

# Laser Cutting and Machining Tools

*Small Footprint. Huge Impact.*



**Superior Reliability & Performance**

# Advanced Laser Machines: Process, Precision, & Power Control.

Coherent's machine design approach emphasizes manufacturing process consistency, precision and reliability. All of our Laser Machine Tools are designed so that each axis incorporates a flat and stable optically read encoder, ensuring zero loss of precision over time.

The benefit of a laser comes from its ability to apply consistent energy to a manufacturing process. The laser is a knife that never dulls and puts zero tool load on the part being cut. Everything about our designs contributes to the consistency and control of energy delivery from part to part, year after year.

Since our beginnings, we've developed cutting processes for hundreds of materials, and continue to build that knowledge directly into each of our machines.

Through our collaboration with customers over the years we have established process capability for cutting, scribing, kiss cutting, engraving, ablation and marking.



**META 1.5C  
META 2C**

Coherent's Laser Machine Tools are incredibly versatile production workhorses. These machines are all capable of raster engraving and vector cutting of both organic and metal substrates. The system is engineered to provide low cost of ownership through high productivity and ease of use.



META 4C

META 10C



# Industrial Automation

Setting the Standard for Today's Demanding Manufacturing Work Flow



Rising labor costs make industrial automation a necessity for any manufacturing business. Coherent Laser Machine Tools have been specifically designed with a full range of automation features to boost factory throughput and eliminate manual operation.

- Palletized material handling, job queuing and “lights out” operation
- Automatic focusing, calibration and laser process control
- Precision machine vision for part location, registration, scaling, pass/fail and error averaging
- Automatic and redundant safety and exhaust mechanisms and sensors to protect machine and operators

# Applications

Coherent's Advanced Laser Machine Tools Are in Use in a Variety of Industry, Education and Government Applications



- Acrylic displays
- Set design and fabrication
- Acoustic guitar fabrication
- Raster image engraving
- Slot machine fabrication
- Automobile parts
- Trophies and awards
- Flexible circuits
- Medical part fabrication
- Wood and plastic furniture
- Road marking reflectors
- Architectural models

- Precision sheet metal
- Movie models
- Rapid prototypes
- Satellite insulation wrap
- Point of purchase displays
- Personalized book covers
- Precision wood inlays
- Printing and nameplates
- Athletic lettering
- Art stencils
- Photographic images
- Trade show displays

# See the Difference

## Features and Details

- Compact and powerful sealed lasers
- Available palletized material handling for maximum throughput
- Multiple g acceleration for maximum throughput of detailed parts
- Large polycarbonate cover for easy access and safe viewing of cutting
- Easy to use intuitive controls
- On-board system diagnostic suite
- LaserLink CAD/CAM software
- True machine vision system for automatic registration to any feature or marking
- Class I laser safety means no danger of operator injury from laser beam
- Kinematic design for stable optics that don't need constant alignment
- Water cooled electronics enclosures are dust and pollutant free
- Ergonomic touch screen control panel
- Integrated machine vision display
- On-board database of materials and process settings



Easy installation



META 10C touch screen control panel



Palletized material handling



- Brushless Servo motors in closed loop with linear encoders for high speed accuracy that never wears out
- Sealed beam path to protect optics and prevent vapor distortion of laser beam
- Interlocked exhaust, water chiller and assist gas to protect machine and operators
- Pass through for unlimited part length or roll feed
- Auto-cut restart
- Automatic focus
- Break away nozzle
- Pointing laser
- Flying optics for high speed cutting and vertical part edges
- Digital power control, variable pulse selection
- Deep z-axis for fixturing and tall part cutting
- Vacuum cutting bed for material hold down and fume evacuation
- Fully programmable coaxial gas jet
- 5-axis crash sensor



- Flying optics
- Break away nozzle
- 5-axis crash sensor
- Automatic focus



On board system  
diagnostics and  
LaserLink CAD/CAM



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