

Green Building Initiative...

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Light Years Ahead.

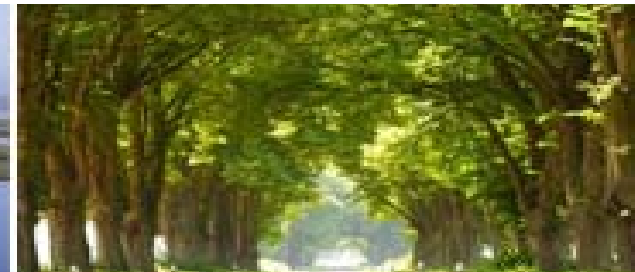


Green Building Initiative...

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- Climate change is developing into one of the biggest threats to man and the environment.
- Hera has been well aware for many years of the need to act, and is constantly striving to reduce greenhouse gas emissions in all its production processes.
- A far greater role with regard to climate protection, however, is played by some of the modern-day technologies introduced by Hera that help to minimize the amount of energy consumed in buildings and appliances.

Innovative **LED products** and fluorescent luminaries including **electronic ballasts!**

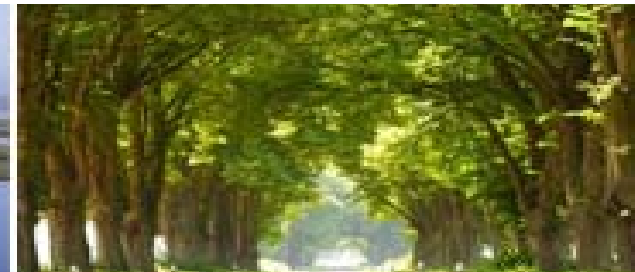


Ecological responsibility...

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Fluorescent products with electronic ballasts

- Hera was the first manufacturer to switch its entire fluorescent range from conventional to electronic ballasts
- The future belongs to electronic ballasts. It makes sense to switch – not only to meet CO² targets, but also for reasons of efficiency and economy



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Cost comparison Magnetic Ballasts/Electronic Ballasts

Ballasts, as well as fluorescent lamps, use energy (technical term: power loss). Therefore, there is double the incentive to switch from conventional magnetic to electronic ballasts:

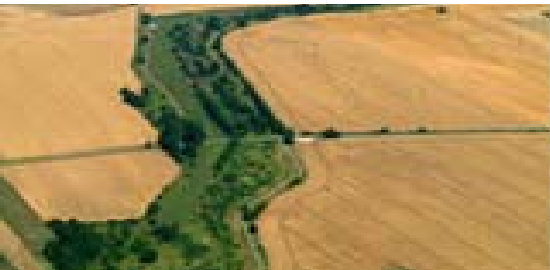
1. Energy costs:

A 58 W luminaire with T8 fluorescent lamps uses the following power:

Operation with magnetic ballast	70 W
Operation with electronic ballast	59 W
Difference in power dissipation	11 W

At a usage of 8 hours per day, and a unit price of € 0.17 per kWh, this adds up to an annual saving in energy costs of **€ 5.46 per lamp**.

For a medium-sized business with 500 luminaires, this equates to **€ 2,730 a year**.



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2. Replacement and maintenance:

In addition, using electronic ballasts extends the average service life of fluorescent lamps from 13,000 to 20,000 hours:

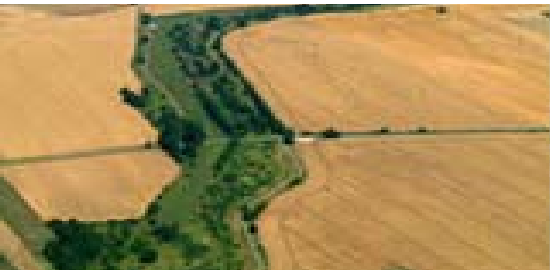
Service life with magnetic ballast
13,000 : (8h x 365 days) = 4.45 years

Service life with electronic ballast
20,000 : (8h x 365 days) = 6.85 years

Therefore, because the lamps only have to be replaced 2.4 years later, this means a major saving in replacement lamps and labour costs:

For a medium-sized business with 500 lamps this equates to:

Fluorescent lamps	x	(unit price + labour)	/ years =	annual cost
500	x	€ 3.5 + € 10	/ 4.45 =	€ 1,517
500	x	€ 3.5 + € 10	/ 6.85 =	€ 985
Savings =				€ 532 per year



Electronic Ballasts...

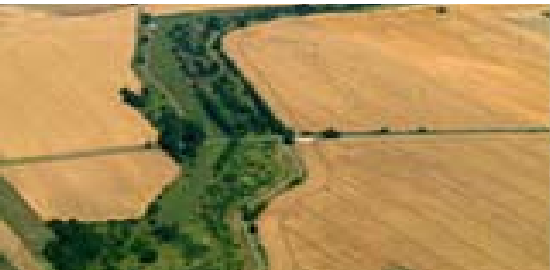
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13 advantages at a glance:

- Flicker-free instant start
- Glimmer-free light due to high operating frequency
- No stroboscopic effect
- No electrode flicker
- No system hum (silent operation)
- Reduced operating costs due to improved energy efficiency
- Significant increase in lamp service life
- Minimal energy loss
- Immunity to mains voltage and frequency fluctuations
- Safety shut-down of defective lamps (end of life)
- Low heat generation on the lamp
- Low maintenance costs (starter replacement)
- No starter required

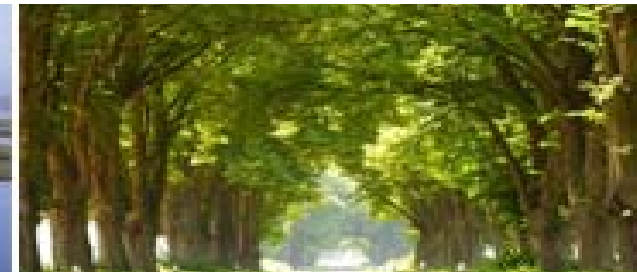


today





What can you/we do?

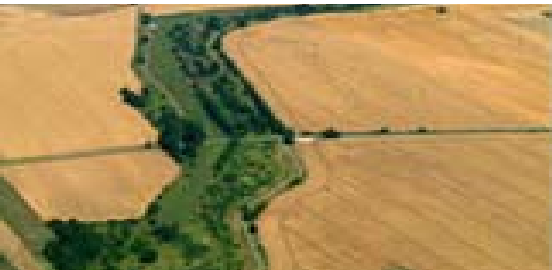


Hera - Ecological responsibility...

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LED products

- The new chapter of energy-efficient lighting solutions
- Low power consumption / high illumination performance with the new generation of LEDs
- The total volume of lamp waste is been reduced to a minimum due to lifetimes of 100,000 hours



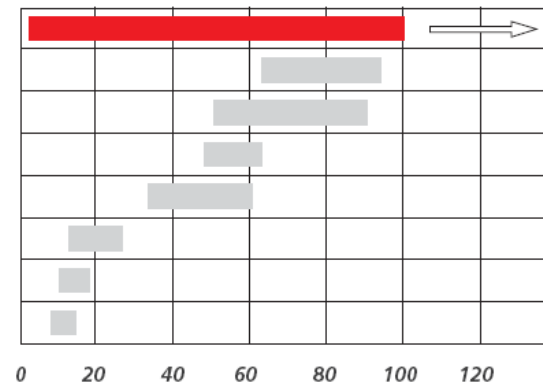
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Energy efficiency

The efficiency of LEDs is constantly improving. Currently the best power-LEDs have an efficiency of 100 lm/W. We expect the light output of white LEDs to increase even more over the next few years, making them more attractive for general lighting purposes. The LED range extends from small signal/readiness indicators to the latest high-power LEDs.

Comparison of energy efficiency

- LED
- Fluorescent lamp T5
- Fluorescent lamp T8
- Energy-saving lamp E27
- Energy-saving lamp E14
- Low voltage halogen lamp
- High voltage halogen lamp
- Incandescent lamp



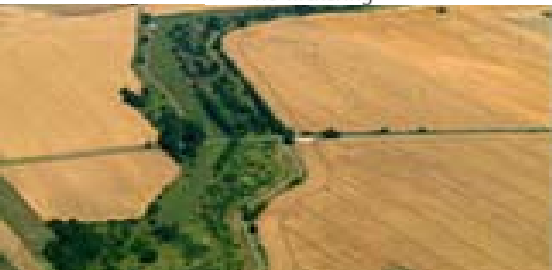
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Advantages of LED

Advantages of LEDs

- high efficiency = low energy consumption
- minimal heat generation
- very long life expectancy (no maintenance costs)
- small size/design flexibility
- resistance to shocks and vibrations
- low voltage (SELV safety extra low voltage)
- no UV emissions/no "bleaching" of illuminated objects
- no IR radiation/no heating of illuminated objects
- no flickering



Meeting the „ROHS Standard“

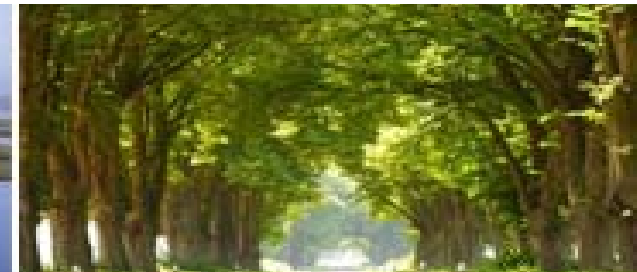
Restriction of Hazardous Substances Directive

The Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment 2002/95/EC was adopted in February 2003 by the European Nation.

The RoHS directive took effect on 1st. of July 2006 and restricts the use of six specified hazardous materials in the manufacture of various types of electronic and electrical equipment.

It is closely linked with the Waste Electrical and Electronic Equipment Directive (WEEE) 2002/96/EC which sets collection, recycling and recovery targets for electrical goods and is part of a legislative initiative to solve the problem of huge amounts of toxic e-waste.

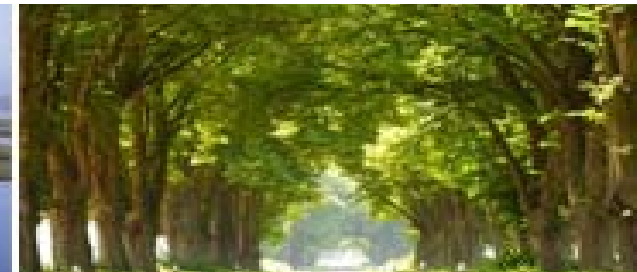
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Information Folder...

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- A special brochure with all benefits and cost saving details can be downloaded at www.hera-online.de or ask your partner GCO for support



Your questions please !

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Hera GmbH & Co. KG
Dieselstraße 9, D-32130 Enger, Germany
P.O. Box 440, D-32124 Enger, Germany

Tel: +49/(0)5224/911-0
Fax: +49/(0)5224/911-215
mail@hera-online.de
www.hera-online.de

