MUNDT & ASSOCIATES, INC.

NEW!

Micromachining

# Micromachining & Miniaturization

## with the Mundt AB-200150-5 Laser Workstation

Mundt meets new technology demands for Micromachining & Miniaturization with the new MUNDT AB-200150-5 Laser Workstation, in addition to other standard machines with micromachining capabilities.

This new Workstation, the AB-200150-5, is built with granite and ceramic to achieve EXTREME accuracies that permit machining of tiny detailed features. Complex beam delivery provides an extremely small spot with a Galvanometer. Infinite Field of View allows accurate and seamless machining with the Galvo and cartesian axes that the scanner optics alone cannot provide.

### *Reasons to Embrace Laser Micromachining Technology*

Today's advanced designs demand Extreme Accuracies, High Throughput, Competitive Pricing and Solid Technical Support.

Industry now requires components with smaller features that require new processing with dependable high accuracy technology.

Mundt precision laser workstations combine a sturdy first-class machine tool and a carefully selected laser to suit a particular application. Standard and custom laser workstations capable of micromachining can be used for product manufacturing.

Save money and get substantial ROI with high yields, more efficiency, greater productivity and your machine will pay for itself quickly. Mundt will upgrade and service your machine for as long as you have it.

See standard machines suitable for micromachining at www.mundtinc.com.

***Overleaf...***

*Please see a close up with details and specifications of the new Air Bearing Stage featured above within the AB-200150-5 Workstation.*

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# Air-Bearing Stage


- **Total Stability**
- **Extreme Accuracy**
- **Perfect Performance Micromachining**
- **Laser Manufacturing with Precise Accuracy**

Air-Bearing Stages would be selected for micromachining tiny parts with ultra-fine features. Air-Bearing Stages enable high precision movement with no friction. The stage "glides" on a cushion of air that allows smooth controlled motion for PRECISE operations. Air-Bearing Stage systems can deliver sub-micron accuracies. The Mundt Air-Bearing Stage when paired with ultra-short pulse lasers provide the ultimate micromachining workstation.

- The Air-Bearing Stage shown above has been embedded into the base of the machine and is now the "Heart" of the machine.

Micromachining

## Air Stage Specifications

(200 mm x150 mm)

| | |
|---|---|
| Travel X axis | 200 mm |
| Travel Y axis | 150 mm |
| Maximum Speed X Axis | 25 mm/sec |
| Maximum Speed Y Axis | 25 mm/sec |
| Accuracy X Axis | +/- .5 μm |
| Accuracy Y Axis | +/- .5 μm |
| Positioning Resolution X Axis | 5 nm |
| Positioning Resolution Y Axis | 5 nm |

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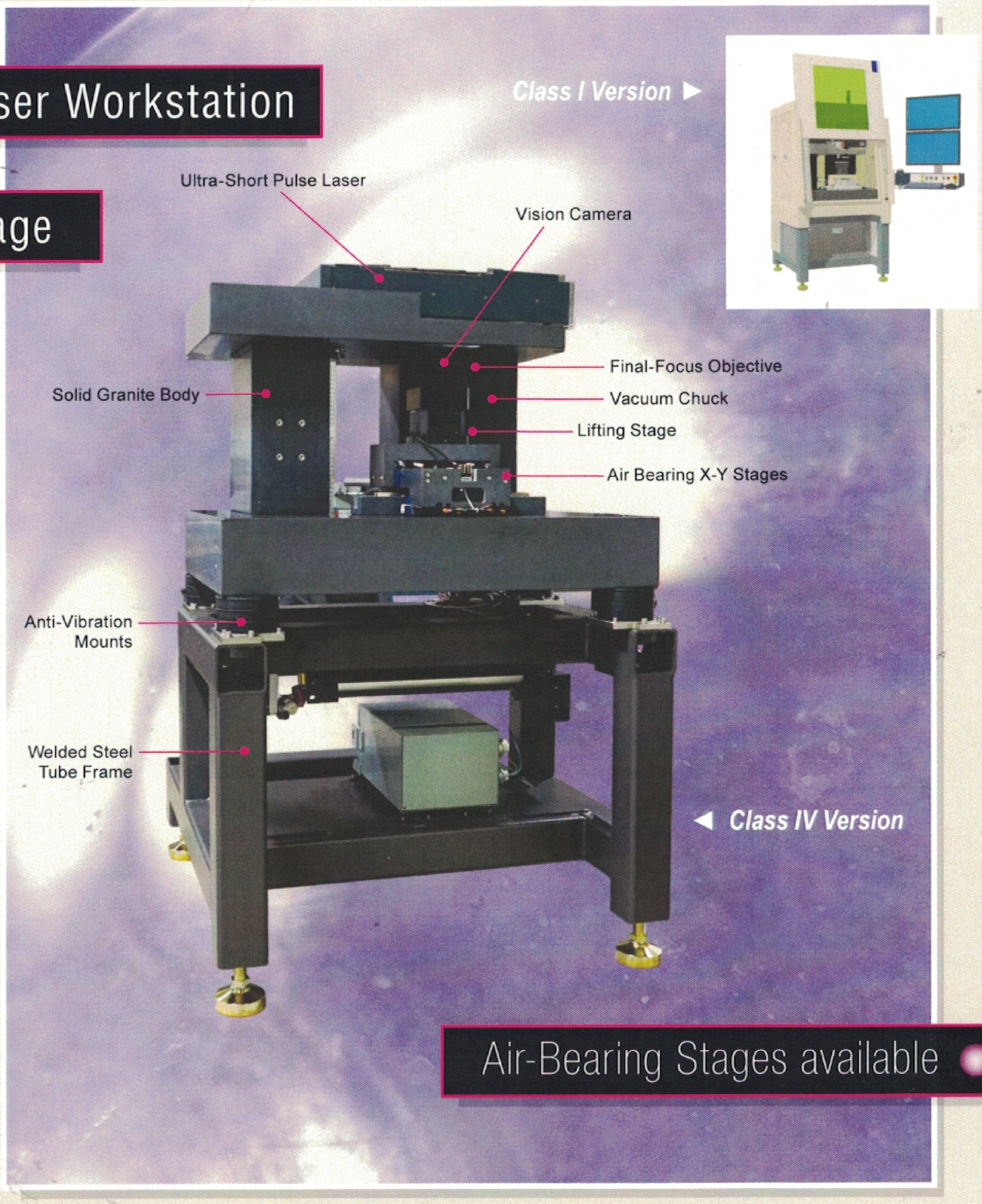
# Mundt Laser Technology

## OEM Manufacturer of Laser Workstations for 29 Years!

**AB-200150-5 Axis Laser Workstation**

**Mundt Air-Bearing Stage**




**Air-Bearing Stages available**

### Total Stability

### Extreme Accuracy

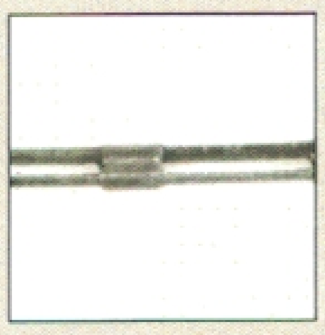
### Perfect Performance Micromachining

### *Laser Manufacturing with Perfected Accuracy*

- 3 Micron Laser Spot
- Precise Motion with Air Bearing Stages
- Granite / Ceramic Stages for Nanometer Resolution
- 0.5 micron Accuracy with 25 mm per Second Speed
- 5 Axes of Motion or More
- Ultra Short Pulse Lasers (Femtosecond to Picoseconds Pulse Width)
- Machine Vision to Control Manufacturing Processes
- Scan Surface with Laser Displacement Sensor for Precise Laser Focus

### *Technology Samples / Micromachining*

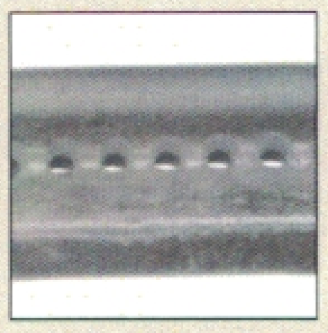
0.044" cutoff stainless. No burr, hole is 0.022" Fiber Laser task



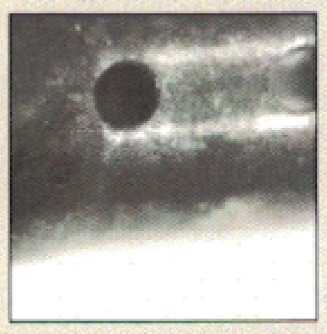
Ablative cutting on 410-micron dia. stainless steel tubing with a Femto-Second Laser

0.020" dia. tube weld to a 0.030" tube with a Fiber Laser

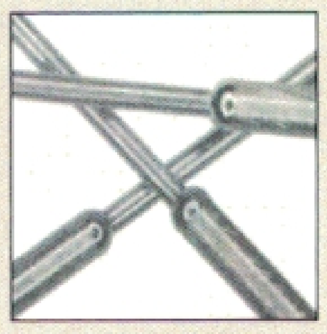
0.125" dia. platinum eyelet welded to a platinum plate with a Fiber Laser.



Tiny 20-micron holes in plastic tubing ablatedwith Femto-Second Laser.



0.022" hole in nickel cut with a Pico -Second Laser.



33-gauge hypodermic needles welded inside a 27-gauge hypodermic needle. The laser was adjusted from 4,000 watts to 50 watts to weld this task.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