

ARC STREAM

Metallhalogen damplamper
Rørform klar – 250W og 400W
Ellipsoid matt – 250W



DATA BLAD

Produktinformasjon

Høy lysstyrke, høykvalitets hvitt lys med god fargegjengivelse og høyt lysutbytte gjør Tungshram Metallhalogendamplamper egnet til mange næringsbygg og industri, spesielt i områder med høye takhøyder.

Bruksområder



Kontor



Industri



Næringsbygg



Parkeringsplass

Korte data

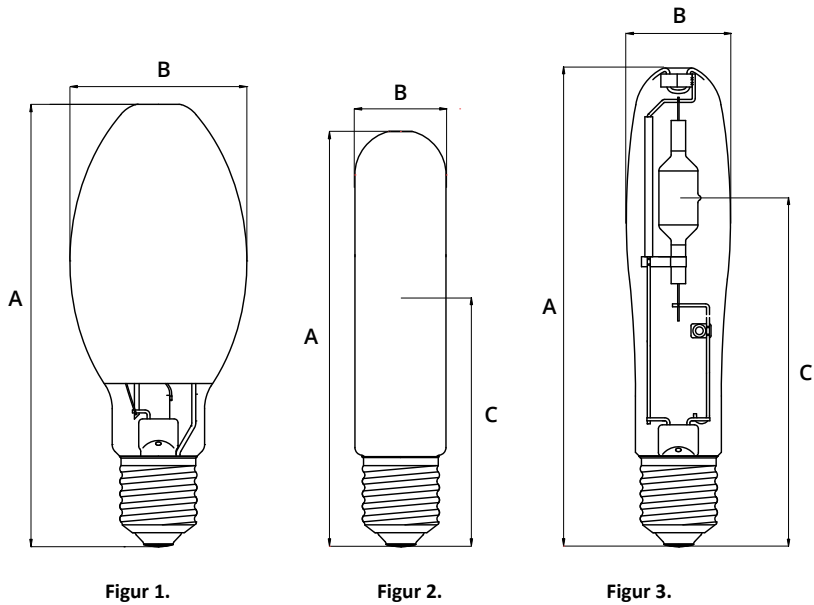
Bestillings nr	EL.NR.	Produktbeskrivelse	Nominell effekt [W]	Testet effekt [W]	Vektet Energi-forbruk [kWh/1000t]	Spenning [V]	Nominell lysytelse [lm]	Testet lysytelse [lm]	Testet lysutbytte [lm/W]	Energi-effektivitets-klasse (EEC)	CCT [K]	Farge-gjengivelses indeks [Ra]	Kvikksølv-innhold [mg]	Omgivelses-temperatur [°C]
ARC damplampe ellipsoid matt														
93102180		ARC250/D/UVC/VBU/960/E40 TU**	250	268	294.71	100 E40	17.000	17.080	64	A	6.000	90	13.6	25
ARC damplampe rørform klar														
93102194		ARC250/T/UVC/H/742/E40 TU**	250	271	294.89	112 E40	21.000	22.714	84	A	4.200	70	29.4	25
93102179		ARC250/T/UVC/VBU/960/E40 TU**	250	269	295.64	100 E40	19.000	19.260	72	A	6.000	90	13.6	25
93102178		ARC250/T/UVC/H/960/E40 TU**	250	272	299.58	100 E40	19.000	19.210	71	A	6.000	90	13.6	25
93102195		ARC400/T/UVC/H/742/E40 TU**	400	404	444.20	105 E40	35.000	35.270	87	A	4.200	70	29.4	25
93102247	33 222 80	ARC250/T/UVC/H/970/E40 TU	250	260	286	105 E40	16.000	16.000	61,5	A	7.500	90	14,3	25

Drives med egnet metallhalogen / høytrykknatrium (HPS) ballast og metallhalogen tennapparat. ARC damplamper er kun egnet for bruk i lukkede armaturer hvor frontglass/avdekking må kunne holde på fragmenter av varme kvarts eller glassfragmenter (opp til 1100°C).

Lyskilde skal kun benyttes i armatur med frontglass.

**Ikke tillatt i EU

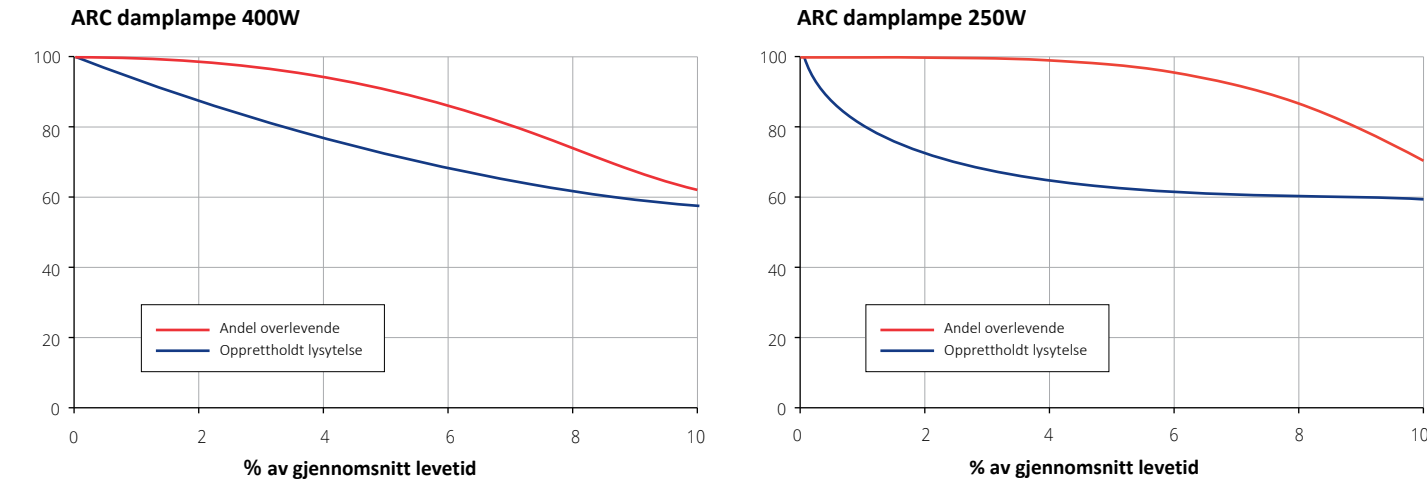
Dimensjoner



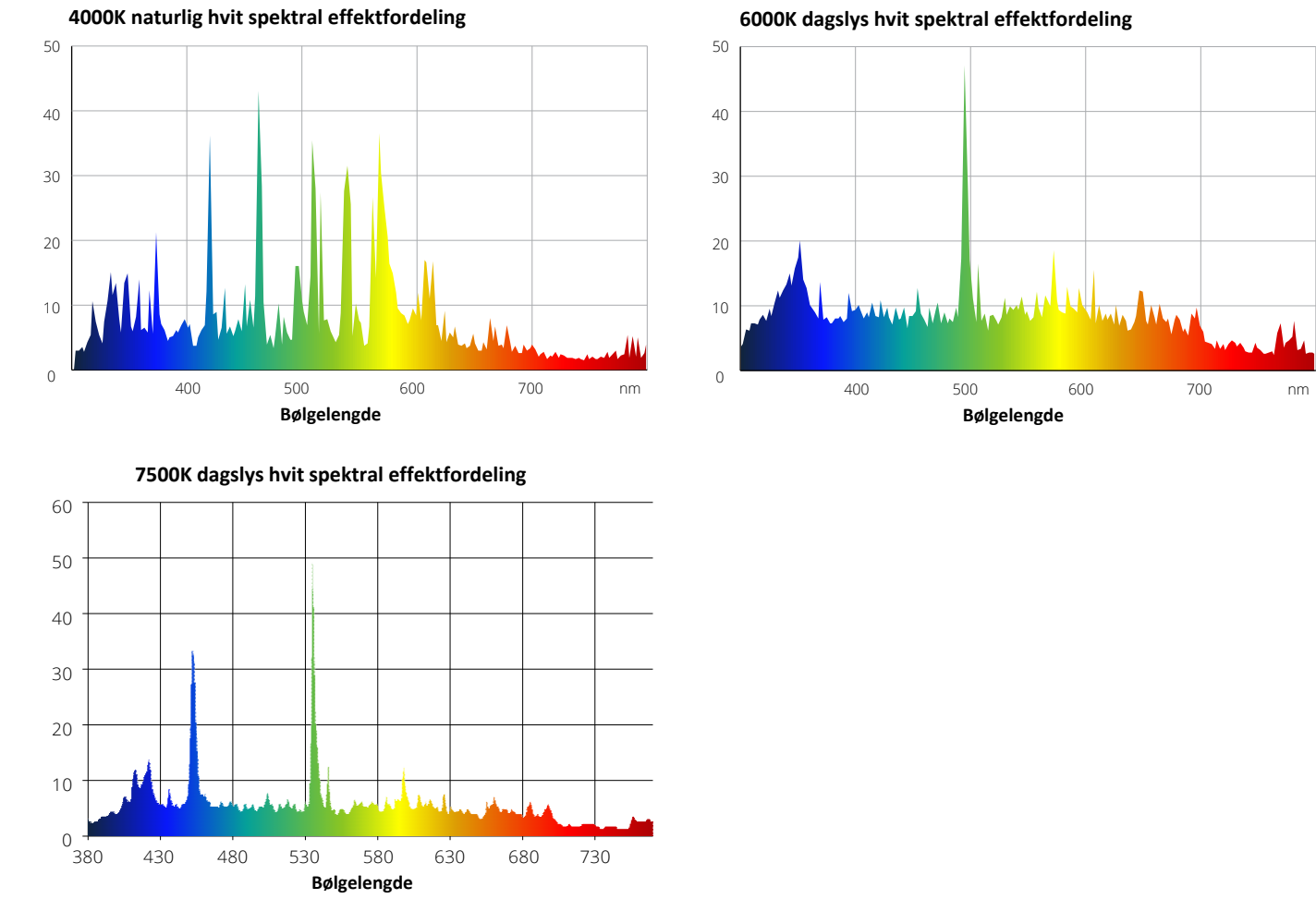
Produkt kode	Effekt [W]	A Lengde [mm]	B Diameter [mm]	C LCL (mm)	Sokkel	Brenn- stilling	Gjennomsnitt levetid [t]	Kolbe- Glass	Vekt [g]	Minimum oppstarts- temperatur [°C]	Figur
ARC damplampe Ellipsoid matt											
93102180	250	227	90	-	E40	Vertikal ± 45°	12.000	Herdet	190	-30	1
ARC damplampe rørform klar											
93102194	250	220	47	150	E40	Hor. ±15°	10.000	Herdet	170	-30	2
93102179	250	220	47	150	E40	Vertikal ± 45°	12.000	Herdet	170	-30	2
93102178	250	220	47	150	E40	Hor. ± 45°	12.000	Herdet	170	-30	2
93102195	400	260	47	175	E40	Hor. ± 15°	10.000	Herdet	190	-30	3
93102247	250	220	47	150	E40	Hor. ± 45°	12.000	Herdet	170	-30	2

Overlevelsesandel og opprettholdelse av lysytelse

Grafene viser andel overlevende av en representativ mengde lyskilder brukt under kontrollerte forhold ved 10 timers start. Lyskildelevetid i praksis vil være påvirket av flere parametre, slik som nettspenningsvariasjoner, tennsyklus, armaturdesign og forkobling. Informasjonen presentert er ment som praktisk informasjon for å avgjøre serviceintervall.



Spektral effektfordeling



Merknad

Metallhalogen dampplamper opererer med et høyt internt trykk og det er en liten risiko for at lyskilden kan knuses, spesielt hvis den brukes utover oppgitt levetid. På slutten av levetiden bør lyskilden slukkes hver 24 time for å redusere risiko for knusing. Lyskilde må være i et helt lukket armatur for å sikre at alle fragmenter holdes på plass ved en slik hendelse.

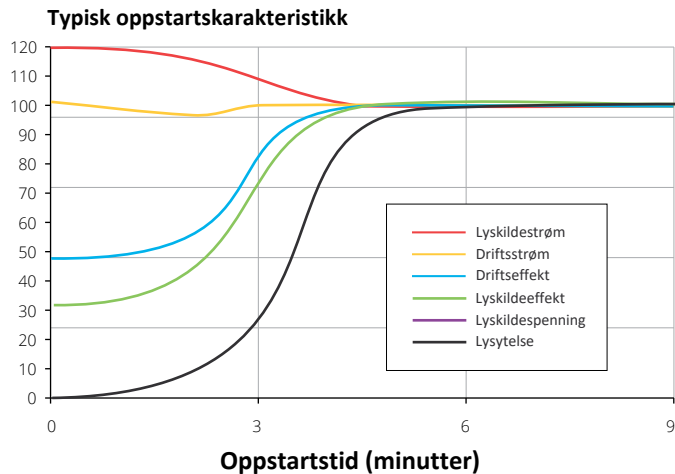
Elektriske data

Data er basert på en nominell lyskilde som drives på en nominell choke (reaktor) ballast med effektfaktor-korreksjon. Strømeffekt er basert på en typisk kommersielt tilgjengelig ballast.

Effekt [W / fargekode]	Spenning ±15 [V]	Strøm [A]	Effekt [W]	Maksimum Strøm Sinus faktor
Rørform klar				
250 / 742	112	2,75	250	1,8
250 / 960	100	3	250	1,8
250 / 970	105	3	250	1,8
400 / 742	105	4,35	400	1,8
Ellipsoid matt				
250 / 740	112	2,75	250	1,8
250 / 960	100	3	250	1,8

Oppstartskarakteristikk

Graf viser typisk oppstartskarakteristikk. Tid for at lysytelse når 90% av full ytelse bestemmes av nettspenning og ballastdesign.



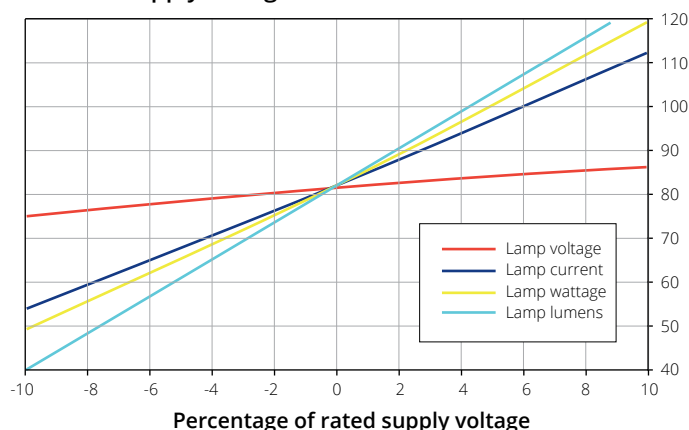
Varm re-tenningstid

Alle størrelser re-starter innen 7 minutter etter et kort strømbrudd. Reell re-tenningstid bestemmes av tennapparat, spenningspuls og nedkjølingstid på lyskilden.

Drifsspenning

250W og 400W lyskilder er egnet for drift i området 220V til 250V; 50/60Hz ved korrekt valgt seriekoblet choke (reaktor) ballast. Nettspenning utenfor dette intervallet krever en transformator (konvensjonell, høy reaktans eller CWA) for å sikre korrekt lyskildedrift. Lamps start and operate at 10% below the rated supply voltage when the correct control gear is used. However, in order to maximise lamp survival, lumen maintenance and colour uniformity the supply voltage and ballast design voltage should be within $\pm 3\%$. Supply variations of $\pm 5\%$ are permissible for short periods only. This may be achieved by measuring mean supply voltage at the installation and selecting ballasts with appropriate settings.

Effect of supply voltage variation



Control gear

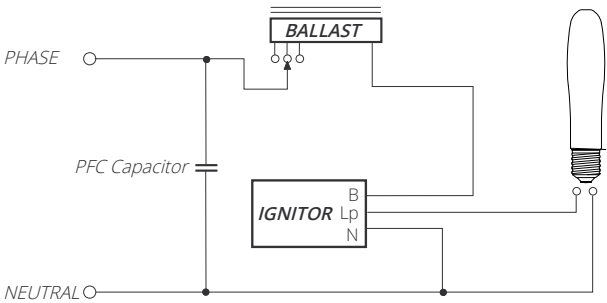
There are no international standards for metal halide lamps of this type. It is therefore important to check the compatibility of lamp and control gear. Detailed information is given in this data sheet under "Guidance for luminaire manufacturers". It is essential to use a ballast appropriate to the supply voltage at the luminaire. Typical wiring diagrams for control circuits incorporating a "Superimposed" or "Impulser" ignitor and choke (reactor) ballast are shown. Refer to actual ballast and ignitor manufacturer's data for terminal identification and wiring information.

Fusing of circuits

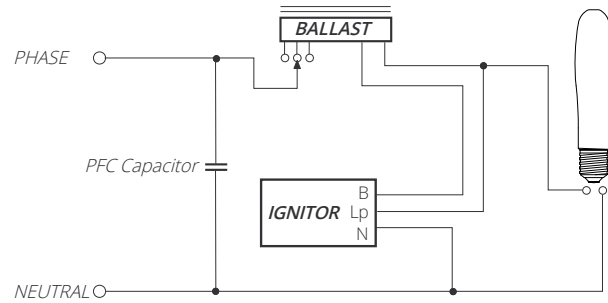
- A number of factors need to be taken into account when selecting the rating and characteristic of the supply line fuse/MCB:
- (a) At the instant the circuit is switched-on, PFC capacitor current can be many times the steady state value for a very short period (few hundred microseconds).
 - (b) For a short period (few seconds) after switch-on all discharge lamps may act as a partial rectifier and as a result the ballast can allow several times the normal supply current to flow.
 - (c) During the lamp run-up period supply current is higher than normal (see graph).

Watts	1	2	3	4	5	6
Tubular Clear						
250	10	16	16	20	20	20
400	16	20	20	25	25	32
Elliptical Diffuse						
250	10	16	16	20	20	20

Typical superimposed ignitor circuit



Typical impulser ignitor circuit



Guidance for luminaire manufacturers

Lamp operating temperature limits

Maximum Cap Temperature:	250°C
Maximum Bulb Temperature:	450°C

Control gear

To achieve correct lamp starting, performance and life it is important that lamp and control gear are compatible and suitably rated for the supply voltage at the luminaire.

Ballasts

Lamps are fully compatible with ballasts manufactured for high pressure sodium lamps to IEC60662 and for metal halide lamps to IEC61167. Enhanced performance can be achieved by using special ballasts to the specification shown below. Ballasts should comply with specifications IEC61347-1 and IEC60923. Series choke (reactor) ballasts should have characteristics close to the following values:

Supply Voltage	220V	230V	240V	250V
Tubular Clear 250W				
Impedance at 3A (ohms)	60	64	67.7	71.3
Based on Cold Watts loss (W)	24	25	26	27
Tubular Clear 400W				
Impedance at 4.6A (ohms)	39.6	42	44.4	46.7
Based on Cold Watts loss (W)	32	34	36	38
Elliptical Clear & Coated 250W				
Impedance at 3A (ohms)	60	64	67.7	71.3
Based on Cold Watts loss (W)	24	25	26	27

Ballast thermal protection

Use of ballasts incorporating thermal cut-out is not a specific requirement but is a good optional safety measure for the installation.

Ballast voltage adjustment

Series choke (reactor) ballasts incorporating additional tapings at $\pm 10V$ of the rated supply voltage are recommended. Alternatively a single additional tapping 10V above the rated supply voltage will ensure lamps are not overloaded due to excessive supply voltage.

Ignitors

Both Superimposed and Impulser type ignitors are suitable. It is recommended that only Tungsram approved ignitors are used. Ignitors should comply with specifications IEC61347-2 and IEC60927 and have starting pulse characteristics as follows:

Watts	Min Pulse Voltage (kV) ¹	Max Pulse Voltage (kV) ²	Min Pulse Width (μ s) ³	Min Pulse Repetition Rate ⁴	Min HF Peak Current [A]
250	3.5	5	>0.3	3 / half cycle	>1
400	3.5	5	>0.3	3 / half cycle	>1

1. When loaded with 100 pF.

2. When loaded with 20pF.

3. At 90% peak voltage.

4. From ignitor into lamp during starting.

Timed ignitors

Use of a "timed" or "cut-out" ignitor is not a specific requirement, but it is a good optional safety feature for the installation. The timed period must be adequate to allow lamps to cool and restart when the supply is interrupted briefly (see "hot re-strike time"). A period of 5 minutes continuous or intermittent operation is recommended before the ignitor is automatically switched off. Commercially available 10/11 minute timed ignitors are suitable.

Cable between ignitor and lamp

Cable connected between the lamp and a superimposed ignitor "Lp" terminal, or the ballast when using an impulser ignitor, must be rated at a minimum 50/60Hz voltage of 1000V. Mineral insulated cable is not suitable for connecting the lamp to the control gear. To achieve good starting superimposed ignitors must be adjacent to the luminaire. Cable capacitance of wiring between the ignitor "Lp" terminal and the lamp should not exceed 100pF (<1 metre length) when measured to adjacent earthed metal and/or other cables, unless otherwise stated by ignitor manufacturer. When using impulser type ignitors longer cable lengths between ballast and lamp are normally permissible. Limits for particular ignitors are available on request from Tungsram Lighting or directly from the ignitor manufacturer.

PFC capacitors for simple choke circuits

Power Factor Correction is advisable in order to minimise supply current and electricity costs. For 220-250V supplies 250V $\pm$ 10% rated capacitors are recommended as follows:

	250W	400W
Tubular Clear		
PFC Capacitor	30 μ F	40 μ F
Elliptical Diffuse		
PFC Capacitor	30 μ F	-