

POWERBALL® HCI®-TS

Technical Information

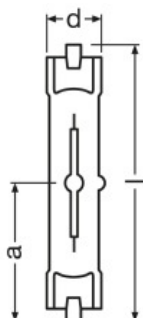


POWERBALL® HCI®-TS

General product description

- High intensity discharge lamps
- Metal halide lamps with ceramic burner
- POWERBALL¹ technology
- UV-filter technology
- For luminaires with protective shield, only

Basic technical description



Product reference	Nominal lamp wattage [W]	Cap	Correlated colour temperature [K]	Light colour code	Length max. (l) [mm]	Diameter (d) [mm]	Weight per piece [g]	Light centre length (a) [mm]	Typical lamp voltage ² [V]	Typical lamp current ² [A]
HCl-TS 70W/830 WDL PB	70	RX7s	3000	830	120	20	22	60	92	0.95
HCl-TS 70W/942 NDL PB	70	RX7s	4200	942	120	20	22	60	99	0.94
HCl-TS 150W/830 WDL PB	150	RX7s-24	3000	830	138	23	27	69	96	1.77
HCl-TS 150W/942 NDL PB	150	RX7s-24	4200	942	138	23	27	69	98	1.80

Performance specification³

Product reference	Rated lamp wattage [W]	Rated system wattage ⁴ [W]	Luminous flux [lm]	Luminous efficacy [lm/W]	Colour rendering index Ra	Colour rendering level	Average life (B50) ⁵ [h]
HCl-TS 70W/830 WDL PB	73	80	7000	96	88	1B	15000
HCl-TS 70W/942 NDL PB	73	80	6700	92	94	1A	15000
HCl-TS 150W/830 WDL PB	147	160	15000	102	89	1B	15000
HCl-TS 150W/942 NDL PB	147	160	14800	101	96	1A	15000

¹ Round ceramic burner for optimized efficacy

² Refers to operation with a reference electromagnetic ballast (IEC 60923).

³ The specified values refer to operation with electronic 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.

⁴ With OSRAM POWERTRONIC PTi, PT-FIT or PTo

⁵ For all allowed burning positions. In operation with electromagnetic control gear 12000 h for all allowed burning positions.

Edition December 2, 2013; replaces edition August 22, 2013. Subject to change without notice. Errors and omissions excepted. Make sure to use the most recent edition.

Product reference	Lamp lumen maintenance factor (LLMF) vs. operation hours					
	2000 h	4000 h	6000 h	8000 h	12000 h	15000 h
HCI-TS 70W/830 WDL PB	84%	82%	79%	76%	71%	68%
HCI-TS 70W/942 NDL PB	82%	78%	76%	74%	71%	70%
HCI-TS 150W/830 WDL PB	87%	80%	74%	68%	63%	60%
HCI-TS 150W/942 NDL PB	85%	75%	70%	67%	65%	62%

Product reference	Lamp survival factor ⁶ (LSF) vs. operation hours					
	2000 h	4000 h	6000 h	8000 h	12000 h	15000 h
HCI-TS 70W/830 WDL PB	99%	98%	97%	96%	85%	50%
HCI-TS 70W/942 NDL PB	99%	98%	97%	96%	80%	50%
HCI-TS 150W/830 WDL PB	99%	95%	90%	83%	65%	50%
HCI-TS 150W/942 NDL PB	99%	98%	97%	96%	80%	50%

Operation conditions

- Burning position: p45

Product reference	Max. permitted outer bulb temperature [°C]	Max. permitted pinch Temperature [°C]	Ignition voltage min. / max. [kV _p]	Required control gear ⁷	Suitable OSRAM electronic control gear	Dimming
HCI-TS 70W/830 WDL PB	500	280	3.6 ⁸ / 5.0 ⁹	ECG, CCG	PTi, PT-FIT, PTo	with PTo ¹⁰
HCI-TS 70W/942 NDL PB	500	280	3.6 ⁸ / 5.0 ⁹	ECG, CCG	PTi, PT-FIT, PTo	with PTo ¹⁰
HCI-TS 150W/830 WDL PB	650	300	3.6 ⁸ / 5.0 ⁹	ECG, CCG	PTi, PTo	with PTo ¹⁰
HCI-TS 150W/942 NDL PB	650	300	3.6 ⁸ / 5.0 ⁹	ECG, CCG	PTi, PTo	with PTo ¹⁰

⁶ Indicates the percentage of operational lamps after a given period of operation time.

⁷ 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).

⁸ For superimposed ignition with square wave electronic ballast 3.0 kV_p are sufficient.

⁹ This limit is for safety reasons.

¹⁰ Depending on the dimming level both correlated colour temperature and colour rendering index Ra may substantially change; average life may not increase.

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Safety, materials and environment

- 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 ballast¹¹ a protection against rectifying effect at end-of-life required
- Staring at operating light source to be avoided because of high brightness

Product description	Typical specific effective radiant UV power [mW/1000 lm]	Typical mercury content [mg]
HCI-TS 70W/830 WDL PB	0.09	5.0
HCI-TS 70W/942 NDL PB	0.60	8.0
HCI-TS 150W/830 WDL PB	0.08	22.0
HCI-TS 150W/942 NDL PB	0.27	16.7

Energy labelling¹²

Product description	Energy efficiency class	Weighted energy consumption E _c [kWh/1000h]
HCI-TS 70W/830 WDL PB	A+	81
HCI-TS 70W/942 NDL PB	A+	81
HCI-TS 150W/830 WDL PB	A+	162
HCI-TS 150W/942 NDL PB	A+	162

Logistics data

Product description	ILCOS	EAN 10	EAN 40	Standard pack quantity
HCI-TS 70W/830 WDL PB	MD/UB-70/830-H/E/SL-RX7s-22/114,2/H	4008321688309	4008321688316	12
HCI-TS 70W/942 NDL PB	MD/UB-70/942-H/E/SL-RX7s-22/114,2/H	4008321688361	4008321688378	12
HCI-TS 150W/830 WDL PB	MD/UB-150/830-H/E/SL-RX7s=24-25/132/H	4008321679857	4008321679864	12
HCI-TS 150W/942 NDL PB	MD/UB-150/942-H/E/SL-RX7s=24-25/132/H	4008321679871	4008321679888	12

¹¹ See IEC 61347.

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

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Typical spectral power distribution

Light colour code	Fig. no.
830	1
942	2

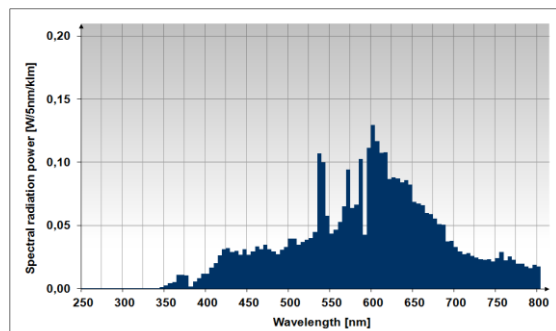


Fig. 1

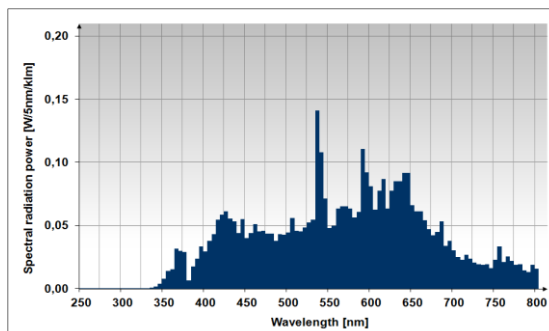


Fig. 2

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