

Wide Area Engraving

Precise Processing, Larger Working Area, and Faster Throughput With Flyer 3D

Flyer 3D is a fully contained CO₂ laser marking sub-system that eliminates complex alignment of separate laser source and beam delivery components. With Flyer 3D, laser and optical alignment are done for you, and the sub-system arrives ready for mounting. Initial set up and beam positioning is fast and easy with a built-in diode pointer, and production system communication is via Ethernet TCP/IP protocol, MODBUS/IP, or hard-wired I/O. Process control is done using Synrad WinMark Pro software included with Flyer 3D.



Flyer 3D breaks from the confines of traditional 2D marking head systems delivering an effective marking area roughly 2.5X the size of a 2 axis field with an equivalent spot size, up to 1084 mm x 993 mm. Flyer 3D uses a third servo-driven z-axis to dynamically focus the laser beam while maintaining a consistent spot size across the field. The result is sharp, detailed imagery or cutting over a larger area.

Matched with any Synrad CO₂ laser from 30 W to 400 W, Flyer 3D is the most versatile laser scanning system available. Flyer 3D is also a scalable system: the laser can be upgraded with higher power as needed for an automated processing line, higher laser power yields faster throughput.

Marking Applications – with lower power lasers (< 100 W) Flyer 3D expands laser marking capabilities with larger marking area, high precision, and fine detail. This larger image area expands marking capability to array marking, where the same mark is applied in precise locations to parts over a large area, significantly increasing throughput for smaller parts and products.

Cutting Applications – using mid-power lasers (100 W – 400 W) Flyer 3D expands high precision, high-speed cutting capabilities over a wide range of target materials. Laser non-contact cutting is especially useful with thin, delicate materials like electronic thin films, labels, flexible packaging, and textiles. When matched with the right laser, Flyer 3D delivers precise cuts on these materials over areas as large as 1084 mm x 993 mm in a single pass.

Synrad Application Engineers are able to assist in finding the right Flyer 3D configuration that delivers the best results for your laser marking or cutting application.



Marking large areas like this wine barrel lid is fast and easy with Flyer 3D. The servo-driven z-axis enables detailed imaging over a larger area. When combined with the right laser detailed imagery on target materials are achieved with no alignment needed between the laser and the marking head. Flyer 3D is a complete scanning head kit with fast, right-out-of-the-box set up, and easy operation.

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