

# Alfex CNC Australia Brings Coherent Laser Systems to Australia

There's always been a bit of a gap in the Australian laser cutting & engraving market for medium format lasers with the ability to cut metal. Well not anymore. Alfex CNC Australia has partnered with Coherent Inc, USA to bring their state-of-the-art laser systems to Australian shores.

Founded in 1966, Coherent, Inc. is one of the world's leading providers of lasers and laser-based solutions for scientific, commercial and industrial customers competing in the most demanding markets. Their Laser Machine Tool division manufactures a range of premium laser cutting systems optimised for metal cutting while still providing outstanding performance on non-metal materials.

The partnership between Alfex CNC Australia and Coherent is a good match. Both organisations share core values such as the supply of exceptional quality equipment, first-class service, expert advice

and genuine support. They see a genuine need in the Australian market for a mid-size laser-cutting platform that can increase the capabilities of businesses operating small bed systems and, provide secondary support to companies operating large-bed systems. Additionally, the partnership between Alfex CNC and Coherent will benefit those businesses in Australia already using Coherent products, as customers will now have a direct line to qualified service technicians.

The Coherent range includes three models; MetaBeam, OmniBeam and LightCell, all of which Alfex CNC will bring to the Australian market. "Coherent is in the business of manufacturing the best mid-size laser cutting systems on the market, and our customers expect nothing less from us," states Jordan Buhagiar, Technical Sales Manager, Alfex CNC. "The MetaBeam is their flagship model, optioned up with everything

required to cut thin metal, a compact and powerful answer for prototype to high-volume manufacturing applications. With 400 watts as standard, the MetaBeam is optimised for sheet metal cutting up to 3mm thickness while maintaining stunning performance on non-metal cutting and engraving applications. Simple user interface and job loading software simplifies work set up and increases productivity." Coherent will also release the world's first sealed 1000 watt pulsed laser later this year for even greater capability. The LightCell is only available with 150 watts and is suited for non-metal cutting, and the OmniBeam fits in the middle with a variety of options to help customise it for a range of applications.

All models feature Coherent's own sealed CO2 pulsed lasers. Unlike CW (continuous wave) lasers that output an average power



continuously, pulsed lasers are able to output fast repetitive pulses at incredibly high peak powers, much higher than their average stated power. For instance the 150 watt pulsed laser is actually capable of outputting 375 watts, and the 400 watt laser has a peak power of 1000 watts, providing superior capability when compared with other laser systems. This is useful for cutting very small holes, piercing the material to start a cut in the interior, or for cutting or ablating material while minimising the HAZ (heat affected zone) much better than if a CW laser was used.

Coherent's range of powerful sealed CO2 lasers emit far-infrared light at a wavelength of 10.6 microns. This wavelength is highly effective in processing a wide range of materials including wood, paper, plastics, glass, textiles, rubber and metals.

"The laser used in our machines is a sealed CO2 laser," said David Black, Coherent. "Sealed lasers feature slab-discharge technology, which permanently confines the lasing gas mixture between two rectangular plate electrodes. These lasers require no replacement gas and no scheduled maintenance to the laser head for up to 25,000 hours of continuous operation. Consequently, sealed lasers eliminate maintenance downtime, thereby increasing productivity and reducing costs. Sealed lasers keep the beam path away from contaminants, ensuring a steady beam alignment and eliminating the need for cleaning."



The laser machining center integrates the machine frame, CNC controller, laser source, beam-delivery system, motion system and laser cutting head all into one compact structure with a standard table size of 1200mm x 1200mm, and optional 1200mm x 2400mm extended pallet.

It also offers a cutting table design that can minimise parts tip-up. Switching materials or thickness can be done with its focal axis, featuring a capacitive sensor that accurately maintains the standoff distance from the work piece. Its cutting head is protected from any damage by a magnetic breakaway system.

It is suitable for laser job and fabrication shops, as well as for diversified manufacturers for large and small production runs and prototyping of mixed materials. Typical applications include medical components, point of purchase displays, automotive and aerospace components, electrical enclosures, wood, metal and plastic cutting and engraving, furniture parts, architectural models and rapid prototyping.

Alfex CNC also sees the MetaBeam as being of particular interest to a number of

non-traditional users. "Because of its size, speed and capabilities, the MetaBeam system will appeal to the likes of shops looking to cut thick plastics and timber," said Jordan. "We also believe that businesses looking to cut thin sheet metal up to 3mm will find good use for this machine. As will those looking to manufacture displays and P.O.P. and signage and engraving companies looking for a larger machine than traditional desktop lasers."



Jordan Buhagiar (Alfex CNC), Christian Buhagiar (Alfex CNC), David Black (Coherent), George Buhagiar (Alfex CNC)

## FEATURES

- High power and low operating cost sealed CO2 laser
- Capacitive Auto-Focus to maintain precise nozzle gap when cutting metal
- Auto-Focus for all non-metallic materials
- Part collection drawer. Metal cutting points and choice of cutting substrates
- High flow/pressure adjustable coaxial assist gas jet.
- Gull wing, dual access doors with removable pallet, front and rear pass through

## OPTIONS

- Machine vision
- Auto-pallet loading
- Bar Code job load

★ For more information about Alfex CNC or the Coherent Laser System, please visit: [www.alfexcnc.com.au](http://www.alfexcnc.com.au) or [www.coherent.com](http://www.coherent.com)