



Lighting Solutions for Plant Cultivation

Grow your Business



Lighting Solutions for Plant Cultivation – Made in Germany

Making Targeted Use of Spectral Lighting

When put to greenhouse use, modern LED technology is not only more energy efficient than conventional lighting, it also gives farmers, the industry in general, universities and research facilities the means with which to exert targeted influence on the growth and quality of plants. Vossloh-Schwabe also conducts research into and develops new products for this field of application. And nowadays, the technology does much more than to simply stimulate chlorophyll generation – and thus growth – by providing sufficient lighting. In addition to chlorophyll, plants also feature other kinds of photoreceptor that can, for example, influence seed germination. By utilising only certain excerpts of the light spectrum, LED technology makes it possible to address these receptors in a targeted manner. Integrating Vossloh-Schwabe provides added value for your products.

- **INCREASED GROWTH RATE**
- **MORE INTENSIVE FLAVOURS**
- **EFFICIENT PRODUCTION PROCESSES**
- **ENERGY SAVINGS**

It takes the right light to make high-yield growth possible.



**ONLY AVAILABLE
AT VS!**

Individual spectral design
based on COB technology
for your applications.

UNIQUE



STANDARD PRODUCTS



VS-L-0103

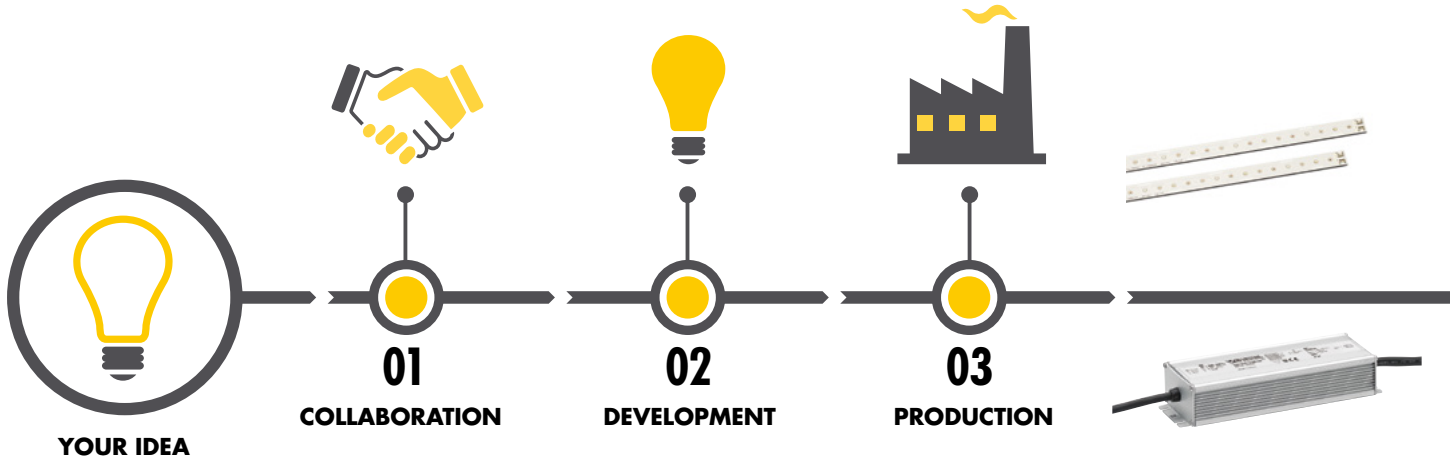
Our many years of experience as well as numerous successful reference projects allow us to develop standard solutions. Our standard products are operation-ready or can be integrated into existing systems as individual components. In the form of the VS-L-0103, Vossloh-Schwabe has developed a versatile and efficient 1- to 4-channel control solution for plant cultivation. By making targeted use of spectral light, this solution makes it possible to optimise plant growth and provides pinpoint control of the growth phases of a plant. As a result, intelligent light control lets you exert direct influence on yield optimisation and quality improvement.



CUSTOMISED SOLUTIONS

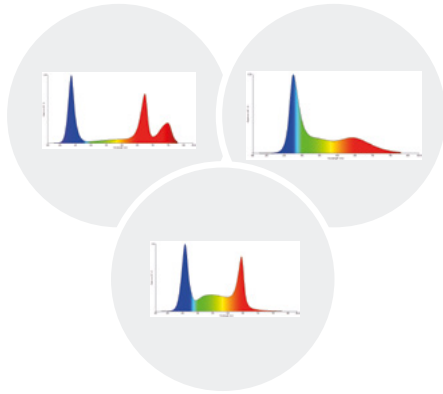


Vossloh-Schwabe combines and tailors the latest COB technology with optics, drivers, sensors and control options to suit your specific area of application. By listening, understanding and implementing –in close cooperation with our customers, we can plan, develop and manufacture solutions that are individually tailored to suit your specific project. From the first enquiry through the entire development process and right up to seeing your product through to practical use, our engineering team is at your disposal as a personal point of contact. Furthermore, optical and thermal simulations go to optimise the final product in advance.





PRODUCTION OF SPECIFIC SPECTRUMS



Every plant species needs a specific light spectrum to optimise the growth process or fruit formation. The combination of selected wavelengths and special phosphorous formulations opens up the field for targeted spectral plant lighting.

Our years of experience in the field of COB technology and the implementation of special spectral excerpts in the field of plant cultivation as well as in the field of general lighting enable us to respond to individual customer requirements and satisfy bespoke spectral light requirements.



APPLICATIONS



Spectral LED lighting is used in the following fields:

- Greenhouses
- In vitro applications
- Research facilities
- Climate chambers
- Phytochambers
- Field lighting (mobile facilities)

Vossloh-Schwabe continues to support and invest in future-pointing projects such as:

- Indoor farming
- High-tech greenhouses
- City farming
- Urban farming
- Plant factories



04

FIELDTEST/APPROVAL



05

TURNKEY
SOLUTIONS



OUR
SERVICE

■ THE SOLUTION CONCEPT

Vossloh-Schwabe's solution concept comprises matching individual components to deliver optimum system efficiency. All necessary information can be obtained from our application engineering team, along with the best solution for each respective in- or outdoor application.

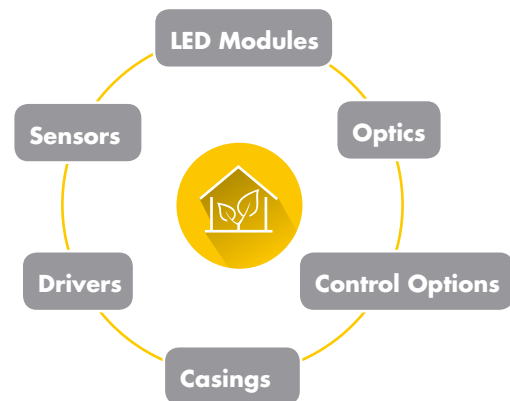
But our know-how is also at your disposal with regard to your individual requirements. Benefit from our individual core competences when it comes to, for instance, developing specific spectrums and producing your individual solutions. All of our services and competences can also be provided on an individual basis.

■ HIGH QUALITY STANDARDS – EXTENSIVE WARRANTY COVER


A seamless quality management system – from raw material procurement right through to the finished product – forms the basis of our 5-year VS warranty.



EVERYTHING FROM A SINGLE SOURCE



**Numerous high-quality components
= one highly efficient system.**



Whenever a luminaire goes on around the world, Vossloh-Schwabe is likely to have made a decisive contribution to ensuring everything works perfectly.

Headquartered in Germany, Vossloh-Schwabe has been part of the globally operating Panasonic Group since 2002 and counts as a technology leader in the lighting sector. The quality and efficiency of our products are the reason for this success.

The product portfolio covers the entire range of lighting components for LED systems with perfectly matching control gear and highly efficient optical systems, modern control systems (LiCS) as well as electronic and magnetic ballasts, and lampholders.

The future of the company is geared towards smart lighting.

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A member of the Panasonic group **Panasonic**

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VS LIGHTING SOLUTIONS

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Greenhouse EN 10/2016