

ALPHA



FC Series

Great Value - Premium Package



LASER & SYSTEMS

ALPHA FC series Great Value Solution w/ Premium Package

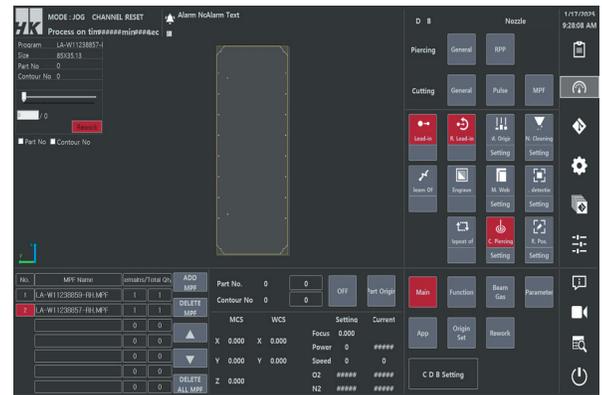


System Specifications

Items	Specs	Remarks
Built in	HK Factory in South Korea	
Model	FC3015 / FC4020	
Laser Power	6kW, 12kW, 20kW	
Max Cutting Size	120"(10')long x 60"(5')wide	
Gantry Structure	Linear Cutting Bridge w/ Lightweight Structure	
Positioning Speed	3,937 IPM	X/Y Combined
Acceleration	1.0G	
Repeatability Accuracy	±0.001"	
Controller	Siemens SINUMERIK	
Drive System	Siemens	
Servo Motor	Siemens	
Monitor	27" Flat Touch Screen	
Motion System	Rack & Pinion / High Precision Linear Guide	
Cutting Head	Precitec PROCUTTER	
Laser Beam Spot Size	Fixed Beam Spot	
Head Sensing	Non-Contact Capacitive Sensing	
Assist Gas Port	Three (3) - Oxygen, HP Nitrogen, HP Air	
Table Duct System	8-Zone Compartment	
Dust Collector	4 Filter System	
Data Communication	USB, Ethernet LAN	

HK Siemens ® Control

- The most advanced SIEMENS® SINUMERIK control
- Newly design HK Wincc® control monitor & intuitive HMI application
- 27" high-resolution flat touch screen with keyboard and one touch buttons for easy operation
- Electrical cabinet is built-in the main machine body.
- Data communication by USB or Ethernet LAN
- Pendant operating panel design



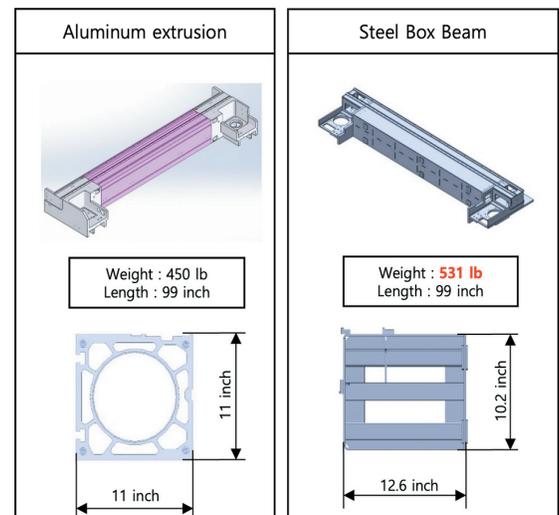
Advance Cutting Head

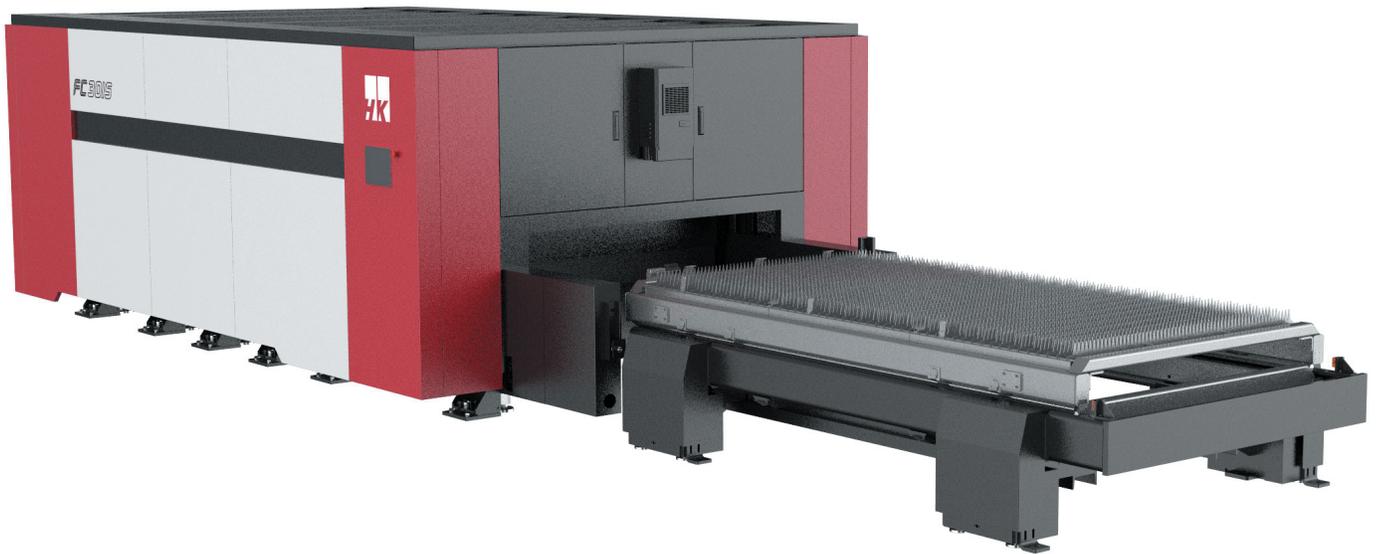
With the new and advanced cutting head, it works trouble-free up to 85 kW laser power thanks to its sophisticated cooling concept and the extended travel paths. the cutting speed can still be increased by up to 20% compared to the predecessor product.

Smart sensors integrated into the cutting head permanently monitor the condition of critical components or cutting process parameters.

Machine Base & Cutting Bridge

- Cutting bridge is the light-weight Aluminum-extrusion structure to achieve ultra-high stiffness and have the less distortion rate than other conventional gantry structure.
- Multi-zone auto duct damper system is applied at the table so as to maximize extracting fume and particles.
- The cutting bridge is equipped with the dual synchronized servo motors drive system.





Heavy-duty & Prep for Automation

- The front side of the machine with the **sliding door system** is ergonomically designed for efficient machine operation and easy access to the table and the control panel.
- **Service cabinet** on the left for consumables or supplies
- Big touch panel screen on the right side of the door with keyboard and one-stop switches
- Very clean and nicely fabricated and powder-coated machine covers
- **Dual Shuttle Table system** has a **hydraulic up-down device** to keep the same height (subject to table size)
- Prep to integrate with **Smartcell or tower automation systems** (subject to table size)

High Power Fiber Laser

The advanced and reliable fiber laser source

QD connector

Maintenance-free operation

Wide modulation frequency range

High brightness and low BPP beam characteristic

High anti-reflective ability

High efficiency for thin plate cutting

Average output power: (W): 6, 12, 20KW

Maximum modulation frequency: (kHz): 5

Output power instability: $\pm 1.5\%$

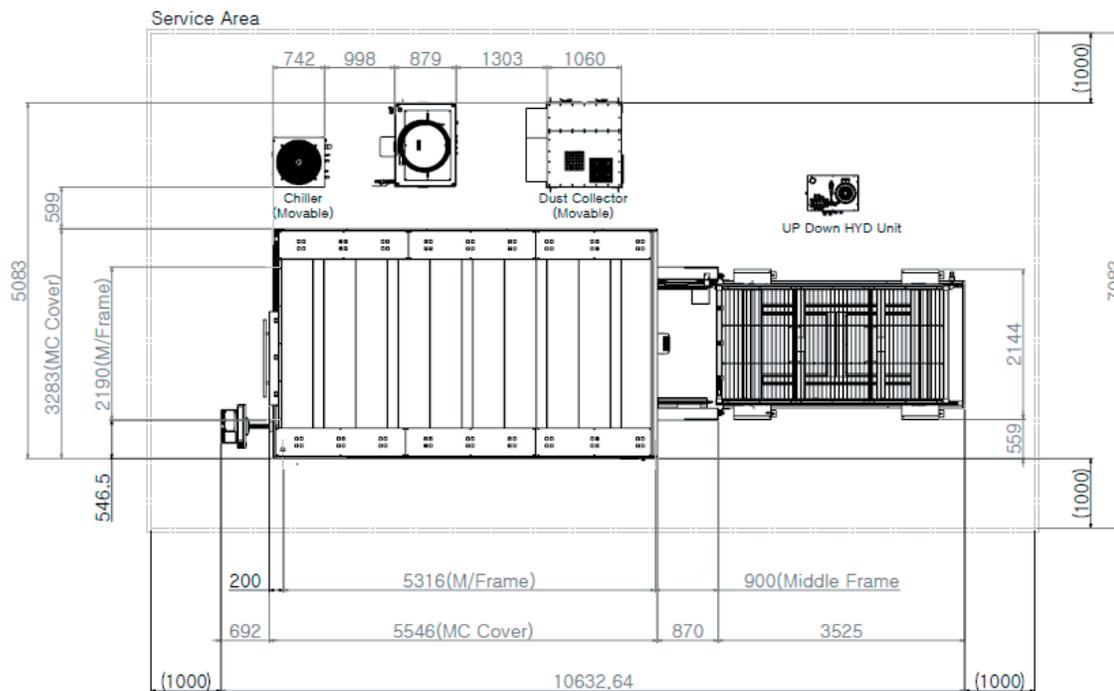
output fiber core diameter (μm): 100 (customizable)

Polarization state: random

Cooling method: water cooling

Working temperature ($^{\circ}\text{C}$): 10-40

Machine Layout



Cutting Capacity

Fiber Laser		6 kW	12kW	20kW
Material (mm)	Mild Steel	20	30	50
	Stainless	16	25	40
	Aluminum	12	25	30
	Copper	3	3	8
	Brass	3	3	12

Power Requirements

Series	Model	Max. Workpiece	Combined LASER Power with Electric Consumption (kW)		
			6 kW	12 kW	20 kW
FC SERIES	FC3015	3,048 x 1,524	40.2	70.4	110.2
	FC4020	4,064 x 1,524	40.2	70.4	110.2



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