

Laser with Argon Chamber

HC-245ACC

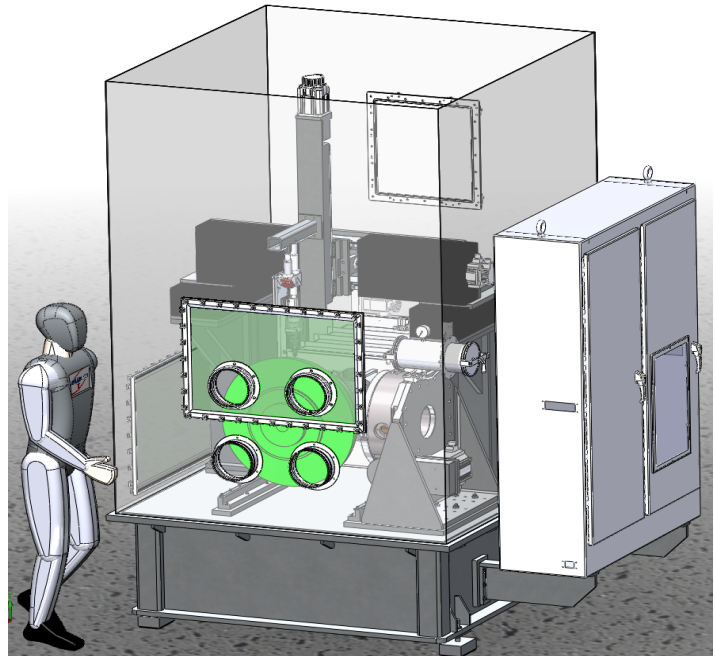
✦ MULTI-AXIS LASER POWDER FUSION WELDING SYSTEM WITH INTEGRAL ATMOSPHERIC CHAMBER

Need complex, high-quality, near-net welds in an inert environment?



The Huffman **HC-245ACC Multi-Axis Laser Powder Fusion Welding System** delivers exceptional technical and commercial results. The benefits of laser powder fusion welding are further enhanced with the addition of a fully enclosed atmospheric chamber for welding in an inert gas environment. The system is designed for welding oxygen sensitive or reactive materials like Titanium.

Applications include weld restoration on worn surfaces on a variety of turbine engine components like **blades, vanes, shrouds, seals, impellers and BLISKS or IBRs (Integrally Bladed Rotors)**. The system is also capable of 3D freeform fabrication - welding successive layers of material to build up complex 3D components. Software tools for automatic 3D reverse engineering and tool path creation are also available.



- ▼ Available in 3- to 5-axis configurations.
- ▼ Optional antechambers, also pass-through or transfer chambers, are available to transfer workpieces and tooling into and out of the sealed enclosure with minimal disruption of the controlled environment.
- ▼ Features AutoCLAD Vision and Programming Software that:
 - Automatically digitizes the variation in incoming parts
 - Controls laser power
 - Controls weld path position
 - Controls powder flow parameters and machine motion and feed rate
- ▼ By using existing, proven machine modules, Huffman can deliver **EXCEPTIONALLY PRODUCTIVE**, customized manufacturing solutions without the risk and long lead times associated with custom machines.



Call our Sales Team Today!
1-888-HUFFMAN

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Compelling Productivity. Legendary Reliability.

HC-245ACC

MULTI-AXIS
LASER POWDER FUSION
WELDING
SYSTEM

[TECHNICAL DATA]

	Axis Type	Total Travel (axes under CNC control)	Feed Rate
X-Axis	Linear	30" (762 mm)	0-200 ipm (0-5 mpm)
Y-Axis	Linear	18" (457 mm)	0-200 ipm (0-5 mpm)
Z-Axis	Linear	20" (508 mm)	0-200 ipm (0-5 mpm)
A-Axis	Rotary	±180°	0-3.3 rpm
C-Axis	Rotary	Continuous	0-5.5 rpm

	Programming Resolution	Positioning Accuracy	Positioning Repeatability
Linear Axes	0.0001" (0,001 mm)	±0.0008 in/ft (±0.067 mm/m)	0.0008 in/ft (0.067 mm/m)
Rotary C-Axis [with motor feedback]	0.001°	±20 arc sec	20 arc sec
Rotary A-Axis [with motor feedback]	0.001°	±36 arc sec	36 arc sec

Electrical	460V (±10%), 3-phase, 60Hz 380V (±10%), 3-phase, 50Hz	Total Weight	15,000 lbs (6,800 kg)
		Overall Dimensions	104 x 90 x 115" (2650 x 2300 x 2900 mm)

[STANDARD EQUIPMENT]

Huffman 3D, Adaptive, Reverse Engineering, Tool Path Programming System (Patent Applied)

Stress-Relieved Weldment Machine Base

Fully Enclosed, Stainless Steel, Hermetic Class 1 Laser Enclosure

< 10 PPM Oxygen & Moisture

Up To 15 mbar [0.218 psi] Internal Pressure

High-Pressure Gas Purifier for Incoming Process Gas

Recirculating Gas Purification Subsystem to Maintain Oxygen and Moisture Levels

6" [150mm] x 9" [230mm] Long Vacuum Pump-Down Ante-Chamber To 5 PPM, Back Filled With Inert Gas. Larger ante-chambers available 32"W (810mm) x 19" (480mm) for parts up to 27" (685mm) diameter and 12" (305 mm) high.

Gloved Access Ports

Digital AC Brushless Servo Drive Systems

Motor Encoders on All Axes

Rotary Encoder Feedback on Rotary Axes

Powder Feeder System

Huffman Open Architecture Control (OAC)

Pendant-Mounted Control Panel

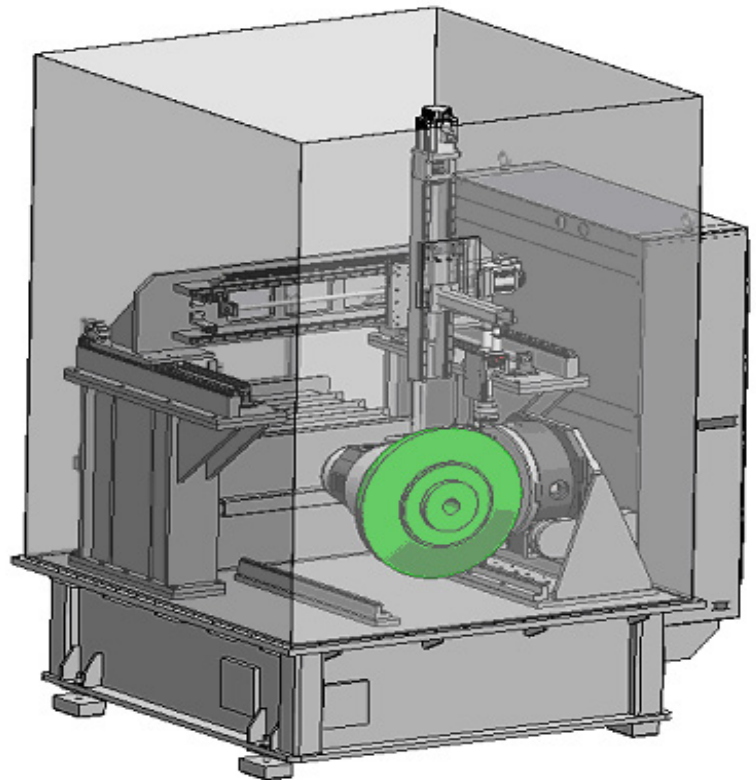
IEC 61131interface Software

Machine Enclosure Locks

CDRH Class II (Class I Without Alignment Laser)

ISO 9001 Certified Quality System

[HC-245ACC AXIS CONFIGURATION]



[OPTIONAL EQUIPMENT]

Exhaust system

Air dryer

CE Compliance

Optional second powder feeder

Custom vision software for specific applications

Part/material handling systems

Laser chillers

Gear drive rotary

High-resolution camera for larger parts

Scale feedback on linear axes



Compelling Productivity. Legendary Reliability.

CORPORATE HEADQUARTERS
1050 Huffman Way • Clover, SC 29710 • USA
Tel: 803-222-4561 • Fax: 803-222-7599
Toll-Free: 888-HUFFMAN
Web: www.huffmancorp.com