

## Mirror lamps Reflux with a rotating socle



Thanks to the design, HPS mirror lamps "Reflux", in essence, are lamps-fittings. Mirror lamps "Reflux" -it is HPS lamps, which flasks have an internal lateral mirror dusting (integrated reflector) and the socle represents a special rotating design.

### Advantages in practice

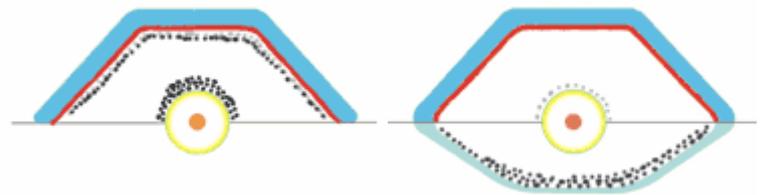
Fittings with the IR Reflux lamps have the highest protection level IP 67 of the optical part against environmental pollutions. It gives them undoubted advantages in comparison with both open and protected fittings with traditional lamps.

Lamp operation in the open luminaire in heavy polluted environment inevitably leads to lamp surface dirtying. The upper part of the lamp faced to the reflector is coated with the film of dirt.

In the case of standard tubular lamp such dirtying leads to drastically drop of luminous flux, falling to the reflector, and, accordingly, to significant reduction light output of the fitting. Moreover, optical properties of aluminum reflector of the traditional open fitting in the polluted environment become worse rapidly because oxidation and dirtying even being cleaned regularly.

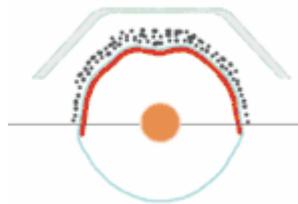
In the IR lamp the reflector is situated inside the bulb in vacuum and his optical parameters are constant irrespective of outside conditions. As a result reflected luminous flux are almost constant during lamp lifetime.

Standard fitting with a tubular HPS lamp



without a protective glass  
Efficiency 40—50%

with a protective glass  
Efficiency 50—60%



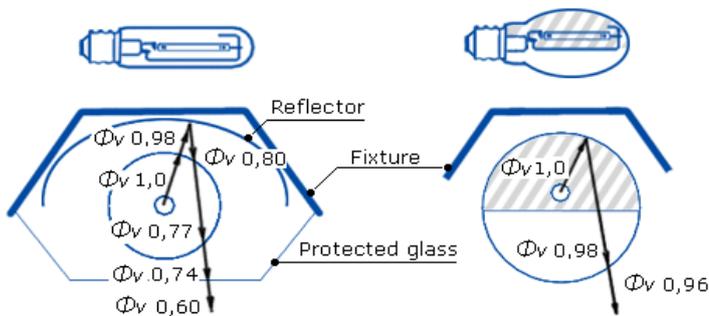
fitting with the IR Reflux lamp

Efficiency 85—90%

In the fittings with the protective glass there is another way of light flux loss. The protective glass is intended to prevent a reflector and a lamp from dust and dirt. When the lamp is switched off, dust is sucked inside the fitting during cooling. Dirt accumulates on the inner surface of protective glass. As a result such polluted glass blocks the light flux.

All luminaries with the IR lamps do not require the protective glass!

Thus cost of the applied fixture at the expense of exception possibility in it of a reflector and protective glass considerably decreases. The mirror surface of lamp HPS-R and MHL-R is from the interior of a flask and, thus, is protected from environment influence in a current of all service life of a lamp. As a result cost of service of each lighting point is reduced several times.



The luminaries with the Reflux lamps ensure appropriate repeatability and stability of light distribution during whole lamp lifetime. In this connection the parameters of light installation such as illuminance level, uniformity and glare effect are also stable.

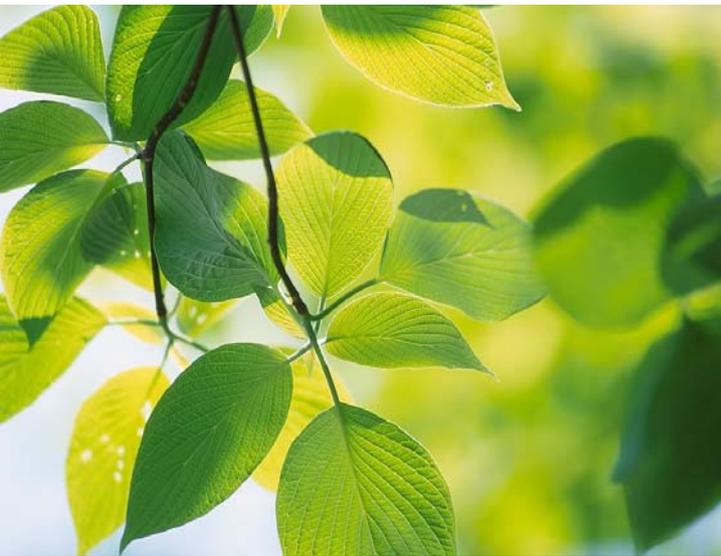
The luminaries with the Reflux lamps are constructively unified and ensure the optimal choice or replacement of light distribution depending on application. All purposes can be reached by the appropriate lamp.

There is a family of light distribution optimized for different types of light installations. The technological features allow getting light distribution adapted for the special conditions, e.g., type of road surface, road width, masts height, cantilever length etc. It seems to be difficult for the fittings with the metal reflector.

The luminaries with the Reflux lamps provide the highest utilization factor of luminous flux by luminance and by illuminance for light installation.

The patented special design of a rotating socle allows applying HPS-R "Reflux" in standard fixtures without their completion. The rotating socle provides possibility of a choice of any direction of a light stream without use of special expensive fixtures.

## For greenhouse



### Mirror lamps of "Reflux" - an ideal light source.

Light, water and nutrients are the major factors for cultivation of plants. Modern development in the field of the protected ground confirms that today the lighting techniques play a huge role in a production efficiency of sprouts, vegetables and colors.

At cultivation high levels of light exposure are required. Expenses for the electric power for an irradiation of plants make a considerable part of the cost price of production and consequently efficiency of radiation installations becomes the important business factor.

The basic criteria of efficiency of lighting techniques are efficiency of a light source and efficiency of optical system.

Mirror lamps of "Reflux" represent an excellent combination of a light source with a highly effective spectral range, the big service life and optical system with fine light-distribution, high stability of a light stream throughout all service life.

High pressure Sodium lamps "REFLUX" are one of the most effective light sources since have high light return and radiating efficiency.

The big contribution to lighting efficiency of radiation installations is brought by optical system of mirror lamps "REFLUX". The optical system of a lamp provides high EFFICIENCY of use of a light stream not less than 95 %. At the expense of tight isolation from environment, absence of repeated reflexions, the optical system does not lose reflecting properties and does not demand additional cleaning with service life.

Use of mirror lamps "REFLUX" allows saving considerably the electric power at preservation of level of light exposure in comparison with lamps without a mirror covering. Big service life and almost invariable value in time of a light stream do mirror sodium lamps "REFLUX" the most economic gas-discharge lamps of a high pressure at illumination of hothouses that favors to plant development, stimulates increase in their volume and quantity of foliage, flowering and vegetative growth.

At the expense of a special socle which allows to turn a mirror lamp "REFLUX" in the fixture round an axis and to direct a light stream in the necessary direction, mirror sodium and metal halide lamps can be established in usual traditional fixtures for sodium and metal halide lamps.



  
Рефлюкс



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