

LED Stirred Tank Option

The traditional Labfors 5 Lux stirred tank for photosynthesis applications

Web
Version
low resolution



- ▶ New: LED lighting
- ▶ Extremely adaptable
- ▶ Traditional stirred tank vessel
- ▶ Controllable light intensity
- ▶ Choice of light spectra
- ▶ Multiple applications



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May be subject to technical amendments

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Now high tech with LED!

▶ New: LED lighting

A total of 16 LED strips with air cooling offer a reproducible light source with a long service life. The maximum light intensity of approx. 700 $\mu\text{mol}/\text{m}^2\text{s}$ is entirely sufficient for the majority of applications. The energy efficiency is approx. five times greater than for fluorescent tubes.

▶ Extremely adaptable

The LED strips are replaceable individually, which in turn also allows the light spectrum to be matched to the application at a later point.

▶ Traditional stirred tank vessel

The standard cultivation technique on a laboratory scale.

▶ Controllable light intensity

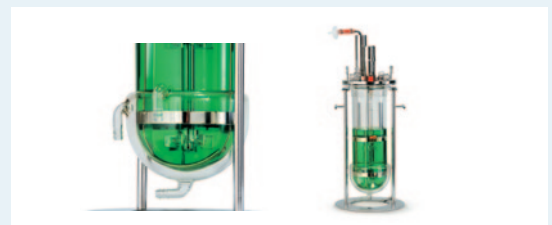
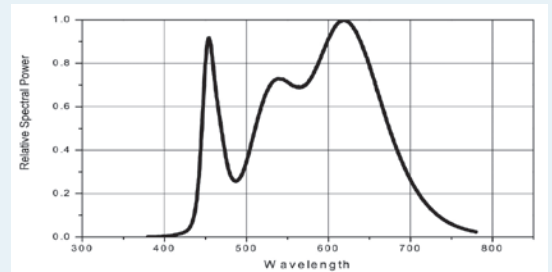
Continuously variable electronic dimming from 0–100% facilitates the precise adjustment of light intensity. When used in conjunction with Iris parallel bioprocess control software, not only are on/off cycles possible, but even the simulation of a daylight curve.

▶ Choice of light spectra

Warm white light in the standard design offers an ideal spectrum in the visible range that is similar to sunlight and contains a high proportion of photosynthetically-active light. Alternatively, other light colours such as red, blue, UV-A or infrared can be selected. The dimming of three colours independently of one another, allowing a dynamic change to the spectrum to be achieved, is optional.

▶ Multiple applications

Designed for the cultivation of algae, plant cells and cyanobacteria, the Labfors 5 Lux is ideal for every photosynthetic process, e.g. investigations into the feasibility of biofuel production using algae. The Labfors 5 Lux control unit is also perfectly suited for other applications, e.g. for bacteria or mammalian cell cultures – depending on the specification.



Key technical data

Total volume: 3.6 L

Working volume: 0.6–2.4 L

Light: 600–700 $\mu\text{mol}/\text{m}^2\text{s}$ (approx. 50,000 lux)

Standard parameters:

- Stirrer speed
- temperature
- light
- pH
- pO_2
- antifoam/level
- feed
- Gas mix
- Gas flow

Additional parameters:

- Easy integration of many online systems, e.g. extra sensors, balances, external pumps
- 4 x Analogue In
 - 6 x Analogue Out
 - 2 x Digital Out
- Advanced process control features via Iris software, e.g. regulated control of medium feed

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