

ExactWeld 430

High Precision, Fiber Laser-Based Welding System

ExactWeld 430 brings all the benefits of fiber laser welding to manufacturers of medical devices, electronic components, watches, and other high precision products. It produces high strength, small seam size, cosmetically attractive welds at high speeds, with minimal heat input to the workpiece. The system combines a fiber laser source, beam delivery optics, part fixturing, motion control, process gas delivery, and an intuitive user interface in a compact, freestanding, laser Class I enclosure. The result is a self-contained machine that's simple to set up and operate, and which can weld virtually any metal. It can even join dissimilar materials.

Features and Benefits

- Laser powers from 400 W to 600 W
- Solid granite base for unmatched stability
- Scanning head options include SmartWeld+
- Optional CNC rotary axis
- Optional vision system for alignment and pattern recognition

Applications

- Medical Device Manufacturing
- Endoscope Assembly
- Pressure Sensor Sealing
- Watchmaking
- Fine Wire Soldering

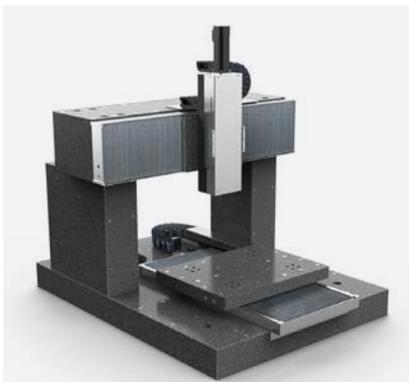


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SPECIFICATIONS

ExactWeld 430	
Interface	
Display and Operation	17" touch screen + keyboard
Data Interfaces	USB device, RJ45 connection
INSTALLATION	
Dimensions (L x W x H)	1900 x 2200 x 2130 mm (74.8 x 86.6 x 83.9 in.)
Weight (w/o Laser)	1800 kg (3968 lbs.)
Maximum Payload	40 kg (88 lbs.)
ELECTRIC	
Energy (VAC)	400
Frequency (Hz)	50/60
Fuse Protection (A)	32
POWER CONSUMPTION	
Effective Power (kW)	1.4
Standby (kW)	0.88
PNEUMATIC	
Compressed Air	6 bar
INSTALLATION CONDITIONS	
Laser Protection Class (according to EN60825-1:2015)	Laser Protection Class 1
Description	Precise axis module on a granite base Flexible platform for different laser systems Maximum 5 axis driven system



PRECISION MODULE

X/Y-Axis Travel (mm)	500 x 400 mm (19.7 x 15.75 in.)
Drive	Linear motion drive
Maximum Acceleration (g)	1.0
Positioning Accuracy (mm)	±0.002
Repeatability Accuracy (mm)	±0.001
Z-Axis Travel	200 mm (7.875 in.)
Motion System	Spindle axis with servo motor
Positioning Accuracy (mm)	±0.04
Repeatability Accuracy (mm)	±0.01



INTEGRATED LASER SOURCE StarFiber P

- CW/QCW fiber laser
- 400/600/150P/300P
- Analog power control
- High efficiency
- Safety features (industrial standard)
- Innovative control unit



HIGH PRECISION WELDING HEAD

- The most precise welding head
- Unmatched stability
- Focal position adjustable even under full pressure
- Easy change of protection glass

OPTIONS



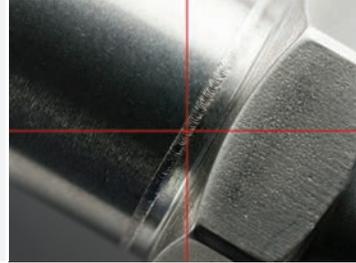
Max. 5 Axis

3 standard axes in X/Y/Z-direction, additionally with A and B axis available.



Galvo Head

Scanner package with parallel camera viewing system.



CCD Camera

CCD camera with integrated crosshair generator for easy positioning.



SmartWeld+

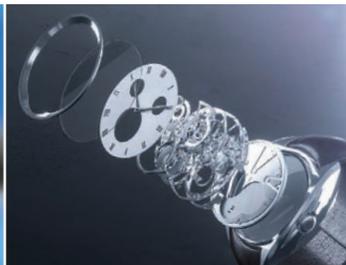
A wide choice of beam oscillation patterns to enable precise process optimization.

APPLICATIONS



Medical Devices

Reproducible seam geometries with the highest accuracy at minimal thermal input for the workpiece.



Watch Industry

Weld delicate and sensitive parts without damaging the part.



Spectacle Frames

Cosmetically attractive welds with high strength.



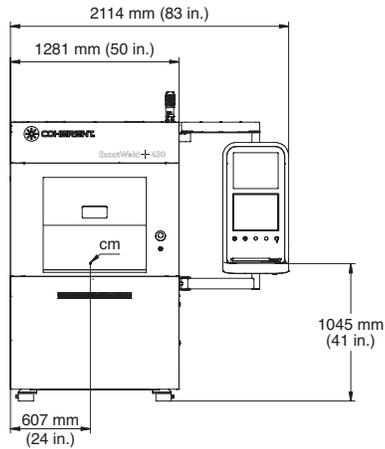
Electronics

Reliable, precision welds with minimal heat affected zone.

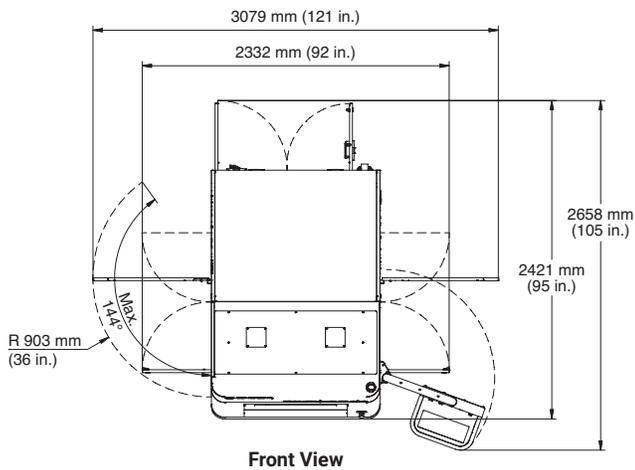
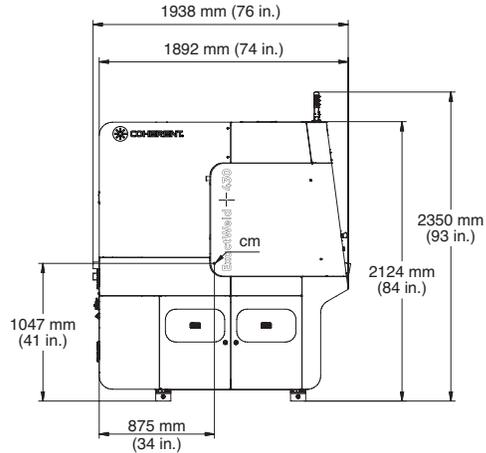
MECHANICAL SPECIFICATIONS

ExactWeld 430

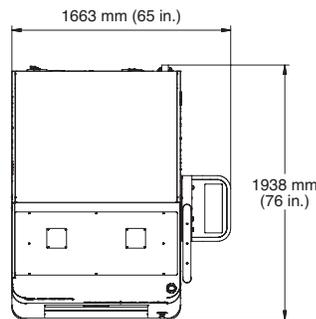
Front View



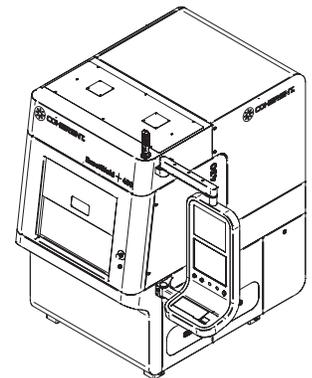
Side View



Front View



Front View
for Transport



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all ExactWeld 430 Laser Welding Systems. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.

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