FINN-POWER

- PUNCHING
- **LASER CUTTING**
- BENDING
- INTEGRATED PUNCHING & SHEARING
- INTEGRATED PUNCHING & LASER CUTTING
- FLEXIBLE MANUFACTURING SYSTEMS

FINN-POWER L6 LASER WORK CENTER

WITH THE LATEST IN LASER CUTTING, YOU CAN RE-THINK YOUR PRODUCTIVITY TARGETS

FINN-POWER L6 offers true sophistication in high-speed laser cutting for sheet metal fabrication, creating enhanced production with superior speed, accuracy, and part quality. The L6 reflects FINN-POWER's commitment to developing new engineering technologyi n linear drive applications and high-speed laser cutting.

FINN-POWER L6 is designed with innovative linear drive motor technology that allows maximum speeds even in small notches or narrow contours. FINN-POWER offers a new level of high-speed performance in machining dynamics, contour accuracy, and process safety.

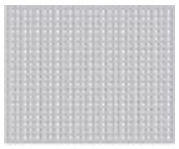
FINN-POWER L6 processes sheet sizes up to 3,074 mm x 1,565 mm (121" x 61.61") and up to 25 mm (0.984") in thickness. It provides flexibilityin laser cutting various material thickness and material types.

True evolution for new horizons in productivity

The production speed of FINN-POWER's FPL has been at the top in laser cutting. The new L6 again achieves a major reduction in manufacturing times, as these actual test results show:

FPL	L6
execution time	**execution time**
21.1 s	**15.9 s**

FPL	L6
execution time	**execution time**
18.6 s	**13.6 s**

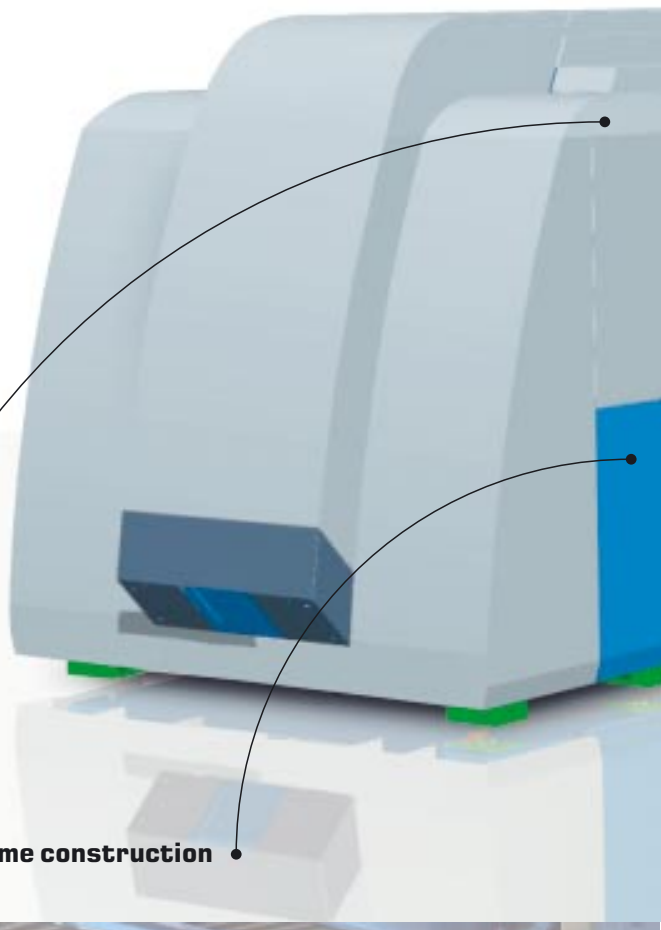


FPL	L6
700 holes / min	**1,000 holes / min**

L6 cutting capability

Positioning speed 300 m/min (11,811 ")
Acceleration > 2g
Cutting speed up to 60 m/min (2,362")

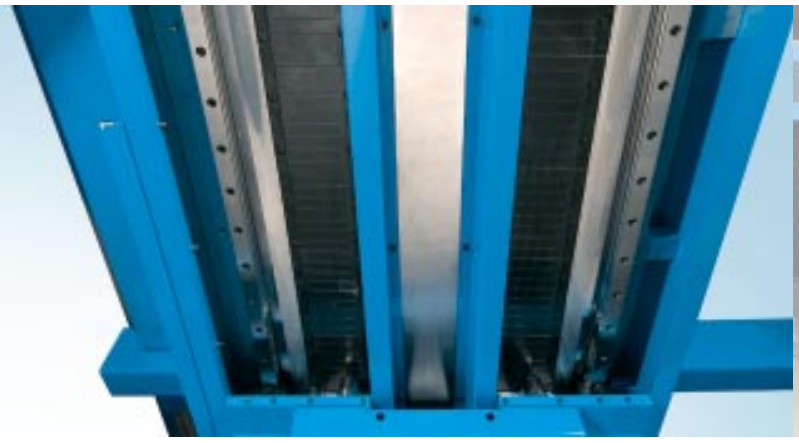
FINN-POWER L6: SPEED MEETS ACCURACY

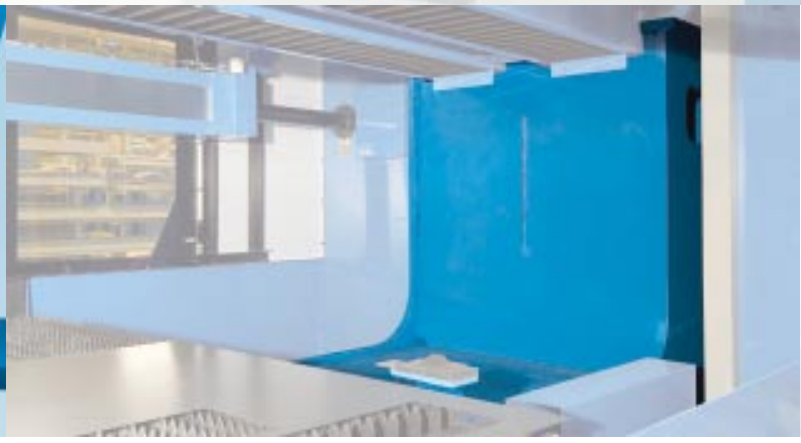


Linear drive technology for high speeds

The breakthrough of linear motor applications in machine tool operation is a reality. Once again, FINN-POWER is at the leading edge of technological progress. The positioning technology of the flying optics L6 is through digitally-controlled linear drive motors.

Rigid frame construction



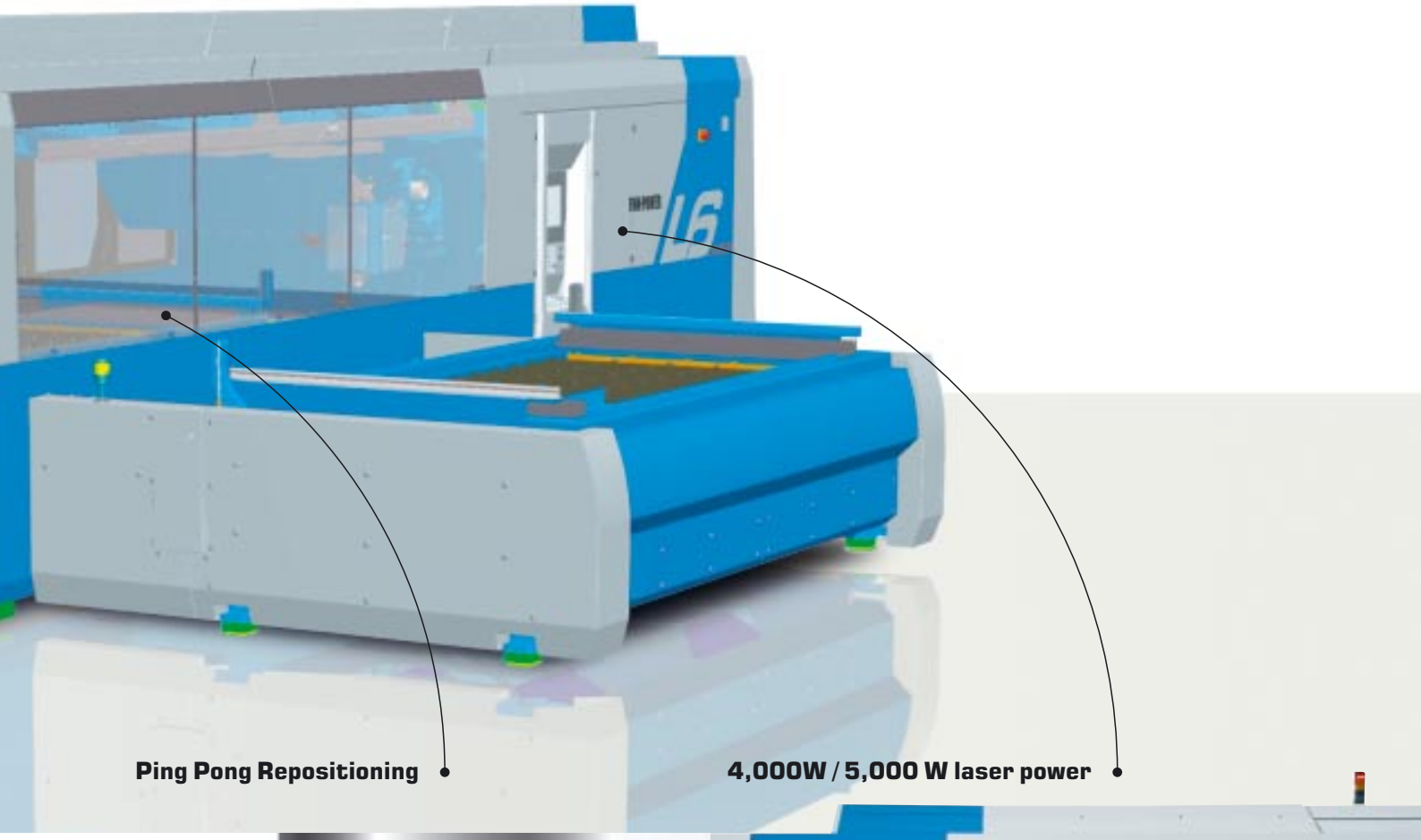


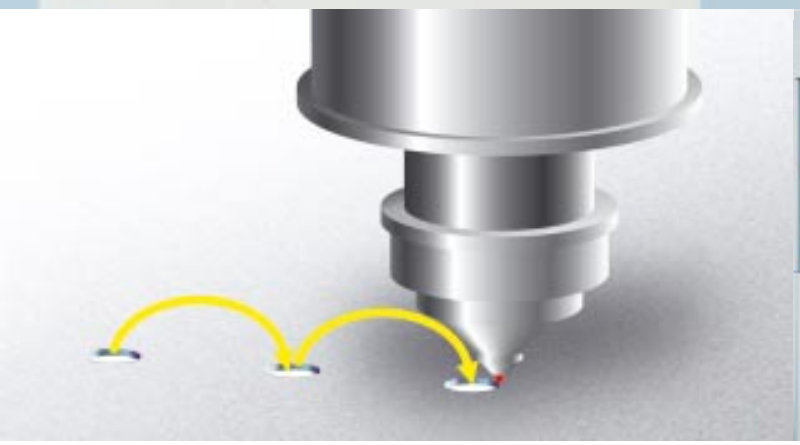
FINN-POWER's unique frame construction completely eliminates the technical problems sometimes associated with linear drives – the risk of contamination and heat generation. Thus, the benefits of this technology can be utilized to the fullest. Extremely high speeds are possible due to a low friction and direct drive system. The simultaneous positioning speed (X / Y) of FINN-POWER L6 is up to 300 m/min (11,811"). Acceleration on each axis (X, Y and Z) is more than 2 g.

The L6 rigid frame design is patented by FINN-POWER. The frame withstands all the forces of high-speed positioning and provides a solid base for stable beam delivery optics

Extremely accurate

There are no wearing parts in the driving system, thus, path accuracy is very high. Every unit is tested according to our LKP7500 quality standard and meets the following criteria:





Unlike conventional repositioning, where the straight line movements of the cutting head waste time, FINN-POWER optimizes the head movement with Ping Pong repositioning. Smooth and efficient transition means added productivity speeds up to 1,000 holes per minute are now possible!

FINN-POWER L6 features a OEM designed fast axial flow CO_2 laser. Cutting speeds up to 60 m/min (2,362"/minute) are reached using nitrogen as cutting assist gas. L6 are available with 4 kW or 5 kW laser power.

Hole location deviation (X/Y axes), max.	0.1mm (0.0039")
Form deviation, max.	0.05mm (0.0019")
Angular deviation	0.03°

INNOVATION FOR INCREASED PRODUCTIVITY

Resonator characteristics

The L6 features an OEM-designed laser resonator, developed in close cooperation with FINN-POWER to assure it meets all the quality and performance requirements of the high performance laser cutting center. It is designed with only two external direct, water-cooled copper mirrors that are used to guide the laser beam onto the focusing lens. The laser beam path protection is continuously pressurized by specially filtered and dried air.

Constant cutting quality and cutting parameters are maintained by integrated adaptive optics. Fast laser power measurement has been integrated. In addition, the resonator has an extended preventative maintenance interval.

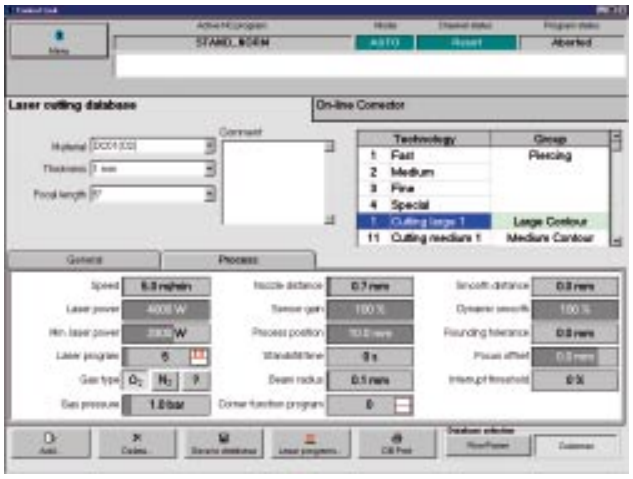
Auto focus cutting head

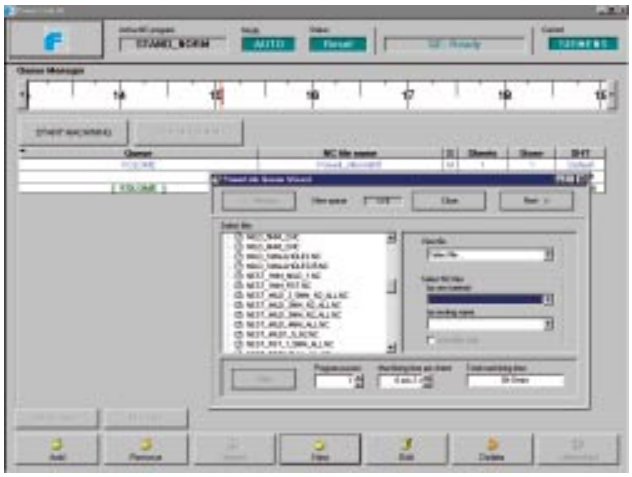
To minimize set-up time, an advanced, high-pressure cutting head is integrated into the system. The constant distance between the material surface and the nozzle is achieved with a non-contact, capacitive, integrated sensing unit. The cutting head does not have to change when a focal lens change is required – you simply insert a new lens cartridge! The lens mount can be changed in seconds by utilizing this cartridge technique. Cartridges are available for focal lengths of 5", 7.5" and 9".

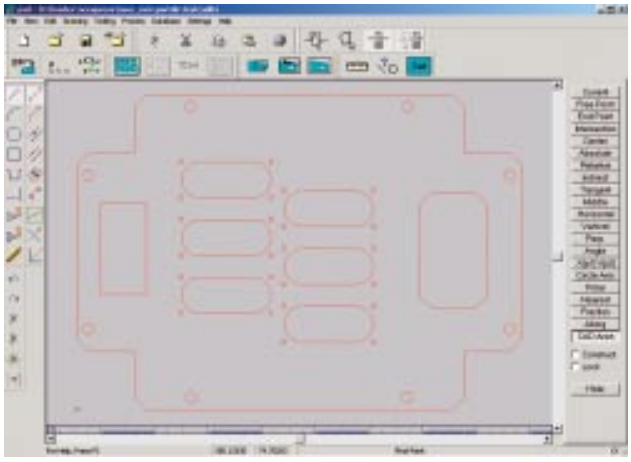
Additional features of the cutting head include automatic, fast calibration, including nozzle surface cleaning, and connections for three different assist gases with automatic regulation up to 25 bar (375 psi).

User interface

The Windows® based touch screen user interface of the L6 makes the system simple to operate. It features high-speed data transfer between the Siemens 840D control and the rugged industrial PC with large capacity hard drive, DVD read/write drive for backup, as well as an Ethernet board for connecting the system to the company network.







Integrated laser control system & parameter management

A database with a large number of cutting parameters for various materials is stored on the Laser Parameter Manager. The parameter can quickly be optimized or edited for new or different materials. In addition, the FINN-POWER L6 laser offers the operator the possibility to change or optimize laser parameters online like feed rate or cutting gas pressure, etc. Due to this unique feature, the laser cutting results can be optimized even during the laser process.

Graphical User Interface (GUI)

The graphical user interface for NC programs and ControlLink software provide an information system with alarm code explanation and user manuals. The integrated diagnostic system helps the operator monitor the different machine functions as well as quickly identify and correct eventual malfunctions. FINN-POWER's GUI supports the operator in several ways facilitating self-learning possibilities, giving recovery instructions and simple access to electronic manuals etc.

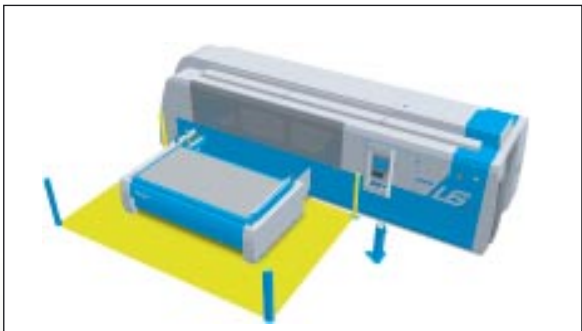
Teleservice / remote monitoring

This optional feature provides a connection between the system and a remote monitoring station where the current machine status is readily available for maximizing production. Available data includes: program in progress information, operational status of different components in the system, active alarms, and other information.

NC Express™ CNC programming software

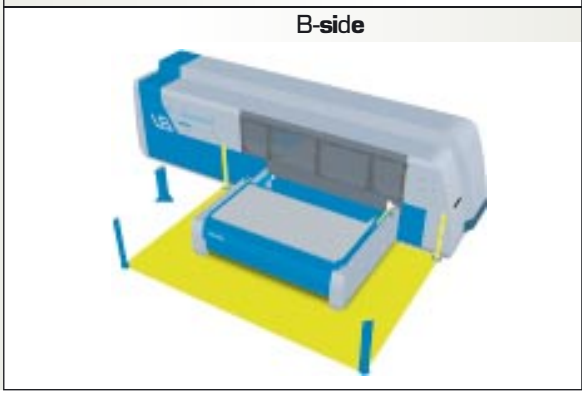
FINN-POWER's NC Express CAD/CAM programming system is a user-friendly, integrated and automated tool for managing FINN-POWER equipment. It is a highly efficient tooling, nesting and optimizing software package designed for easy integration in an existing manufacturing environment, taking full advantage of the CAD design database and the FINN-POWER machine tool product line.

INNOVATION FOR INCREASED PRODUCTIVITY



A-side

B-side



Compact, modern design

FINN-POWER L6 has a compact design with the resonator and CNC built into the structure. FINN-POWER L6 has a sleek, modern, attractive style that complements its technical features and benefits.

Shuttle table placement

The productivity of the cutting system is increased by an automatic shuttle table system that allows loading and unloading of the material during the cutting operation. The shuttle table automatically moves the processed sheet into the unloading position and a new sheet on the other table moves into the cutting area. The operator can access the shuttle table from all sides when the system is cutting and light beams guarantee safety during pallet change.

Positioning of the shuttle tables is possible on two sides of the machine, (A: front and B: back). This is beneficial when plant layout or production flow requires a specific position. This versatility is also reflected in the availability of alternative material handling solutions for additional productivity.

Sheet clamps

Equipment includes manual sheet clamps for thin material applications. Automatic sheet clamps and retractable clamps are available as an option.

Sheet probing

Angularity and position of the material can be automatically detected by the sheet probing feature which is included as standard. A precise diode built into the cutting head utilizes the speed of the drive system to reduce measurement time to a negligible value.

Machine safeguard

The safeguard-enclosed processing area around the machine ensures operator safety. In all machine modes, the operator is protected against moveable machine parts, reflected laser beam, and metal splatter.

Cooling system

The cooling system is based on a closed loop water cooler. There are separate cooling circuits for external optics and linear drives.

Dust collection & filtration

As standard, FINN-POWER L6 is equipped with a conveyor for removing dust and small particles, as well as a dust collection and filtration system with built-in filter cleaner. The operation of the exhaust system is extremely quiet and built to the latest work safety and environmental standards

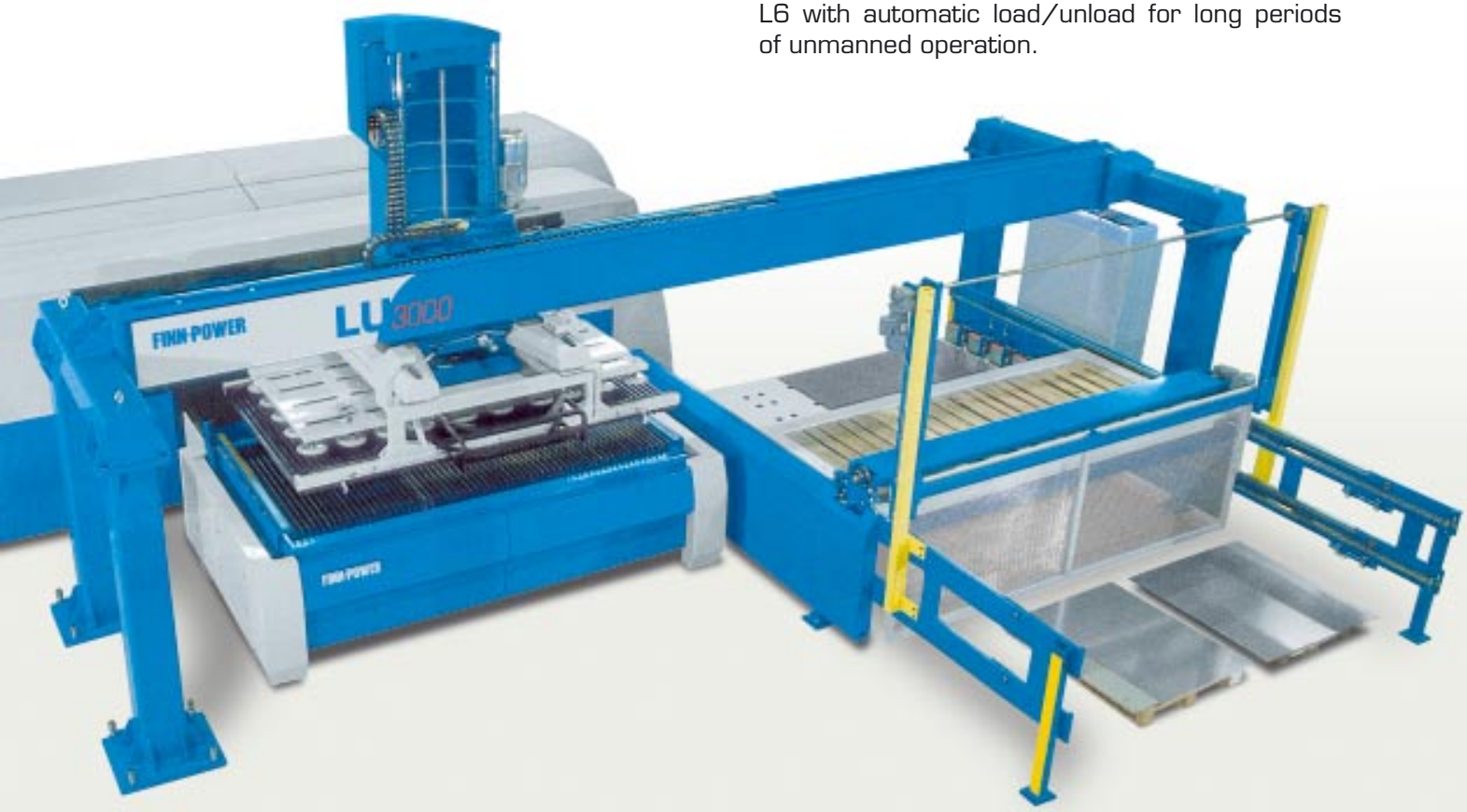
Cooler and dust collection unit

SOPHISTICATED SOLUTIONS FOR PRODUCTIVE PROCESSING

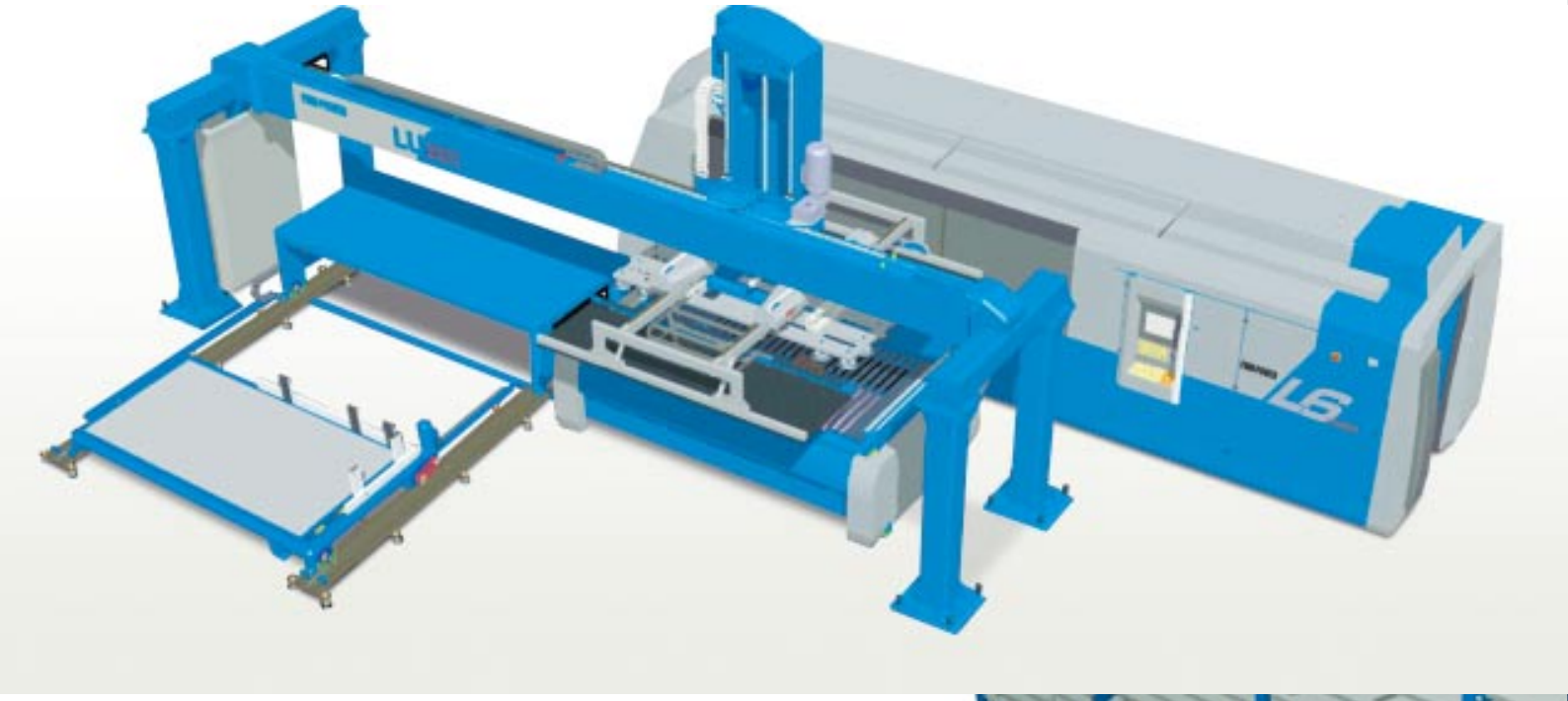
Automatic material handling

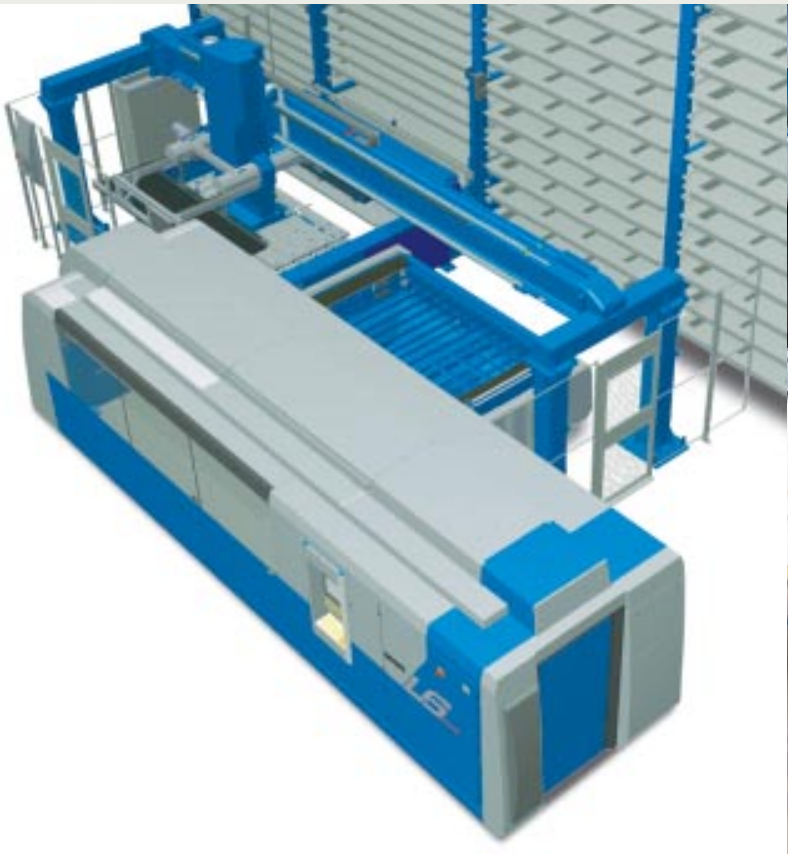
FINN-POWER is an industry pioneer in the development of automated manufacturing for sheet metal fabrication. Automated material handling systems enhance the cost-efficiency of the fabrication process.

FINN-POWER's Express Automation upgrades the L6 with automatic load/unload for long periods of unmanned operation.



SOPHISTICATED SOLUTIONS FOR PRODUCTIVE PROCESSING





FINN-POWER's new heavy-duty design load/unload solution automates the L6 with freely programmable suction cups for loading material up to 1,000 kg (2,200 lbs) and forks for unloading the finished components including the skeleton onto the unloading table.

Automatic sheet clamps for thin material are standard in automated systems. The compact design of the L6 – even with automation equipment – requires minimum floor space. It is still possible to adapt the layout to existing floor space utilizing FINN-POWER´s modular system concept.

L6 can further be equipped with flexible modular material handling equipment – like a cell concept – using FINN-POWER's new, compact Combo FMS™ storage. It can also be integrated into a Night Train FMS®, where its high capacity is easy to utilize to the fullest.

To ensure maximum flexibility, easy to use control and management software solutions are available from FINN-POWER.

FINN-POWER IN BRIEF

***FINN-POWER Oy** and its worldwide network of subsidiaries and representatives specialize in advanced sheet metal working technology. The company was established in 1969. Since February 2008 the group is owned by Prima Industrie S.p.A.*

Following the introduction of its first hydraulic turret punch press in 1983, FINN-POWER has developed a modular product range for:

- *punching*
- *laser cutting*
- *punching/shearing*
- *punching/laser cutting*
- *bending*
- *automation of the entire material flow.*

Flexibly yours®

FINN-POWER

FINN-POWER GROUP

Global Headquarters & Manufacturing

Finn-Power Oy
P.O. Box 38
FI-62201 Kauhava
FINLAND
Tel. +358 6 428 2111
Fax +358 6 428 2244
www.finn-power.com

Sales & Service Units

Benelux

Finn-Power N.V.
Leenstraat 5
B-9810 Eke-Nazareth
BELGIUM
Tel. +32 9 382 9030
Fax +32 9 382 9031

Canada

Finn-Power Canada, Ltd.
1040 Martingrove Road, Unit 11
Toronto, Ontario
M9W 4W4
CANADA
Tel. +1 416 242 4431
Fax +1 416 242 7867

China

FINN-POWER
Representative Office
1/F, Block 1,
Golden Dragon Ind. Centre
152-160 Tai Lin Pai Road
Kwai Chung, N.T.
Hong Kong, P.R. CHINA
Tel. +852 2427 7991
Fax +852 2487 5548

Finland

Finn-Power Oy
P.O. Box 38
FI-62201 Kauhava
FINLAND
Tel. +358 6 428 2111
Fax +358 6 428 2083

France

Finn-Power S.A.R.L.
13, avenue Condorcet,
F-91240 St Michel-sur-Orge
FRANCE
Tél. +33 1 69 46 55 80
Fax +33 1 69 46 55 81

Gulf Area

FINN-POWER
Representative Office
Office Bldg-1 office No.1G-19
P.O.Box 49624
Hamriya Free Zone-Shj
United Arab Emirates
Tel. +971 50 588 7150

Germany

Finn-Power GmbH
Lilienthalstr. 2 a
D-85399 Hallbergmoos
GERMANY
Tel. +49 811 55330
Fax +49 811 1667

Italy

Headquarters & Production
Finn Power Italia srl
Via Finlandia, 2
37044 Cologna Veneta (VR)
Tel. +39 0442 413111
Fax +39 0442 413199

Sales & After Sales
Finn Power Italia srl
Via Denti, 38
25020 Cadimarco di Fiesse (BS)
Tel. +39 030 9506311
Fax +39 030 9506340

Spain

Finn-Power Iberica, S.L.
Ctra. Molins de Rei-Rubí,
km. 13,5 Nave 5
08191 – RUBÍ (Barcelona)
SPAIN
Tel. +34 902 302 111
Fax +34 902 302 112

United States

Finn-Power International, Inc.
555 W. Algonquin Road
Arlington Heights
IL 60173 USA
Tel. +1 847 952 6500
Fax +1 847 952 6590

For world-wide FINN-POWER
Sales & Service representation,
see www.finn-power.com

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