

*Fiber laser
cutting machine*

PHOENIX FL 4020 & 6020

HIGH-DYNAMIC CUTTING OF LARGE SHEETS



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HIGH-DYNAMIC CUTTING OF LARGE SHEETS

Large-format Phoenix fiber lasers handle sheets sizes of 4 and 6 m by 2 m and feature a laser source up to 10 kW. They offer outstanding cutting performance for a wide variety of applications. Several automation options can further increase throughput.



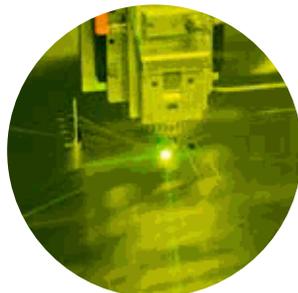
HIGH PROCESSING SPEEDS

Fast processing speeds are achieved thanks to a powerful IPG fiber laser source of 3, 4, 6, 8 or 10 kW, which also provides the flexibility to cut thick and thin materials.



RIGID FRAME DESIGN

The steel frame construction of the Phoenix minimises deformation caused by high acceleration, ensuring overall machine accuracy.



ADVANCED CUTTING HEAD

The cutting head features automated adjustment of focus position and diameter so you can cut any material type or thickness with optimal speed and quality.



AUTOMATIC SHUTTLE TABLES

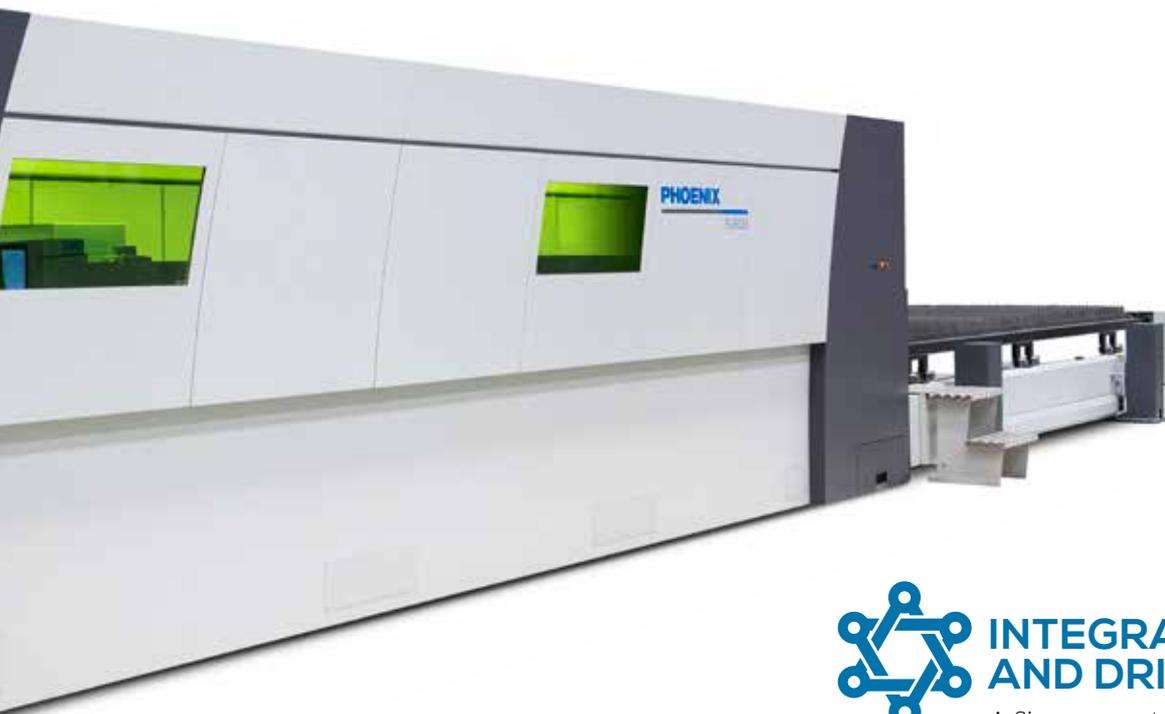
Integrated spindle-driven shuttle tables ensure smooth movement and uninterrupted part processing.

A machine that perfectly combines high dynamics with flexibility.



AUTOMATION-READY

To facilitate manual handling of large sheets, Phoenix can be coupled with automation or an external warehouse.



INTEGRATED CONTROL AND DRIVE SYSTEM

A Siemens control and drive system guarantee the highest reproduction of programmed contours at fast processing speeds.



INTUITIVE CONTROL

The 19" Touch-L control is user-friendly: operators of any skill level can interact easily with the Phoenix. Setup is fast and uncomplicated.

HIGHLIGHTS



EFFICIENT FIBER LASER SOURCE

A powerful IPG fiber laser source of 3, 4, 6, 8 or 10 kW optimises machine performance, providing the flexibility to also cut thicker materials at high speeds. The fiber laser delivers reliable and consistent power for thousands of hours, has long service intervals and minimal maintenance costs.



ADVANCED CUTTING HEAD

The Phoenix features a 150 mm focusing lens and automatic adjustment of focus position and diameter to deliver excellent cut quality.

The use of a variable beam collimator allows the focal spot to be expanded when cutting thicker materials or decreased for thinner materials. In this way, the density of energy, cutting speed and piercing time are optimised for each thickness.

Crash protection, capacitive height sensing and an easy and fast change of the protective window enhance the durability of this key component.

TOUCH-L CONTROL

The 19" touch screen control Touch-L allows fast and uncomplicated setup, conveniently displays the cutting technology and graphically represents the nesting in progress. Drawings can be imported directly to the control.



SOFTWARE INTEGRATION

LVD's database-driven CADMAN® software integrates sheet metalworking processes, production control, communication and management. It provides users with real-time data to make informed choices.

CADMAN-L is the software tool for LVD's laser cutting machines. Initiated from CADMAN-JOB, CADMAN-L imports the correct unfolded parts from CADMAN-B, then nests and processes them automatically according to the work orders.

OPTIONS



NOZZLE CHANGER

An automatic nozzle changer enables more efficient handling of job lists, avoids operator mistakes and monitors nozzle quality. This option brings greater autonomy, reduces piercing time and increases overall machine throughput.

- Storage for 17 nozzles
- Nozzle cleaning after a number of piercings
- Integrated camera checks nozzle alignment, nozzle size and condition
- Automatic calibration of the capacitive height sensing



AUTOMATION PACKAGE

Prepare your Phoenix for automation with the following features:

- Interface: enables seamless integration between Phoenix and third-party automation
- Sheet cleaner : prevents problems caused by cutting debris
- Tele-alarm: provides instant text message alerts to your mobile device



SCRAP CONVEYOR

A 1100 mm wide conveyor collects scrap in a bin located under the machine. An optional transversal conveyor can transport small parts/ scrap in a larger bin to the left or right of the machine.

LARGE-FORMAT AUTOMATION

ROBUST LOAD/UNLOAD PALLET SYSTEM FOR PHOENIX FL-4020 AND 6020

An automatic load/unload system for handling oversized or heavy work pieces. It is the ideal solution for large volume applications and lights-out production.

KEY FEATURES:

- handles sheet sizes of 4000 x 2000 mm (FL-4020) and 6000 x 2000 mm (FL-6020)
- handles sheet thicknesses from 0.8 to 25 mm
- maximum capacity input/output pallet is 5000 kg
- complete load/unload cycle time : 65 seconds for FL-4020, 90 seconds for FL-6020
- stacking height of 160 mm for raw material, 240 mm for finished sheets
- optional scratch-free unloading for thicknesses limited to 15 mm
- automatic sheet cleaning



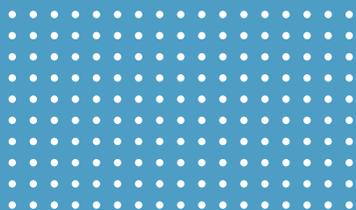
*Automation systems facilitate
lights-out processing of high volumes.*

COMPACT TOWER FOR PHOENIX FL-4020

A tower used for loading, unloading and storage of raw material and finished parts.

KEY FEATURES:

- standard system features one tower for 5, 10 or 14 pallets
- a second tower adds 9 pallets to CT-L 5, 14 to CT-L 10 and 18 to CT-L 14
- handles sheet sizes of 4000 x 2000 mm
- handles sheet thicknesses from 0.8 to 25 mm
- maximum capacity input/output pallet is 3000 kg
- complete load/unload cycle time of 120 seconds
- stacking height of 240 mm for raw material and finished sheets
- intuitive touch screen control
- automatic sheet cleaning



Automation benefits

- Continuous production for lights-out manufacturing
- Fully automatic loading and unloading during cutting
- Efficient handling of workpieces
- Highly reliable automated production
- High flexibility to process a variety of material types and thicknesses (CT-L)

SPECIFICATIONS

	PHOENIX FL-4020	PHOENIX FL-6020			
MACHINE SPECIFICATIONS					
Maximum sheet size	4065 x 2035 mm	6160 x 2035 mm			
X-axis travel	4200 mm	6280 mm			
Y-axis travel	2070 mm	2070 mm			
Z-axis travel	130 mm	130 mm			
Maximum sheet weight on table	1600 kg	2400 kg			
Table changeover time	39 sec.	48 sec.			
Maximum positioning speed X-Y	140 m/min	140 m/min			
Maximum positioning speed Z	30 m/min	30 m/min			
Repetitive accuracy	+/- 0.025 mm	+/- 0.025 mm			
Positioning accuracy*	+/- 0.050 mm	+/- 0.050 mm			
Nozzle changer	optional	optional			
MACHINE DIMENSIONS (excluding light guards, filter and chiller)					
Length	13000 mm	17200 mm			
Width	6300 mm	6300 mm			
Height (access door opened)	3360 mm	3360 mm			
APPROXIMATE WEIGHT	16500 kg	21500 kg			
LASER SPECIFICATIONS					
Type IPG					
Laser power	3 kW	4 kW	6 kW	8 kW	10 kW
Maximum cutting performance					
Mild steel	20 mm	20 mm	25 mm	25 mm	25 mm
Stainless steel	12 mm	15 mm	25 mm	30 mm	30 mm
Aluminium	12 mm	15 mm	30 mm	30 mm	30 mm
Copper	6 mm	8 mm	12 mm	12 mm	12 mm
Brass	6 mm	8 mm	15 mm	15 mm	15 mm
AUTOMATION OPTIONS					
Load/unload system	Phoenix FL-4020, FL-6020				
Maximum weight/pallet	5000 kg				
Maximum height/shelf inclusive wooden pallet	240 mm				
Height of the system	2970 mm				
Compact Tower (CT-L)	Phoenix FL-4020				
Maximum weight/pallet	3000 kg				
Maximum height/shelf inclusive wooden pallet	240 mm				
Height of the system single or double tower:					
5 pallets + 9 pallets	5500 mm				
10 pallets + 14 pallets	7450 mm				
14 pallets + 18 pallets	9010 mm				

Specifications subject to change without prior notice.

* Achievable workpiece accuracy depends on the type of workpiece, pre-treatment and sheet size, as well as other variables. According to VDI/DGQ 3441.