



**DR. FISCHER**  
Europe s.a.s.

A company of DR. FISCHER Group

## Halogen & Incandescent Lamps



<b>Contacts</b>	<b>2</b>
<b>DR. FISCHER Group</b>	<b>4</b>
<b>DR. FISCHER Europe S.A.S</b>	<b>6</b>
Introduction	6
How going to DR. FISCHER Europe?	7
Quality Assurance	8
Environment	8
<b>Halogen lamps</b>	<b>10</b>
General information	10
Technical information	11
General applications	12
Products	15
<b>Incandescent lamps</b>	<b>18</b>
General applications	18
Products	19
Specific applications	20
Products	21
<b>Lighting European Regulation</b>	<b>23</b>
<b>Some logos description</b>	<b>23</b>

## The DR. FISCHER Group – Competence, Innovation, Service

The DR. FISCHER Group is one of the leading providers of lamps and lights. The various companies of the Group complement each other with their individual specializations and together form a competent, innovative and fair partner for customers and suppliers.

It is especially our structure as a group of specialized, traditional companies which enables us to satisfy the needs and requirements of our customers and provide precise and immediate solutions. Among our greatest strengths are competent advice, customer proximity, professional service and the creation of customized, user-related special applications.

With our constellation of highly competent special lamp manufacturers, our comprehensive portfolio within this sector and the attractive product range of KANDEM Leuchten GmbH for lights and lighting solutions, we offer a large range of products for the professional and general use.

The DR. FISCHER Group came in the run during the last 20 years. DR. FISCHER Group is the result of three family owned companies growing together: Speziallampenfabrik DR. FISCHER GmbH and Kandem Leuchten GmbH.

Each individual company, with their specialist fields, is a perfect complement to each other. This makes it possible to fulfill customer's wishes and requirements precisely, quickly and in a solution orientated manner. The greatest strengths of the group are tailor-made special applications and specific all-round solutions.

With sales offices in Europe and Asia, our group is active worldwide. Our product portfolio includes signal lamps for streets, railways, air and waterways; special lamps for medicine and research; household lamps for ovens, cooker hoods and refrigerators; lights and infrared halogen lamps and solutions.

 **DR. FISCHER**  
Speziallampenfabrik GmbH

 **DR. FISCHER**  
Speziallampen Vertriebs GmbH

 **DR. FISCHER**  
Europe s.A.s.

 **DR. FISCHER**  
Italy s.r.l.

 **KEGLER**  
Lichttechnik GmbH

 **KANDEM**  
Leuchten GmbH

 **DR. FISCHER**  
LED GmbH

 **DR. FISCHER**  
Asia Pacific Ltd.



*Pont à Mousson (France) is the headquarters of DR FISCHER Europe S.A.S., the production center of infrared halogen, high-voltage lamps, halogen and incandescent lamps.*



*The location at Diez is the main production centre for low-voltage lamps.*



*DR FISCHER Italy s.r.l. produces special lamps for the domestic field at the Alpignano (Italy) location*

## Customers are our first priority

DR. FISCHER Group provides you a high quality team able to give you specific know-how in all sectors of lighting industry; from general lighting to professional lighting. DR. FISCHER has three production facilities, all located in Europe. The French factory, headquarters of DR. FISCHER Europe S.A.S enables a commercial and industrial presence with a famous reputation. Our French factory, center of the infrared halogen and high-voltage lamps production has recently taken over the halogen and incandescent commercial activities from Philips. DR. FISCHER lamps' know how is available for all of our customers.

Our worldwide presence and resources make us the ideal partner in the global marketplace. This means we are in a position to support you wherever your location is. DR. FISCHER exports to more than 70 countries all over the world.

DR. FISCHER has set up an organization in Pont-à-Mousson which will listen to and take into account all kinds of requests and will support our customers by providing advices and dedicated solutions.

Our innovation department has a strong experience on developing any solutions providing our customers a competitive advantage which will support your business. Customers' satisfaction is the priority in DR. FISCHER business ethics.

### What we can bring to our customers:

- High-quality products and services
- High performance control systems
- Flexibility and reactivity
- Technological resources and equipment
- Security of Made in Europe
- Professional after-sales service
- Proximity



## Introduction

# The Pont à Mousson factory: a wealth of experience in lamp production

The production of lamps started in 1886 in Pagny sur Moselle, France with Mr. Fabius Henri on opening the first workshop of Incandescent Lamps.

Later on, in 1931, the factory joined the FRLE, a group of French lamps factories, hold at 50 % by Philips and at 50 % by the Mazda group.

In 1981, the factory moves to Pont à Mousson (10 km away) and became "Philips Eclairage" in 1985.

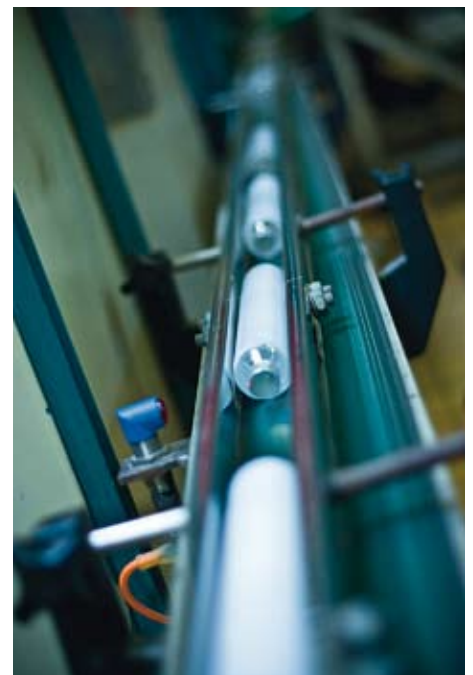
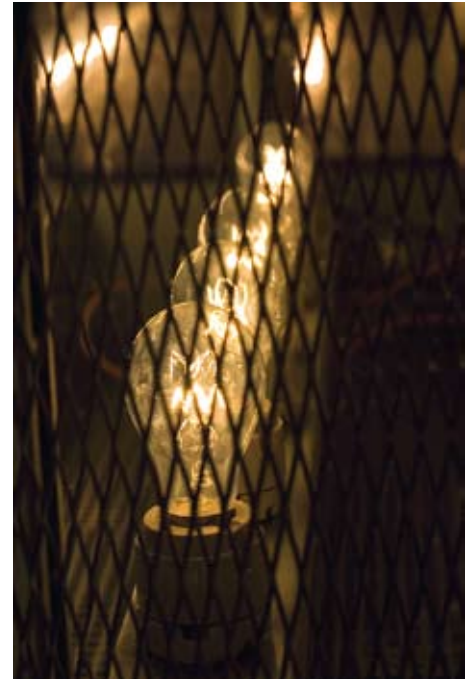
In 1989, the production of Infrared halogen lamps started in Pont à Mousson with a dedicated area for this new activity. From this time, Philips Eclairage starts developing innovative products like our famous HeLeN range.

On January 1st, 2008 the DR. FISCHER Group took over the incandescent activities of Philips

in Pont à Mousson and founded DR. FISCHER Europe S.A.S. Here special lamps with high voltage technology are produced by using technically highly developed machines. The special lamps with high voltage technology are used by the French Railway, in airports, by the navy, in the medical sector, in laboratories, in photo and optics technology and in many other sensitive areas.

In 2010, DR. FISCHER Europe S.A.S took over the whole site of Philips Pont à Mousson. By this acquisition, we strengthened our halogen production with high speed machines, and we now offer an Infrared and a General Lighting portfolio with marketing, sales and distribution services. This means that one of the biggest centres of competences and production for Special Lighting and General Lighting located between Metz and Nancy.

The recent integration of general activities allows DR. FISCHER Group to get a high level of expertise for lamps, solutions and applications knowledge. These competences are strongly supported by dedicated research and development, quality assurance, production, marketing and sales departments.



## Quality Assurance

# An expert team dedicated to quality

### Measuring capabilities

- **Photometry:**
  - photometry measurements in spheres
  - Lamps are measured with DC supply 600V maximum and 10 kW maximum
  - Flux and color temperature are measured in the same time
  - Software for data
- **The departement has a large capacity to test the lamps on life:**
  - Burning frames and luminaires
  - Switched cycle (on-off)
  - Position (horizontal, vertical, caps up, caps down etc.)
  - Software for data
- **Different measurements are available on the site as:**
  - Temperature
  - Spectroradiometry
  - Irradiance : X-Y measurements
  - Material reflectivity & Material transmission
  - Scan Electronic Microscopy / EDAX
  - Tensile strength measurements
  - Dimensional measurement (3D measuring unit): Mitutoyo B706
- **High Quality products:**
  - High quality component
  - Experience and know how
  - Control in production thanks to Statistical Process Control
  - Lean Manufacturing
- **Certifications:**
  - ISO 9001 and 14001 certified
  - CE certificates are available on request



Measurement systems: Photometry department measures luminous flux and all other features of lamps as lamp current, color temperature etc.



Mitutoyo B706



Example of filling gas quality check



## Environment means a lot to us

No recycling is needed as Halogen lamps do not contain any hazardous substances that impact the environment (RoHS compliant)

As a company that belongs to the electronics industry, we have a direct responsibility to ensure sustained ecological development. The more energy-efficient our products become, the better it is for the environment and the climate. For this reason we consider ecological aspects right from the development stage.

We plan, develop, manufacture and sell our products in such a way that the environment is pro-

tected and natural resources spared. We pay a particular attention to the use of raw materials, energy balance between production, planning of the environmentally friendly recycling of our products, administration and sales.

Special lamps are our core competence. We continue making successful efforts to increase energy efficiency. This not only includes a direct light yield, but also the product life. This is both an ecological and an economic argument in terms of quality and competition especially with lamps that must reliably work under heavy conditions.



## General information

### Halogen introduction

Halogen lamps are built with a high quality tungsten coil which is embedded in a quartz tube filled with inert gas and halogen components. They are equipped with built-in arc-preventing fuses and the filament is fixed in the quartz tube by indents. This brings high luminous efficacy and crisp white lights close to day, excellent color rendering, constant light output during its life, immediate start and restart, dimmable.

Halogen lamps are composed of quartz which improves the security. Besides, they do not pollute the environment. Indeed, they do not contain mercury or lead. They do not emit electromagnetic waves and require no recycling.

These lamps offer an excellent color rendering and light close to daylight. The dimming is always possible on halogen lamps.

They have the characteristic of increasing the enhancer of objects and showcases as shop window. Halogen lamps are used for commercial lighting, scientific and industrial lighting as well as residential lighting.

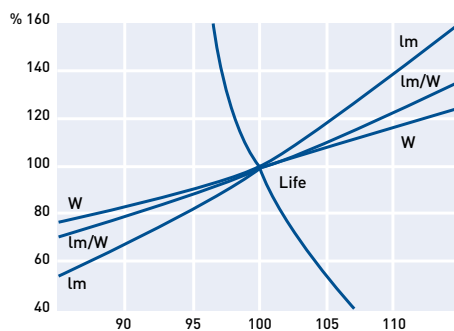
Double envelope halogen lamps used in open luminaries are permitted indoors. In outdoor applications a protective glass cover should be used and the lamp should be fitted in a water resistant luminary. The use of a shorter burner gives the opportunity to reduce the length making Halogen

completely in line with GLS bulb dimensions. They are also well-fitted for outdoor lighting because they withstand very low temperature.

#### Applications:

homes, offices, hotels, restaurants, museum, shops, building illumination etc.

#### The relationship between lamp voltage and other lamp operating parameters:



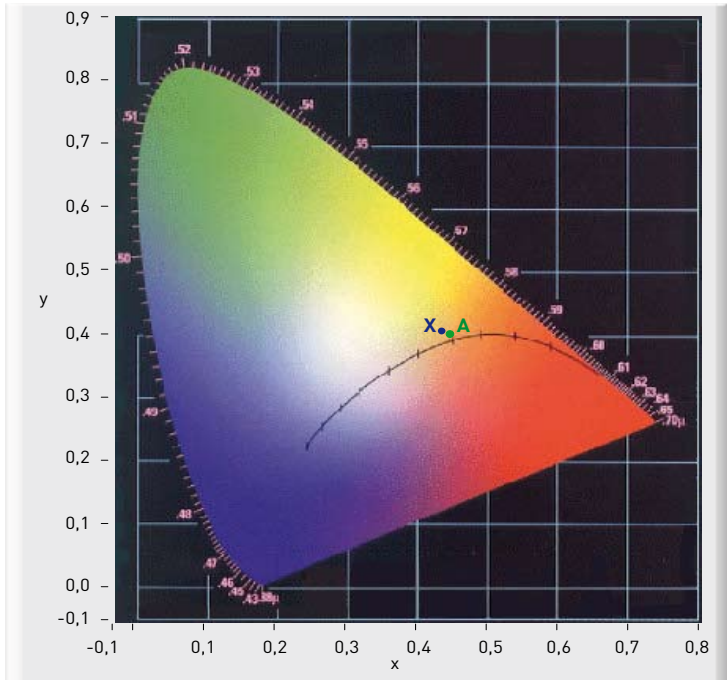
We can notice that 5 % overvoltage reduces the lamp-life by half

Features	Benefits
Excellence flux maintenance	High quality of light even at end of life
Immediate start and restart	Light available at any time
Dimmability	Output accurately controllable from 0 to 100% to match your needs
High color temperature	Excellent color rendering and high quality of light : a crisp white light close to day light
No pollution	No recycling
Long lifetime	Low maintenance
Compactness	Allows designs of compact lighting luminaries

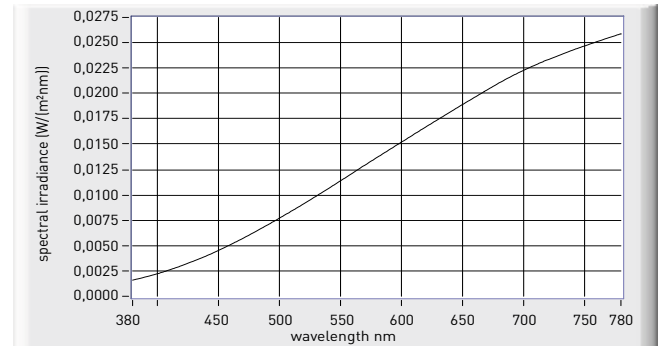


## Colormetrical calculation for the source: FLL500W

xy chromaticity diagram I.E.C. 1931



Lamp spectrum



Colour rendering index

Illumination at 1m (lx) : 937		Ra : 99,88	
coord. x : 0,4363		R1 : 99,91	R8 : 99,88
coord. y : 0,4035		R2 : 99,88	R9 : 99,55
coord. u : 0,2504		R3 : 99,81	R10 : 99,68
coord. v : 0,3474		R4 : 99,91	R11 : 99,90
Colour temperature (K) : 3002		R5 : 99,89	R12 : 99,55
		R6 : 99,84	R13 : 99,89
		R7 : 99,93	R14 : 99,88

A: Tungsten filament incandescent lamp of 2865 K

X: Measurement of Flood 500 W



Photometry department

## General applications

# Halogen lamps for general applications

The maximum permissible temperature is 350°C for the pinch and 900° C for the bulb (minimum 250°C).

Exceeding these temperatures will influence lifetime negatively.

### Halogen R7s 118 mm

These linear lamps are belonging to the halogen technology in main voltage with a coiled filament. It ensures a real safe use and a good shock resistance thanks to its reinforced filament design. This technology brings white and brilliant light and a long lifetime of 2000 hours. Our products are well fitted for universal position thanks to the dimple technology. The arc-preventing fuses enable a great safety.

They are well-adapted for any applications requiring an excellent colour rendering and a constant light output. All lamps can be used with a dimmer.

This model of lamp is typically used in shop lighting applications and for an indirect light. This lamp is used for professional appliances. People can exploit it for outdoor such as in parking lots, billboards or construction sites and for all other needs of security lightings.

### Halogen R7s 78 mm

This product is a main-voltage linear lamp giving white light such as the halogen 118 mm lamps. This compact model has the same benefits: a bright light and a long lifetime. It is a high-efficacy lamp with a clear tubular quartz bulb. We ensure a maximum of safety and shocks resistance thanks to reinforced filament supports. They guarantee a great safety with two arc-preventing fuses and have an excellent colour rendering, a constant light output during life and dimmability.

This lamp has all the advantages of the halogen R7s 118 mm in only 78 mm.

#### Characteristics of 118 mm and 78 mm halogen lamps:

Features	Benefits
<ul style="list-style-type: none"> <li>• Double-ended high-efficacy lamps</li> <li>• Clear tubular quartz bulb</li> <li>• Reinforced filament supports for maximum safety and shocks resistance resulting in longer lifetime</li> <li>• Two arc-preventing fuses for greater safety</li> <li>• Excellent colour rendering during life</li> <li>• Constant light output life</li> </ul>	<ul style="list-style-type: none"> <li>• 20% more light than ordinary double-ended halogen lamps</li> <li>• Long lifetime</li> <li>• Bright halogen light</li> </ul>



### Large flood

This product is a main-voltage linear lamp with a single coiled filament, giving white light. These characteristics enable a long lifetime. Indeed, our lamps lifetime is 2000 hours. Our lamps are made with a double-ended clear tubular quartz bulb.

Of course, as all of our lamps, they have an excellent colour rendering and a constant output during life.

Large flood is typically used in outdoor applications for billboards, car parks, security lighting, building illumination, garden lighting, construction sites and warehouses.



### Halogen double envelope

DR. FISCHER halogen double envelope lamp has a high-wattage giving a white bright light. This lamp is a heavy duty product thanks to its very robust construction. It is made of a quartz burner with a linear tungsten filament in a single-ended thermal-shock-resistant so it is well-fitted for floodlighting installations. This lamp has a clear glass tubular envelope, provides a high luminous efficacy and an excellent color rendering.

These halogen lamps are well-fitted for a wide range of applications like outdoor floodlighting such as sport grounds, parking, building sites, harbors, temporary events, rescue lighting and airport aprons. This lamp is also used in indoor applications such as public halls, factories, sport halls, etc.



## General applications

### Capsule B15d Energy Saving

DR. FISCHER B15d lamp is a single-ended and a main-voltage capsule with a B15d base. They are ideal for use in small, lightweight and modern luminaries. B15d lamps can be installed in place of incandescent lamps. They require no transformer for operation. It is available with clear glass and in various wattages. This lamp offers an excellent color rendering with crisp halogen lighting and a constant light output during life. It is dimmable. This lamp is fully recyclable so is

environmentally friendly. Thus, B15d are available with energy saving capabilities. B15d serve for various applications to accent lighting in shops in order to emphasize products in shelves. B15d are installed in spot and illuminate homes, hotels and restaurants for instance.

Features	Benefits
<ul style="list-style-type: none"> <li>• Available with clear glass</li> <li>• Available in wattages 53W, 70W, 105W</li> <li>• Excellent color rendering</li> <li>• Crisp halogen lighting</li> <li>• Constant light output during life</li> <li>• Universal burning position</li> <li>• Dimmable</li> <li>• UV block quartz bulb</li> </ul>	<ul style="list-style-type: none"> <li>• Ideal for use in small, lightweight, modern luminaries.</li> <li>• Perfect for decorative effects</li> </ul>



## Halogen R7s 118 mm and 78 mm

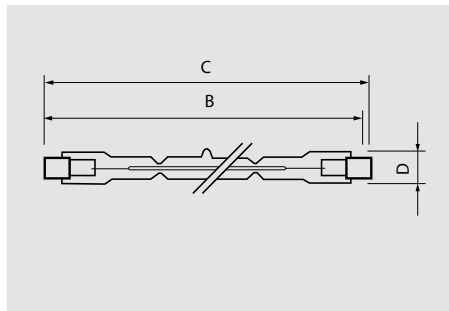
DR. FISCHER 118 mm and 78 mm halogen lamps can be used in any burning position and they are also dimmable. They are packed in blister box.

Their average lifetime corresponds to 2000 hours.

### Applications

Indoor	Outdoor
professional lighting such as offices, shops and museums	billboards, car parks, safety lighting and construction sites.

## Halogen R7s 118 mm



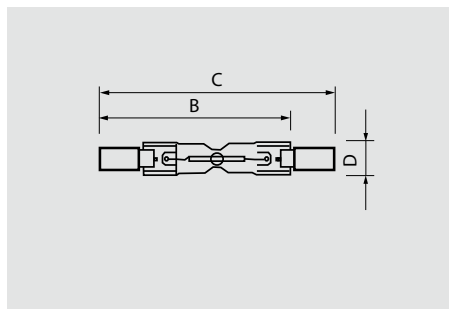
Dimensions in mm

B (min)	B (nom)	B (max)	C (max)	D (max)
112,6	114,2	115,8	117,6	12

Description	V	W	Lamp Current (A)	Colour temp. (K)	Bulb	Bulb finish	Cap Base	Lumino-us Flux (lm)	Packing configuration	Pieces per box	EEL	Article no.
FLL 150W 230V R7s DF BL/10/100	230	150	0,65	2900	T11	Clear	R7s	2250	Blister	100	E	8238 150 44201
FLL 200W 230V R7s DF BL/10/100	230	200	0,87	2900	T11	Clear	R7s	3520	Blister	100	D	8238 200 44201
FLL 300W 230V R7s DF BL/10/100	230	300	1,3	2900	T11	Clear	R7s	5600	Blister	100	D	8238 300 44201
FLL 500W 230V R7s DF BL/10/100	230	500	2,17	2900	T11	Clear	R7s	9900	Blister	100	na	8238 500 44201

\*other types on request

## Halogen Compact R7s 78 mm



Dimensions in mm

B (min)	B (nom)	B (max)	C (max)	D (max)
73.3	74.9	76.5	78.3	12

Description	V	W	Lamp Current (A)	Colour temp. (K)	Bulb	Bulb finish	Cap Base	Lumino-us Flux (lm)	Packing configuration	Pieces per box	EEL	Article no.
CPT 60W 230V R7s DF BL/10/100	230	60	0.26	2900	T11	Clear	R7s	828	Blister	100	D	8233 060 44201
CPT 100W 230V R7s DF BL/10/100	230	100	0.44	2900	T11	Clear	R7s	1550	Blister	100	D	8233 100 44201
CPT 150W 230V R7s DF BL/10/100	230	150	0.66	2900	T11	Clear	R7s	2550	Blister	100	D	8233 150 44201

\*other types on request

Products

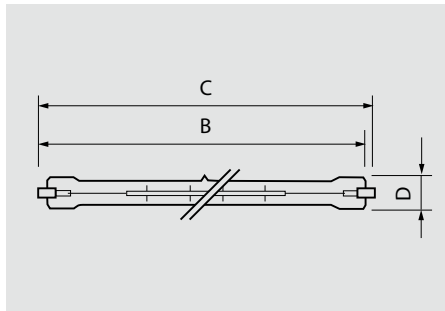
Large flood

DR.FISCHER Large flood lamps can be used in any burning position and are dimmable. Each lamp is sleeve packed, one box contains 10 lamps.

Their average lifetime corresponds to 2000 hours.

Applications

Indoor	Outdoor
homes, offices, shops and museums	billboards, car parks, security lighting and construction sites



Dimensions in mm

Type	B (min)	B (nom)	B (max)	C (max)	D (max)
750W	184,1	185,7	187,3	189,1	12
1000W	184,1	185,7	187,3	189,1	12
1500W	249,1	250,7	252,3	254,1	12
2000W	319,9	322	324,1	334,4	12

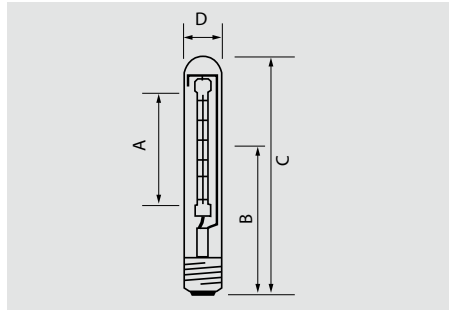
Description	V	W	Lamp Current (A)	Color temp. (K)	Bulb	Bulb finish	Cap Base	Luminous Flux (lm)	Packing configuration	Pieces per box	EEL	Article no.
LARGE FLL 750W 230V DF R7s SI/1/10	230	750	3.26	2900	T11	Clear	R7s	16900	Sleeve	10	na	9239 320 43216
LARGE FLL 750W 240V DF R7s SI/1/10	240	750	3.13	2900	T11	Clear	R7s	16900	Sleeve	10	na	9239 320 45716
LARGE FLL 1000W 230V DF R7s SI/1/10	230	1000	4.35	2900	T11	Clear	R7s	24200	Sleeve	10	na	9239 321 43216
LARGE FLL 1000W 240V DF R7s SI/1/10	240	1000	4.17	2900	T11	Clear	R7s	21000	Sleeve	10	na	9239 321 45716
LARGE FLL 1500W 230V DF R7s SI/1/10	230	1500	6.53	2900	T11	Clear	R7s	36300	Sleeve	10	na	9239 322 43216
LARGE FLL 1500W 240V DF R7s SI/1/10	240	1500	6.25	2900	T11	Clear	R7s	36300	Sleeve	10	na	9239 322 45716
LARGE FLL 2000W 230V DF FA4 SI/1/10	230	2000	8.70	2900	T11	Clear	FA4	48400	Sleeve	10	na	9239 323 43216
LARGE FLL 2000W 240V DF FA4 SI/1/10	240	2000	8,34	2900	T11	Clear	FA4	48400	Sleeve	10	na	9239 323 45716

\*other types on request

## Halogen Double Envelope (HDE lamps)

### Applications

Indoor	Outdoor
in public halls, factories, sports halls, etc.	for sports grounds, car parks, building sites, public gardens, general displays, harbors



Dimensions in mm

Type	A (max)	B (max)	C (max)	D (max)
500W 230V	70.0	141.0	220	38,5
1000W 230V	115.0	156.0	260	38,5
2000W 230V	132.0	182.5	300	38,5

Description	V	W	Lamp Current (A)	Colour temp. (K)	Bulb	Bulb finish	Cap Base	Luminous Flux (lm)	Packing type	Pieces per box	EEL	Article no.
HDE 500W 230V SI/1/6	230	500	2,17	2900	T38	Clear	E40	9900	Sleeve	6	na	8221 500 44206
HDE 1000W 230V SI/1/6	230	1000	4,35	2900	T38	Clear	E40	24000	Sleeve	6	na	8221 001 44206
HDE 2000W 230V SI/1/6	230	2000	8,7	2900	T38	Clear	E40	50000	Sleeve	6	na	8221 002 44206

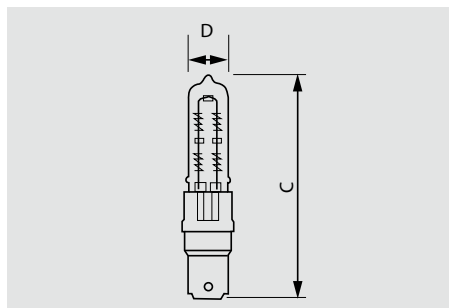
\*other types on request

## B15d Energy saving

### Applications

Indoor
<ul style="list-style-type: none"> <li>• Shops and homes</li> <li>• Spot and accent lighting in shops</li> <li>• Down lighting</li> </ul>

B15d have an average life of 1000 hours and can be used in any burning position.



Dimensions in mm

D (max)	C (max)
19	86,0

Description	V	W	Lamp Current (A)	Colour temp. (K)	Bulb	Bulb finish	Cap Base	Luminous Flux (lm)	Pieces per pack	Packing type	Pieces per box	EEL	Article no.
B15d 53W 230V DF B/10	230	53	0.23	2800	T13	Clear	B15D	850	1	Box	10	C	8137-053-44210
B15d 70W 230V DF B/10	230	70	0.31	2800	T13	Clear	B15D	1200	1	Box	10	C	8137-070-44210
B15d 105W 230V DF B/10	230	105	0.46	2800	T13	Clear	B15D	1900	1	Box	10	C	8137-105-44210

\*other types on request

## General applications

# Incandescent lamps for general applications

Incandescent lamps are light sources found in countless applications. These lamps provide specific light qualities which suit with specific and general applications.

### Striplite (Linolite)

A Striplite is a double-ended lamp with a linear shape. It's one of the most popular luminary for bathroom or kitchen applications. There is a large choice of bulb finish that enables us to select the lighting intensity. We can select a frosted glass for soft lighting; prefer opaque color for diffused lighting or choose a clear bulb to get a brilliant aspect.

Striplite is used to light displays, mirrors, kitchens, bars and other similar spaces.





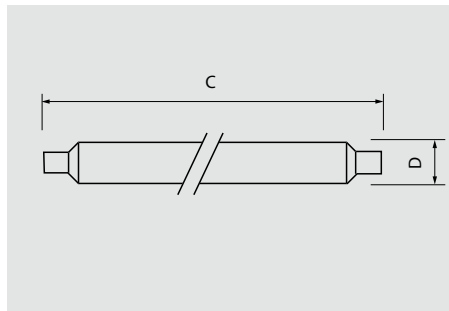
## Striplite (Linolite)

Striplites have an average lifetime of 1000 hours.  
They can be used in any burning position.

### Applications

#### Indoor

- Displays
- Mirrors, kitchens, bars



Dimensions in mm

C (max)	D (nom)
310.5	37

Description	V	W	Lamp Current (A)	Bulb	Bulb finish	Cap Base	Luminous Flux (lm)	Pieces per pack	Packing type	Packs per box	EEL	Article no.
LINO 40W230V S19 D DF B/25	230	40	0.18	T37	Frosted	S19	305	1	Box	25	G	8228 040 44223
LINO 40W230V S19 B DF B/25	230	40	0.18	T37	Opal	S19	285	1	Box	25	G	8228 041 44223
LINO 40W230V S19 C DF B/25	230	40	0.18	T37	Clear	S19	320	1	Box	25	G	8228 042 44223
LINO 60W230V S19 D DF B/25	230	60	0.26	T37	Frosted	S19	500	1	Box	25	G	8228 060 44223
LINO 60W230V S19 B DF B/25	230	60	0.26	T37	Opal	S19	480	1	Box	25	G	8228 061 44223
LINO 60W230V S19 C DF B/25	230	60	0.26	T37	Clear	S19	525	1	Box	25	G	8228 062 44223
LINO 75W230V S19 D DF B/25	230	75	0.33	T37	Frosted	S19	700	1	Box	25	G	8228 075 44223
LINO 75W230V S19 B DF B/25	230	75	0.33	T37	Opal	S19	605	1	Box	25	G	8228 076 44223
LINO 75W230V S19 C DF B/25	230	75	0.33	T37	Clear	S19	735	1	Box	25	G	8228 077 44223

## Specific applications

# Incandescent lamps for specific applications

Incandescent lamps are the most familiar light source we find in countless applications. These lamps provide specific light qualities that suit with specific applications.

Incandescent lamps are very appreciated by professionals. They are mature products which are sold worldwide since tens of decades when Thomas Edison invented them.

Incandescent lamps are easy to use and very friendly products. They offer a competitive solution for any kinds of applications. Professional can change their lamps without damaging luminaires.

Moreover, Incandescent lamps require no recycling because they do not contain any dangerous substances for the environment.

### Nightlight

These lamps are very used for string of fairy light decorating houses and a lot of spaces during special events and parties such as the Season's Greetings. They can be used indoor as well as outdoor. Of course, these lamps can be utilized for all night light applications.

### Spherical lamps

- **Low voltage Lamp (TBV)**

TBV are low voltage lamps of 24V. This characteristic enables to use this lamp in all spaces requiring low voltage input such as machine tools, bathrooms or safety equipments.

- **Reinforced Construction Lamp (CR)**

Reinforced construction lamps are shock resistant. So, they can be settled in unstable environments like boats, mines and all other environments which withstand bad weather conditions. These lamps have proven heavy duty features in extreme conditions. Indeed, reinforced construction lamps have exceptionally strong filaments to withstand mechanical shocks and vibrations.

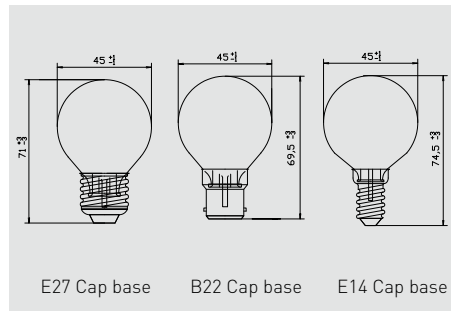


## Nightlight

Nightlight has an average life of 2000 hours and can be used in any burning position.

### Applications

- Corridors, halls, staircases, nurseries etc.
- Homes, hotels, offices, public buildings, garages etc.



Dimensions in mm

Description	V	W	Bulb	Bulb finish	Cap Base	Luminous Flux (lm)	Packing type	Pieces per box	Article no.
P45 NL 7W235V E14 D DF B/10/100	220-260	7	P45	Frosted	E14	55	Box	100	8225 016 43901
P45 NL 7W235V E27 D DF B/10/100	220-260	7	P45	Frosted	E27	55	Box	100	8225 017 43901
P45 NL 7W235V B22 D DF B/10/100	220-260	7	P45	Frosted	B22	55	Box	100	8225 018 43901
P45 NL 7W235V E14 C DF B/10/100	220-260	7	P45	Clear	E14	55	Box	100	8225 006 43901
P45 NL 7W235V E27 C DF B/10/100	220-260	7	P45	Clear	E27	55	Box	100	8225 007 43901
P45 NL 7W235V B22 C DF B/10/100	220-260	7	P45	Clear	B22	55	Box	100	8225 008 43901

\*other types on request

## Products

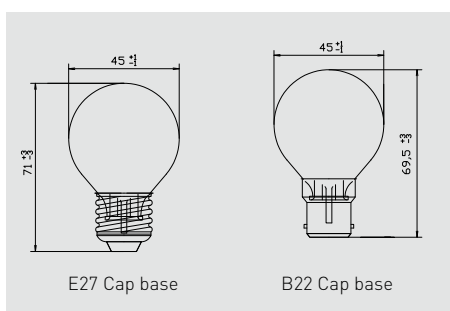
## Spherical 45

Spherical lamps have an average life of 1000 hours and can be used in any burning position

## Low voltage Lamp (TBV)

## Applications

- Rural and isolated areas where mains power supplies are not available
- Emergency lighting installations



Dimensions in mm

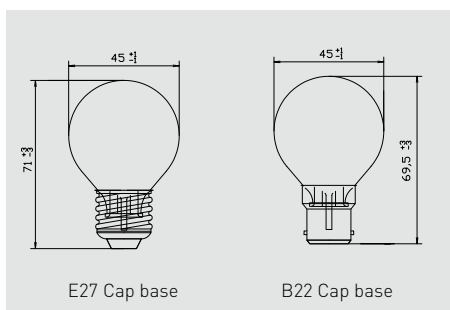
Description	V	W	Lamp Current (A)	Bulb	Bulb finish	Cap Base	Luminous Flux (lm)	Packing type	Pieces per box	EEL	Article no.
P45 BV 40W 24V E27 C DF B/50	24	40	1.67	P45	Clear	E27	605	Box	50	na	8225 040 20550
P45 BV 40W 24V B22 D DF B/50	24	40	1.67	P45	Clear	B22	605	Box	50	na	8225 041 20550

\*other types on request

## Reinforced Construction Lamp (CR)

## Applications

- Hand-held inspection lights
- Task lights in maintenance and automotive service shops



Dimensions in mm

Description	V	W	Lamp Current (A)	Bulb	Bulb finish	Cap Base	Luminous Flux (lm)	Packing type	Pieces per box	EEL	Article no.
P45 CR 40W230V E27 C DF B/50	230	40	0.18	P45	Clear	E27	312	Box	50	F	8225 040 44250
P45 CR 40W230V B22 D DF B/50	230	40	0.18	P45	Clear	B22	312	Box	50	F	8225 041 44250

\*other types on request

## Lighting European Regulation

In December 2008, the European Directive 2005/32/EC has listed measures to reduce CO2 emissions, notably through more efficient lighting, in order to reduce energy consumption.

It came under a regulation for domestic lighting. A timetable for phasing applies from 1 September 2009 incandescent lamps according to Powers. Incandescent lamps for domestic use will disappear from the market altogether in September 2016.

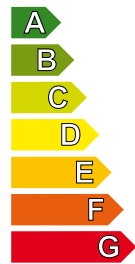
Halogen lamps rated less than 500 watts of class D, E, F or G will no longer be allowed on the European domestic market.

### How to evaluate the energy efficiency of a lamp?

The energy efficiency of a lamp is calculated by the ratio between power consumption (Watt) and the amount of light emitted (Lumen)

### Where can I find information on energy efficiency?

This information is available in the ranking energy that must be communicated very clearly to the consumer. Class A includes the most efficient lamps whereas class G pertains to more energy consumption lamps. The regulation also requires that the amount of light expressed in lumens is clearly visible on the packaging for the consumer.



630 lm

All lamps making mention of the logo „Non Household“ are not authorized for sale to domestic lighting.

Our products adapt to all your applications in professional and domestic applications outside Europe. You can find our range through the answers to your specific requests.

Feel free to contact us:  
[www.dr-fischer-group.com](http://www.dr-fischer-group.com)

## Logos description



Preferably do not touch quartz with bare hands. If grease or chemical compound have been deposited on quartz, simply clean before lighting with cloth moistened with alcohol.



Disconnect installation from power supply before removing or installing a lamp.



Non Household