

Dual Beam Technology

ADJUSTABLE MODE BEAM LASERS



Independent & Dynamic Control of the Beam Profile

RING BEAM
Outer Ø 100,
300 or 600 µm

CORE BEAM
50 µm-up to 9 kW
100 µm-up to 15 kW

RING + CORE BEAM
up to 25 kW

Any combination of a small-spot high intensity bright core and a larger ring-shaped beam

FAST, SPATTER-FREE WELDING HIGH-QUALITY & HIGHLY PRODUCTIVE

Single-mode and Multi-mode
in one laser source



ONE BEAM LASER WELDING	AMB LASER WELDING
Aluminum to Aluminum Evaluation HIGH SPATTER	 SPATTER FREE
Titanium X-ray Evaluation HIGH POROSITY	 PORE FREE
Copper to Aluminum Evaluation CRACKING	 CRACK FREE

CLEAN PIERCING & FAST CUTTING WITH LOW SURFACE ROUGHNESS

AMB flexibility enables high-speed, high-quality piercing and cutting across a wide range of thicknesses and materials with superb edge quality and low surface roughness without the need for multiple lasers or accessories.

Cutting with AMB Core Beam

25 mm Aluminum **25 mm Mild Steel**

Piercing with AMB Ring Beam

30% Faster than Traditional Piercing

AMB REDUCES SPATTER BY 90% OR MORE

By adjusting the power of the core and ring beams in real-time, AMB technology provides virtually spatter free welding across a wide variety of materials and thicknesses.

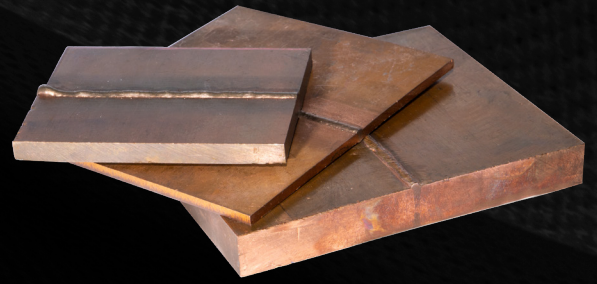
AMB ENABLES PORE FREE WELDING

Porosity in the weld material is caused by freezing of vapor released from the weld pool as it solidifies. AMB creates a larger and more stable keyhole allowing metal vapor to escape more easily.

AMB ELIMINATES MATERIAL CRACKING

Cracks are severe defects caused by internal stress to welded materials. AMB stabilizes the weld pool and controls the cooling to overcome shrinkage stresses enabling repeatable crack free welding.

SINGLE MODE & MULTI MODE AMB LASERS FOR COPPER WELDING APPLICATIONS



SAVE TIME AND REDUCE OPERATING COSTS BY NOT REWORKING PARTS AND MAXIMIZING UPTIME

- Drastically reduced part, process head and sensor contamination from molten metal
- Consistent, repeatable piercing and cutting for high productivity manufacturing
- Eliminates external optics such as optical switches, zoom process heads and other peripherals

LEARN MORE



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