



LASER CUTTING MACHINES

SIRIUS SERIES



Efficient Laser Processing

Sirius, LVD's latest introduction to the CO₂ laser cutting systems market, is designed to provide cost-efficient processing of parts at optimal speed, delivering fast, reliable laser cutting performance that is both high quality and highly affordable.

With a combined axis speed of 120 m/min, high cutting speeds can be achieved in thin material. High-speed processing combined with the power of the laser and the acceleration of the machine provide dynamic thin sheet cutting.

Sheet referencing is automatically handled with a built-in capacitive height sensor which maintains a constant distance between the head and the plate, compensating for any unevenness in the material.

Sirius is designed with a modular construction, permitting the user to select the configuration that

works best for the application and budget. As a standard unit, the laser cutting system features integrated shuttle tables, which maximize uptime by allowing one table to be loaded while the machine is cutting on the other table. Table change time is under 30 seconds.

This gantry-style laser system is also offered in a Plus model. Sirius Plus is enhanced with additional features and is automation-ready. It can be equipped with LVD's Compact Tower (CT) system for fully automated loading, unloading and storage of raw material and finished parts.

For high quality, highly reliable laser processing with automation ready features in a cost-effective package, Sirius is your solution.



Sirius 3015

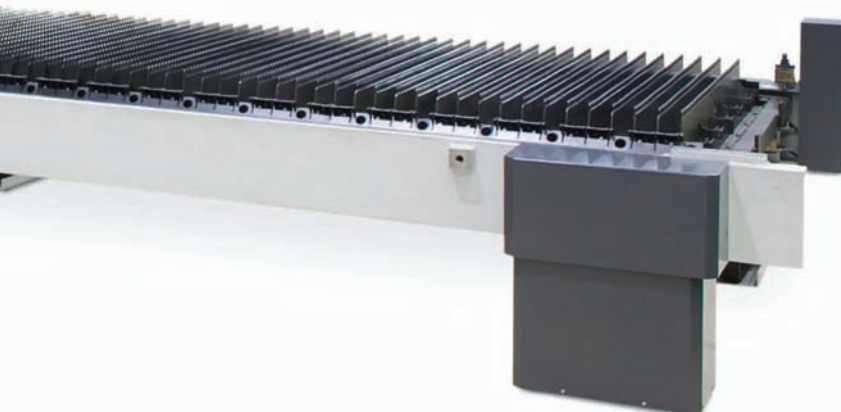
Sirius

- Compact, small foot-print, gantry-style CO₂ laser cutting system
- Fast processing of thin materials
- Highly rigid design with precision drives ensures high accuracy cutting
- Integrated shuttle table changeover is under 30 seconds
- Low operation and maintenance costs
- Equipped with a single system Fanuc laser package, incorporating laser source, control, motors and AC drive amplifiers
- Fanuc 16i-LB CNC control features a color screen and large memory capacity
- Features an extensive database of cutting technology for processing a wide range of materials
- Integrated exhaust system and cooling unit
- Pull out scrap containers



Sirius features an integrated exhaust system and cooling unit.

- Offers a choice of 2500 W or 4000 W laser source
- Sirius Plus provides enhanced features: NC Focus, Process Control, and automatic shut down
- Optional Compact Tower (CT) system for Sirius Plus
- Optional CADMAN-L 3D software maximizes flexibility and productivity



Enhanced Performance

Sirius Plus provides enhanced features for a higher level of performance.

In addition to the standard features found on Sirius, the Plus model offers automatic focal positioning, greater process control functionality, and optional Compact Tower automation.

Sirius Plus features include:

- **Process Control** to automatically sense piercing times and detect and control plasma when cutting stainless steel and aluminum. This feature maximizes processing time and minimizes part damage due to loss of cut.
- **NC Focus** provides programmable adjustment of the focal position, eliminating the need for operator intervention to adjust the focal position.
- **Air/Oil Spray device** to safely disperse splatter and lubricate the sheet when processing thicker materials, ensuring part quality is maintained
- **Automatic shut down**



Sirius 3015 Plus with Compact Tower

Maximum Utilization

Sirius Plus can be equipped or retrofitted with a Compact Tower.

The Compact Tower is a fully automated unit designed for high production requirements. It uses minimal floor space, is easily accessible, and provides the ultimate cell environment for continuous, uninterrupted work flow.



The CT system offers:

- Simple, compact design
- High flexibility to process a high volume of dissimilar parts
- Highly reliable automated production
- Continuous production for "lights out" manufacturing
- Fully automatic loading and unloading during production cycle
- Safe, efficient handling of workpieces



Consistently Accurate Cutting



*Quick-change,
self-centering
lens cartridges*



Integrated laser source and control

Sirius Series models are engineered to provide consistently high-quality processing results in a system that is easy to set-up and operate.

■ A standard laser cutting head accommodates a 5-inch or 7.5-inch quick-change lens for fast changeover and minimal set-up. These water-cooled quick-change lenses can be installed or exchanged very easily, using a self-centering system. Lens calibration is programmable and quick to achieve.

■ A high-pressure cutting head delivers exceptionally clean cuts. A crash-protection system protects the head from damage after collision with the workpiece.

■ A total power control feature automatically adjusts the laser power in relation to the cutting speed, ensuring an optimal cut at every contour width and minimizing the heat-affected zone.

■ The machine's edge function feature processes sharp corners cleanly, particularly in thicker materials.



Integrated Cutting Control

LVD's Sirius offers the proven reliability of a Fanuc integrated laser and control, providing the user full control over the cutting process.

- The Sirius Series utilizes a totally new icon driven touch screen graphical control interface - Win Interface™ - which provides a truly intuitive user experience.

CADMAN®

Robust Offline Software

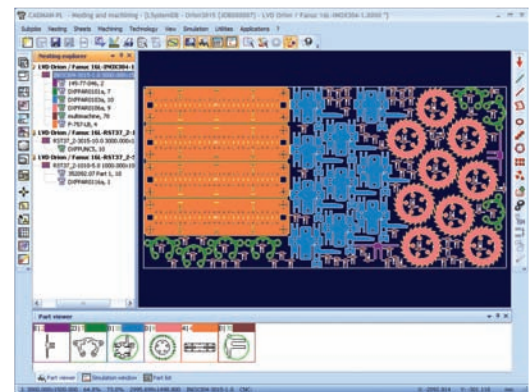
Optional CADMAN-L 3D offline programming software provides a comprehensive laser-cutting CAM package, featuring:

- Flexible lead-in/lead-outs for every kind of contour
- Advanced common line cutting
- Collision avoidance and automatic cutting sequence
- Complete flexibility to manually cut and nest laser parts
- DXF, DWG, IGES, SAT, MI file importation
- Automatic or interactive determination of cutting sequences
- Interactive or optional automatic nesting of different parts and shapes
- High-speed communications via Windows®, networking



Integrated Fanuc package

- The RF excited fast axial flow CO₂ laser, CNC control, system drives and motors are fully integrated, ensuring high reliability, as well as low operating and maintenance costs.
- The integrated Fanuc Touch Screen control provides perfect reproduction of programmed contours, producing acute angles at high speed. The laser power is matched to the vectorial speeds to achieve a constant cut width and a small heat-affected zone.
- All parameters, diagnostic and start-up procedures are conveniently displayed on the screen.
- Sirius is available with a powerful 2,5 kW or 4 kW laser source.



Interactive or automatic nesting

Material Handling & Storage

Automation further expands the flexibility and productivity of a Sirius Plus laser cutting system.

Compact Tower

For the ultimate in automated laser processing, LVD's optional Compact Tower system creates a productive, flexible manufacturing cell capable of operating "lights out."

The tower system, working in concert with the material handling unit, provides full capabilities for loading and unloading, and includes a shelving unit for storing raw material and finished parts.

The addition of automation provides fast, efficient processing of materials for continuous, uninterrupted workflow.

A graphical user interface simplifies programming and makes operation of the automated system easy and intuitive.

- Designed as affordable mid-level automation, the space-saving system provides increased productivity by allowing optimal material flow and unattended operation with uninterrupted processing of high quality laser cut parts.
- The CT system provides full capabilities for loading, unloading, and storage of raw material and finished parts.
- Automated material handling system provides unmanned, "lights out" production in a compact cell environment.
- LVD's tower system handles sheets as large as 3050 x 1525 mm and material thicknesses up to 20 mm with a maximum load/unload pallet storage capacity of 3000 kg.
- The CT system is offered in three configurations: 4-pallet, 6-pallet and 10-pallet units.



Sirius 3015 Plus with Compact Tower

Compact Tower System

Pallet construction on the CT is designed for compact set-up and convenient forklift manipulation.

Job change over cycle:

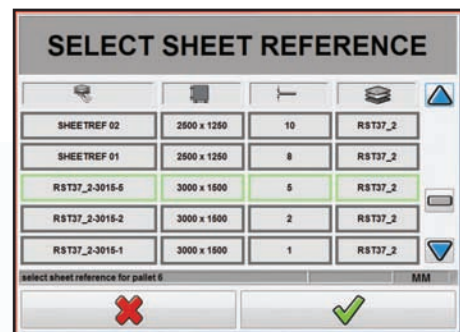
- Previous job in the joblist finishes.
- The completed pallet of processed parts is moved from the unloading station to the intermediate station.
- An empty unload pallet is moved from the tower into the unload station.
- The empty pallet from the loading station is then moved into the free space created from the previous step.

■ A full load pallet is then moved from the tower into the loading station.

■ Next job in the joblist commences.

In this manner, the Compact Tower continues delivering material to the machine and evacuating skeletons.

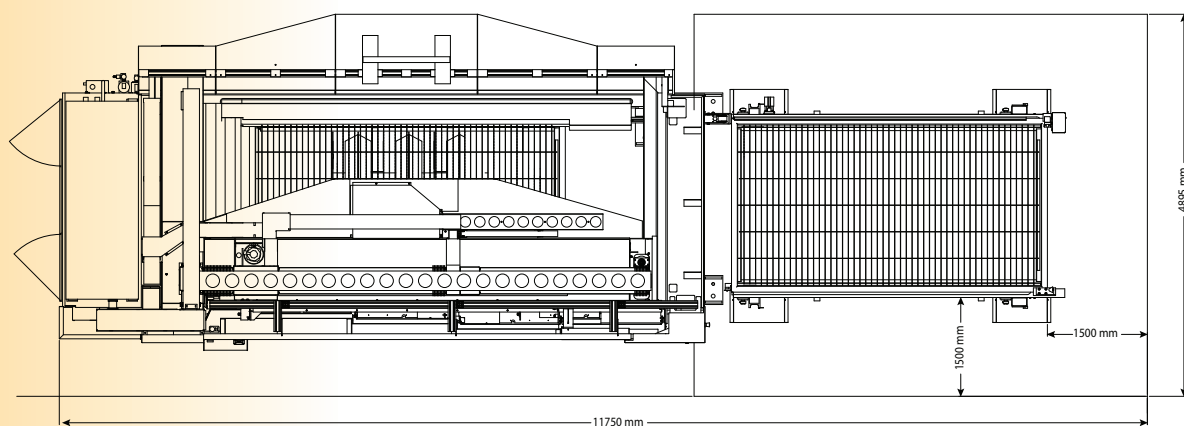
The operator can choose to evacuate or leave the pallet in the intermediate station. The system will automatically move the full unload pallet to the free space available.



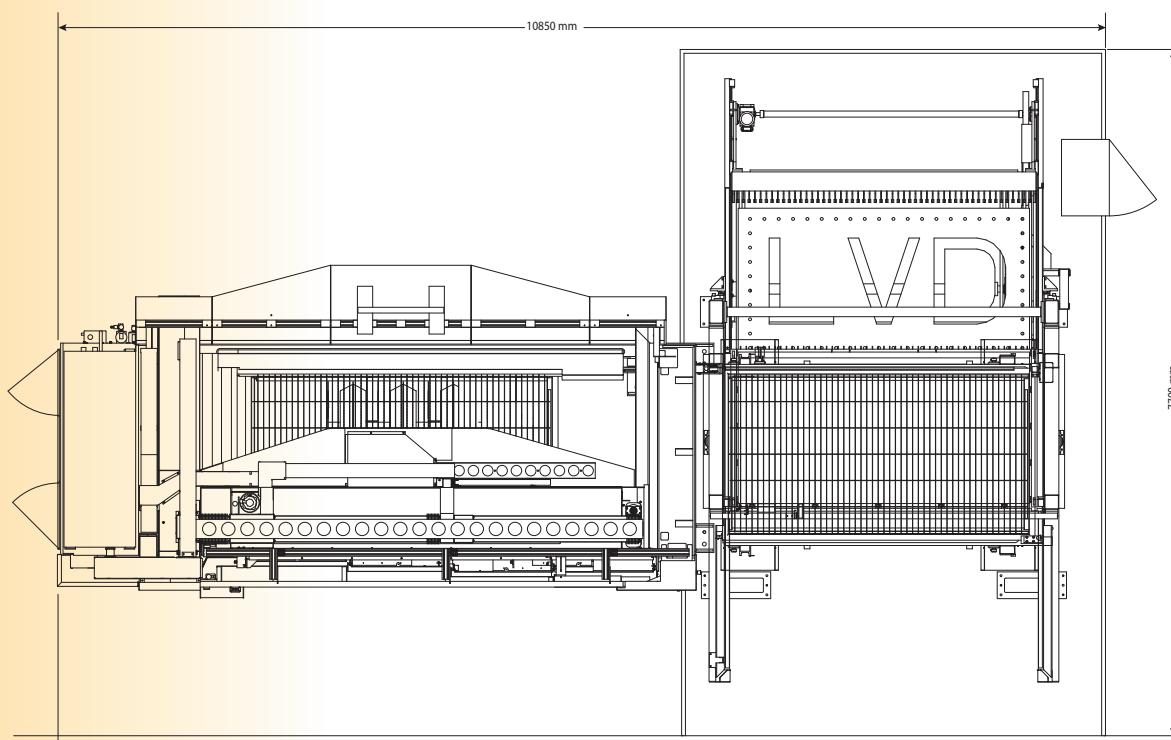
Touch screen graphical user interface for the CT system provides easy and intuitive step by step information for loading, unloading and storage.



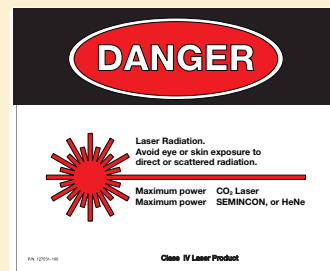
Sirius 3015/Sirius 3015 Plus



Sirius 3015 Plus with Compact Tower



Machine	Sirius 3015	Sirius 3015 Plus
Max. sheet size	3050 x 1525 mm	3050 x 1525 mm
Max. sheet weight on table	725 kg	725 kg
X-axis	3080 mm	3080 mm
Y-axis	1550 mm	1550 mm
Z-axis	250 mm	180 mm
Max. positioning speed X-Y	120 m/min	120 m/min
Z-axis	30 m/min	30 m/min
Repetitive accuracy	± 0,025 mm	± 0,025 mm
Positioning accuracy ⁽¹⁾	± 0,05 mm/m	± 0,05 mm/m
Laser		
Type	Fanuc-HF excited CO ₂ laser	
Laser Power (± 2%)	2500 W	4000 W
Range	100-2500W	100-4000W
Output Stability	± 1%	± 2%
Wave Length	10,6 µm	
Pulse Frequency	5 Hz – 2 kHz	
Laser Gas	10 l/hour	
Cooling Water	Sealed circuit	
Material Capacities	2500 W	4000 W
Max. sheet thickness:		
Steel	16 mm	20 mm
Stainless steel (N ₂)	10 mm	15 mm
Aluminum	6 mm	10 mm
General Specifications (For stand alone machines)		
Machine dimensions (excluding filter and chiller)	Sirius 3015	Sirius 3015 Plus
L	11750 mm	11750 mm
W	4895 mm	4895 mm
H	2200 mm	2200 mm
Sirius with Compact Tower		
Max. sheet dimensions (mm)	3050 x 1525 x 20	
Min. sheet dimensions (mm)	1000 x 1000	
Max. weight of pallet	3000 kg	
Max. height of pallet	240 mm including pallet	
Footprint		
L	10850 mm	
W	7700 mm	
Height of unit:		
4-pallet:	4100 mm	
6-pallet	4940 mm	
10-pallet	6620 mm	



(1) Achievable workpiece accuracy depends on the type of workpiece, pre-treatment and sheet size, as well as other variables. According to VDI/DGQ 3441. Specifications subject to change without prior notice.



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