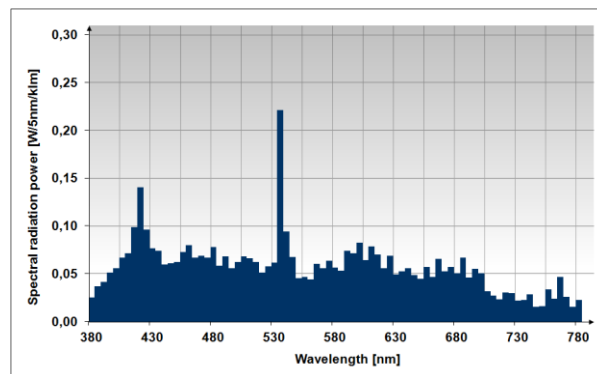


Fig 3

References

Reference	
Brochure "Metal halide lamps. Instructions for the use and application"	www.osram.com
Brochure "High Intensity Discharge lamps. Technical information on reducing the wattage"	www.osram.com
Ray data (e.g. ASAP, SPEOS, LightTools)	available on request
3D data (e.g. Parasolid, STEP)	available on request
System ⁺ guarantee	level 3C, see www.osram.com