

RAYLASE introduces the AXIALSCAN RD-14

Dynamic and flexible beam deflection unit for large area marking and cutting applications

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RAYLASE is pleased to announce the launch of the AXIALSCAN RD-14. It is the latest innovation in the AXIALSCAN series of pre-focus laser deflection units. As the successor to the AXIALSCAN 12, it has been developed to meet the growing demands of modern marking and cutting applications. It combines large field sizes, high marking speeds and adaptability and thus is an optimum choice for a variety of market segments, from PCB manufacturing to additive manufacturing.

High dynamics and large working fields due to RAYVOLUTION DRIVE technology

Large working fields become increasingly important in modern laser processing. By using a pre-focusing beam deflection unit, it is possible to avoid the use of f-theta lenses for focusing and thus utilize the maximum available working field of the laser machine. However, this concept requires dynamic adjustment of the focus to ensure flat field correction.

Therefore, the new AXIALSCAN RD-14 is equipped with the RAYVOLUTION DRIVE z-axis from RAYLASE, enabling precise 3D laser processing even at high marking speeds. This highly dynamic focus adjustment makes the AXIALSCAN RD-14 the ideal choice for processing large workpieces up to 600 x 600 mm².

Thanks to the large processing field, the AXIALSCAN RD-14 allows the user to process large workpieces with a single beam deflection unit without having to move the scan head or the workpiece. This increases productivity, ensures high precision over large working areas and sets new standards for fast laser marking of large workpieces.

Holistic view provides user-friendly scanning solution

The AXIALSCAN RD-14 also supports users and integrators with additional functionalities. "For the new AXIALSCAN RD-14, we have combined our knowledge and experience of modern pre-focus beam deflection units with the application experience of many marking customers," explains Wolfgang Lehmann, Head of Product Management at RAYLASE. "The result is an innovative solution for the current challenges of marking large components and demonstrates our commitment to continuously pushing the boundaries of laser technology."

This results in further customer benefits:

Easier machine design thanks to integrated z-axis

The integration of the z-axis into the beam deflection unit reduces the complexity of the optical concept and therefore significantly simplifies the machine design. As the z-axis is no longer an additional component that has to be mounted and adjusted, the installation time is reduced. It also reduces the need for expensive experts in development. This allows integrators to fully focus on optimizing their production processes and applications.

Digital control enables predictive maintenance

The AXIALSCAN RD-14 is a modern beam deflection unit with digital control, enabling precise control and read-back of position and status data. This allows processes to be precisely monitored and optimized. At the same time, the data provides a detailed system status. This allows potential problems to be identified and solved at an early stage before they can lead to production downtime.

Fine laser processing at a wavelength of 355nm

Some marking jobs require a sharp focus that cannot be achieved with a “standard” marking wavelength of 1064 nm. This is why the AXIALSCAN RD-14 is available in two different versions designed for the wavelength 355 nm or 1064 nm. With the short wavelength, particularly fine processing becomes possible.

Dust-proof housing for harsh production environments

The AXIALSCAN RD-14 is equipped with a dustproof housing with protection class IP64, protecting sensitive components like lenses and mirrors from contamination. This innovation not only extends the service life of the unit, but also minimizes maintenance costs and downtime.

The product is available as of now and further information about the AXIALSCAN RD-14 can be found at <https://www.raylase.de/en/products/prefocusing-deflection-units/axialscan-rd-14.html>.

In addition, the RAYLASE product experts will be happy to answer any open questions and discuss with you how the AXIALSCAN RD-14 can be integrated into specific manufacturing processes.

About RAYLASE GmbH:

RAYLASE is a renowned solution provider for precise and efficient laser processing in an industrial environment. For its core markets, AM, e-mobility, electronics, and solar, it provides optimized laser scanning systems combining scan heads with cutting-edge optics, sensors, and intuitive software. Tools for adjacent processes like field calibration complete the portfolio. With its products, RAYLASE supports customers worldwide in building a reliable production based on the most efficient laser processes.

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