NOVA6 LW Series
CNC Laser Welding Workstation

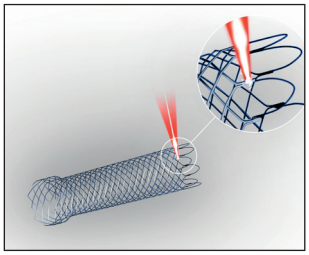
DESCRIPTION

Amada Miyachi Europe offers its expertise to all of its customers to correctly match any welding application with the right laser welder, fibers, optics, tooling and process parameters. The Miyachi laser welders can join a wide range of (stainless) steels, nickel alloys, titanium, aluminum and copper. Typical laser welding applications include seam sealing of implantable medical devices, stents, guide wires, catheters, high frequency aerospace radar components, spot welding of small mechanical parts, battery housings, hermetic seam welding of sensors, etc.

KEY FEATURES

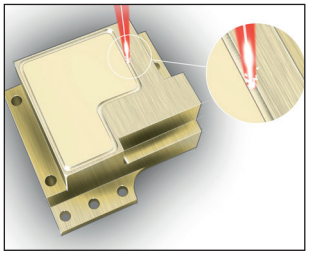
- Amada Miyachi Europe NOVA6 is a series of Cartesian CNC workstations for laser welding of precision parts with the highest quality
- Proven system with worldwide support and excellent track record
- Modular system adaptable to customers' requirements
- Stand-alone system for standing operation
- Welded steel construction, optimised for accuracy and stability
- Class-1 safety enclosure fulfils CE safety regulations
- High accuracy servo motor motion system
- Standard three CNC programmable axis, expandable to five (two rotary axis)
- CNC G-code contour programming with powerful extensions
- Aerotech A3200 CNC controller platform
- Industrial PC with RAID drives for maximum certainty on product recipe and data logging storage
- PSLF (Position Synchronized Laser Firing) support option to match laser output to a variable motion speed along a contour
- IMS3000 (Integrated Manufacturing Software) for integral loading product parameters (laser, CNC, vision, operator work instructions, etc.) in one product production recipe
- Advanced FDA / Mil-Spec compliant data logging (system messages, laser performance, serial and batch numbers and external power meter measurements)
- Integrated Remote Service and Diagnostics
- Produce your safety critical products with maximum certainty and traceability

APPLICATIONS

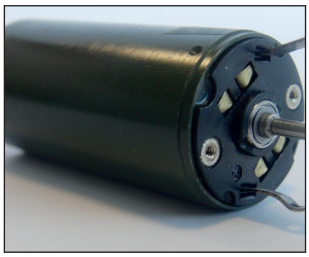


Stent Welding

Seam Welding of pacemaker cases



Seam Welding of RF packages



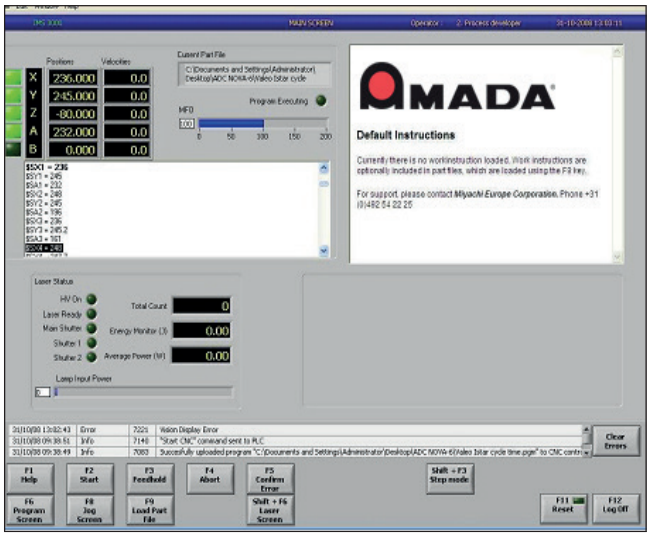
Seam Welding of small rotary motors

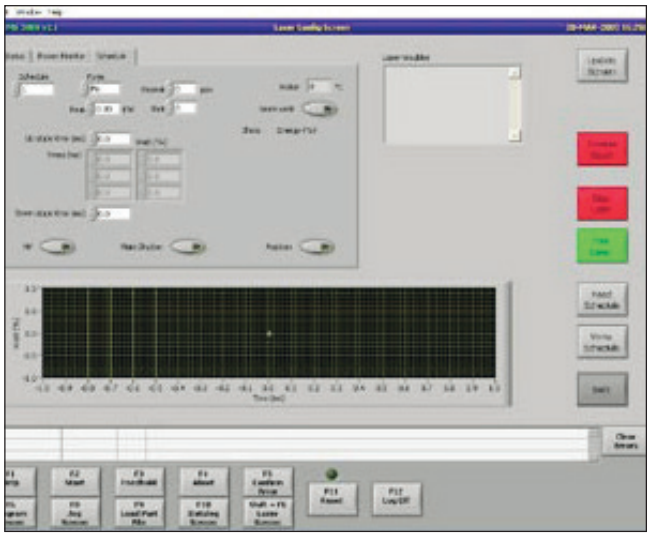
FEATURES & OPTIONS

- The NOVA6 can be equipped with Pulsed Nd-YAG lasers up to 600W, Continuous Wave Fiber lasers up to 5000W and Quasi Continuous Wave (Pulsed) Fiber lasers up to 600W average power. Typically these lasers are used for precision spot- or seam welding of metal parts.
- Advanced Fume Extraction & Filtration system (optional clean-room compatible)
- Vacuum connections for tooling, switcheable in the CNC program
- IALPM (Integrated Automatic Laser Power Monitoring) to automatic measure power on the workpiece
- Granite Baseplate and Gantry for maximum accuracy due to higher stability, improved vibration damping and reduced thermal expansion
- Customer specific tooling and part programming possible
- Wide range of shielding gas delivery systems possible, including programmable gas flow volume
- ACC (Automatic Contour Compensation) product position correction on three points
- VBPPC (Vision Based Part Position Correction) for improving placement accuracy of parts before welding
- CAM software module to generate weld programs from DXF files
- Fit up to four weldheads for several processes in one system

IMS 3000 SOFTWARE

As Miyachi is a manufacturer of lasers and CNC systems, we have the possibility to integrate all product parameters like laser weld profiles, CNC program, vision image, operator work instructions, etc. in one product production recipe. These product recipes are stored on an industrial PC with dual, hot-swappable RAID drives for maximum certainty on data retention. Product data storage is virtually unlimited, only by the HDD capacity. Features if the system include PSLF (Position Synchronized Laser Firing) support option to match laser output to a variable motion speed along a contour, advanced FDA / Mil-Spec compliant data logging (system messages, laser performance, serial and batch numbers and external power meter measurements), Integrated Remote Service and Diagnostics.





TECHNICAL SPECIFICATIONS AXES

Motion specification X- axis	
Stroke (mm)	430
Repeatability (µm)	±6
Velocity (mm/s)	450
Motion specification Y- axis	
Stroke (mm)	330
Repeatability (µm)	±6
Velocity (mm/s)	450
Motion specification Z- axis	
Stroke (mm)	280
Repeatability (µm)	±20
Velocity (mm/s)	190
Motion specification R- axis	
Static Repeatability (°)	0.005
Rotational frequency (°/s)	66 *(11 RPM)*

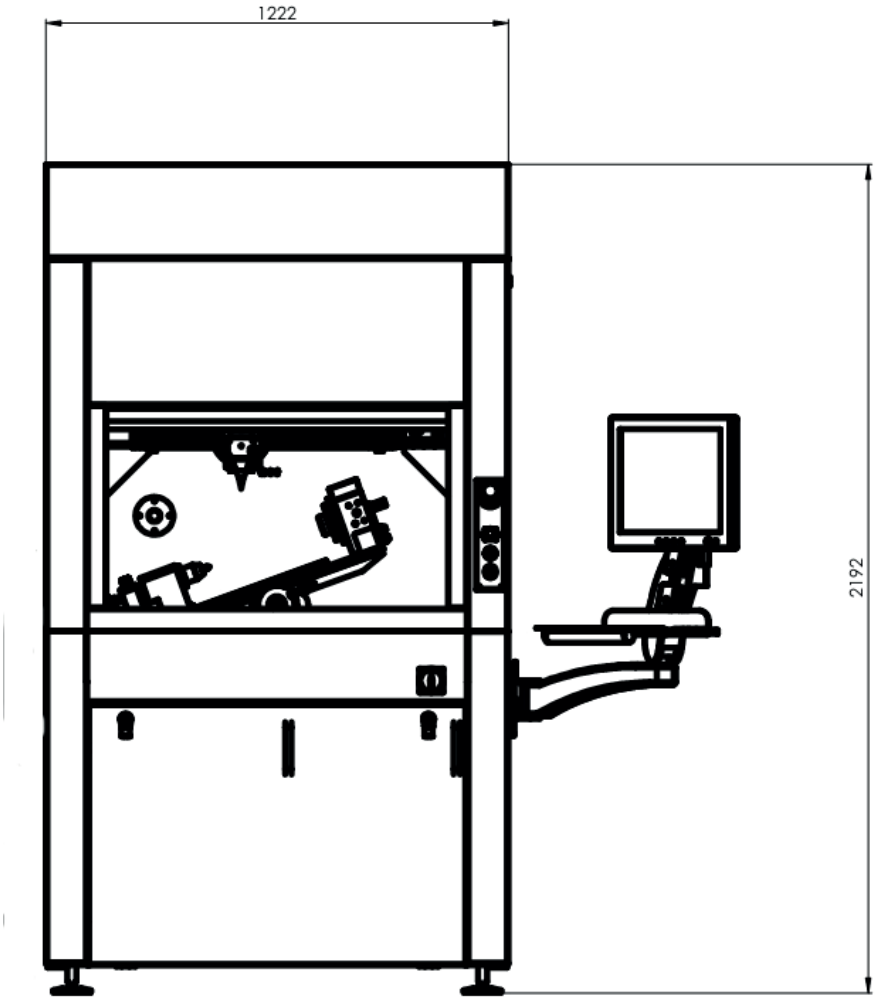
TECHNICAL SPECIFICATIONS

Laser Specifications (Pulsed Nd-YAG)	
Average power levels (W)	max. 600
Peak power levels (W)	max. 8000
Peak energy levels (J)	max. 80
Wavelength (nm)	1064 (optional 532nm green for copper welding)
Laserhead	Several options possible, incl. CCTV versions
Collimator lens focal distance (mm)	50 to 200
Focal lens focal distance (mm)	50 to 200
Optical fiber diameter (µm)	100 to 1000
Effective spot sizes (µm)	100 to 1000
Optical fiber length (m)	5 to 40
Laser Specifications (CW Fiber)	
Average power levels (W)	max. 5000
Peak power levels (W)	max. 5000
Beam quality	Several modes available (M^2=1,1 to M^2=9)
Wavelength (nm)	1070
Laserhead	Several options possible, incl. CCTV versions
Collimator lens focal distance (mm)	35 to 70
Focal lens focal distance (mm)	50 to 200
Optical fiber diameter (µm)	10 to 300
Effective spot sizes (µm)	10 to 600
Optical fiber length (m)	5 to 40
Laser Specifications (QCW Pulsed Fiber)	
Average power levels (W)	max. 600
Peak power levels (W)	max. 6000
Wavelength (nm)	1070
Laserhead	Several options possible, incl. CCTV versions
Collimator lens focal distance (mm)	35 to 70
Focal lens focal distance (mm)	50 to 200
Optical fiber diameter (µm)	not available
Effective spot sizes (µm)	300 to 600
Optical fiber length (m)	not available

WEIGHT & DIMENSIONS

Dimensions HxWxD (mm, excluding laser, chiller and fume extraction unit)	2192 x 1222 x 890 2532 x 1527 x 890 *(including light tower and HMI)*
Weight (in kg)	±600 (depending on options)

DRAWINGS



AMADA MIYACHI EUROPE
Lindberghstrasse 1 • DE-82178 Puchheim, Germany
T: +49 (0) 89 83 94 030 • Fax : +49 (0) 89 839403 68
infode@amadamiyachi.eu • www.amadamiyachieurope.com
ISO 9001 Certified Company

MIYACHI UNITEK | MIYACHI PEECO | MIYACHI EAPRO

EUROPE

Amada Miyachi Europe BV
Helmond, The Netherlands
T: +31 (0) 492 542 225
infonl@amadamiyachi.eu

Amada Miyachi Europe Kft.
Budapest, Hungary
T: +36 1 431 9927
infohu@amadamiyachi.eu

Amada Miyachi Europe
Derby, United Kingdom
T: +44 (0) 1332 361 238
infouk@amadamiyachi.eu

Amada Miyachi Europe
Saint Germain en Laye, France
T: +33 (0) 139 046 430
infofr@amadamiyachi.eu

Amada Miyachi Europe
Torino, Italy
T: +39 011 223 83 16
infoit@amadamiyachi.eu

Amada Miyachi Europe
Prague-West, Czech Republic
T: +420 251 512 157
infocz@amadamiyachi.eu

AMERICAS

Amada Miyachi America Inc.
Monrovia, CA, USA
T: +1-626-303-5676
info@amadamiyachi.com

Amada Miyachi do Brasil Ltda.
Sao Paulo, Brasil
T: +55-11-4193-1187
antonio.ruiz@miyachi.com

ASIA

Amada Miyachi Co., Ltd.
Noda, Japan
T: +81-4-7125-6177
sales@miyachi.com

Amada Miyachi Shanghai, Co., Ltd.
Shanghai, China
T: +86-21-6448-6000
zqzhang@msc.miyachi.com

Amada Miyachi Korea Co., Ltd.
Gyeonggi-do, Korea
T: +82-31-8015-6810
dykim@mkc.miyachi.com

Amada Miyachi Taiwan Co., Ltd.
Taipei, Taiwan R.O.C.
T: 886-2-2397-4778
keigaku@miyachi.com

Amada Miyachi (Thailand) Co., Ltd.
Samutprakarn, Thailand
T: +66-2751-9337-8
info@mtl.miyachi.com

Amada Miyachi Vietnam Co., Ltd.
Ho Chi Minh City, Vietnam
T: +84-8-3771-7972

Amada Miyachi India Pvt., Ltd.
Bangalore, Karnataka
info@miyachiindia.com

follow us on:

TDS NOVA6 Serie SY 08-2015