

Title (en)

RING LAMP FOR ILLUMINATING A RESTRICTED VOLUME AND THE USE THEREOF

Title (de)

RINGLEUCHTE ZUR AUSLEUCHTUNG EINES BEGRENZTEN VOLUMENS UND DEREN VERWENDUNG

Title (fr)

LAMPE DE FORME ANNULAIRE POUR ECLAIRER UN VOLUME LIMITE, ET SON UTILISATION

Publication

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Appication

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Abstract (en)

[origin: WO2007045200A1] Ring lamps are used in the form of an object lighting system for providing a homogenous, shadowless and intensive lighting, for example, at cameras and microscopes. Already existing ring lamps provided with inwardly radiating light sources are used in the form of ring-shaped fluorescent lamps and ring-shaped light emitting diodes. Nevertheless, light is not focused on an accurately restricted volume. The inventive ring lamp (RL) produces a light disc (LS) accurately three-dimensionally restricted by the fact that it focuses the light (LL) emitted by the light source (LQ) by means of a cylindrical Fresnel lens (FL) having the same length exactly in a direction of the radial plane (RE) thereof. An annular aperture diaphragm (AB) positioned on a beam path supports said restriction. The light source (LQ) can be surrounded by a pressure resistant housing (DG) in such a way that it is suitable for the underwater application when it is used with a particle-detecting system, wherein said housing simultaneously makes it possible to avoid the light diffusion in the light disc (LS) environment. The light disc (LS) thickness depends only on the length of the radiating surface (AF) of the Fresnel lens (FL) and can be very small for accurately representing particles, i.e. of the order of the thickness of a greatest of expected particles.

IPC 8 full level

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