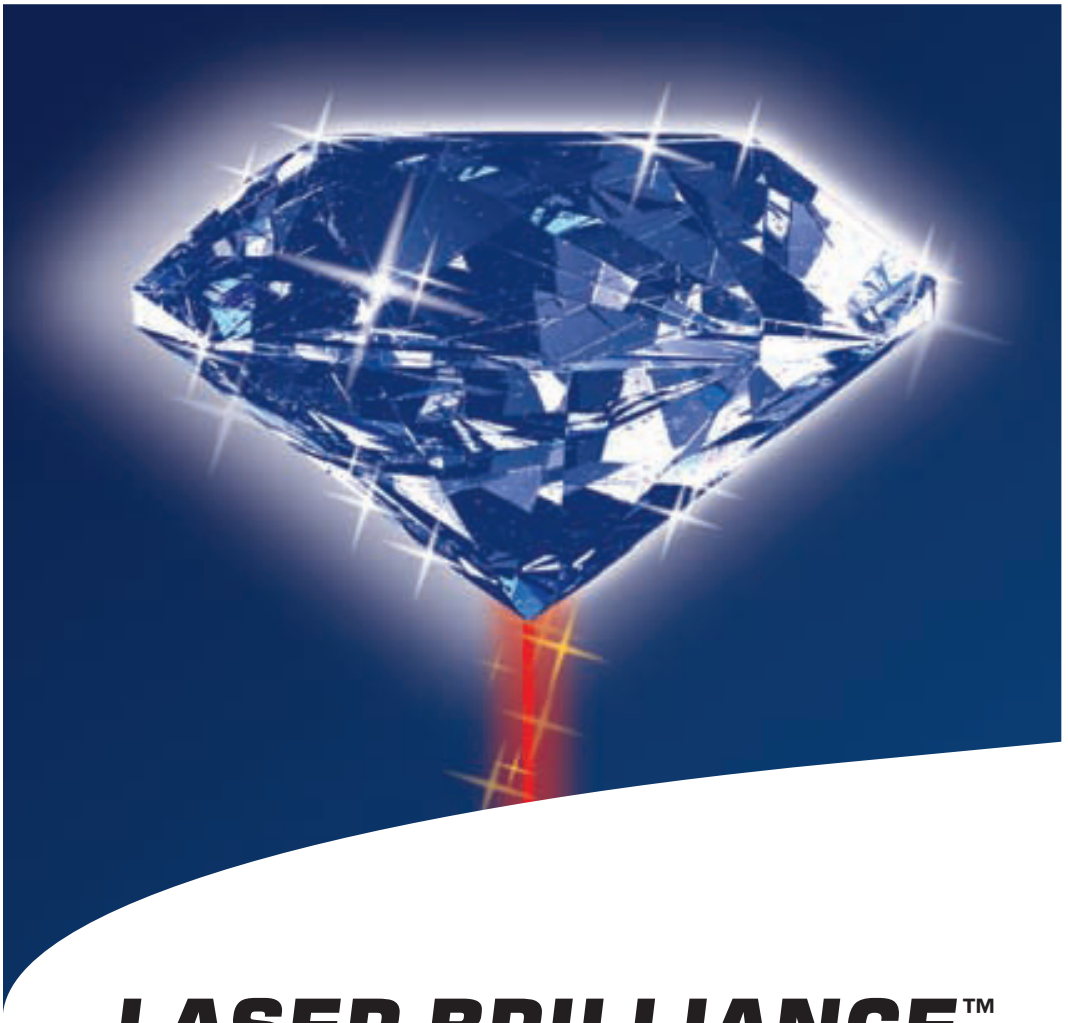
FINN-POWER

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



LASER BRILLIANCE™ – THE NEXT ERA IN INTEGRATED FLEXIBLE MANUFACTURING

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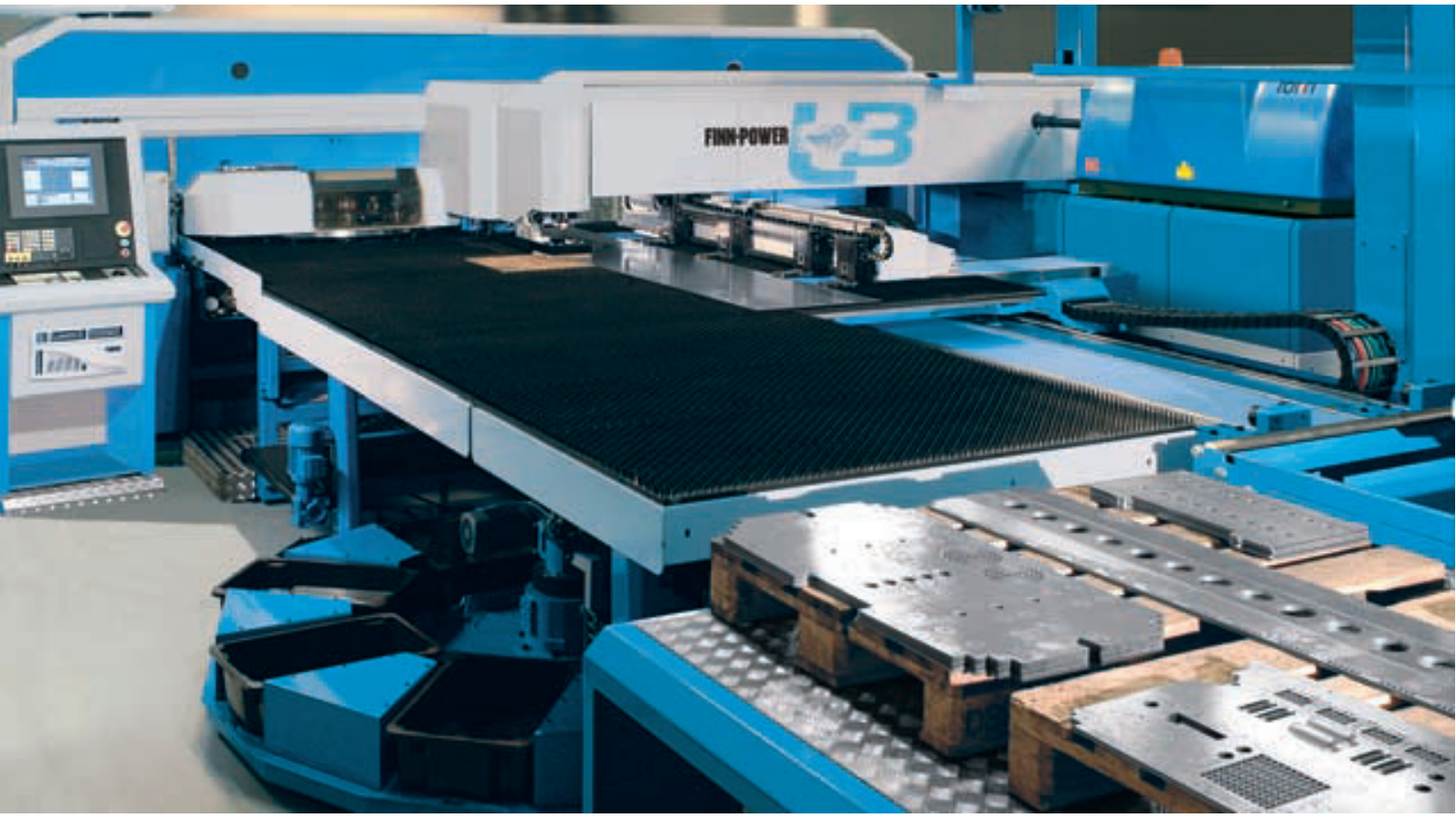

FINN-POWER LASER BRILLIANCE™

***FINN-POWER** has a record-breaking experience in*

- *applications of linear drive technology in machine tools*
- *system automation for flexible sheet metal working*
- *integration of punching and laser cutting*

***Laser Brilliance™** combines this experience into an entirely new concept in integrated punching and laser cutting – offering manufacturing speed and accuracy surpassing all previous standards.*

Material handling is automated – not only loading and unloading but also sorting and stacking of ready components are performed by a compact gantry robot.

Up to 200 tools for punching

Laser Brilliance™ features FINN-POWER's hydraulic 30-station, 30 ton punching system. As maximum number of index tool stations is 15, index rotation speed 167 rpm, tool change time 1...3 s, and max tool diameter 89 mm, virtually any punching task can be performed with extreme speed and accuracy. FINN-POWER's unique upforming system further allows the making of highly accurate forms.

FINN-POWER's tool holder concept allows the use of most tooling styles of major suppliers.

The combined performance of FINN-POWER's hydraulic system and the ultra fast linear drive system allow up to 1,000 hpm nibbling speed and 500 hpm punching speed at 25 mm distance.

Ultra-fast, accurate positioning

Laser Brilliance™ utilizes linear drive technology for ultra-fast, extremely accurate positioning. Up to 228 m/min axis positioning speed (simultaneous) is reached, with no compromise to accuracy and repeatibility.

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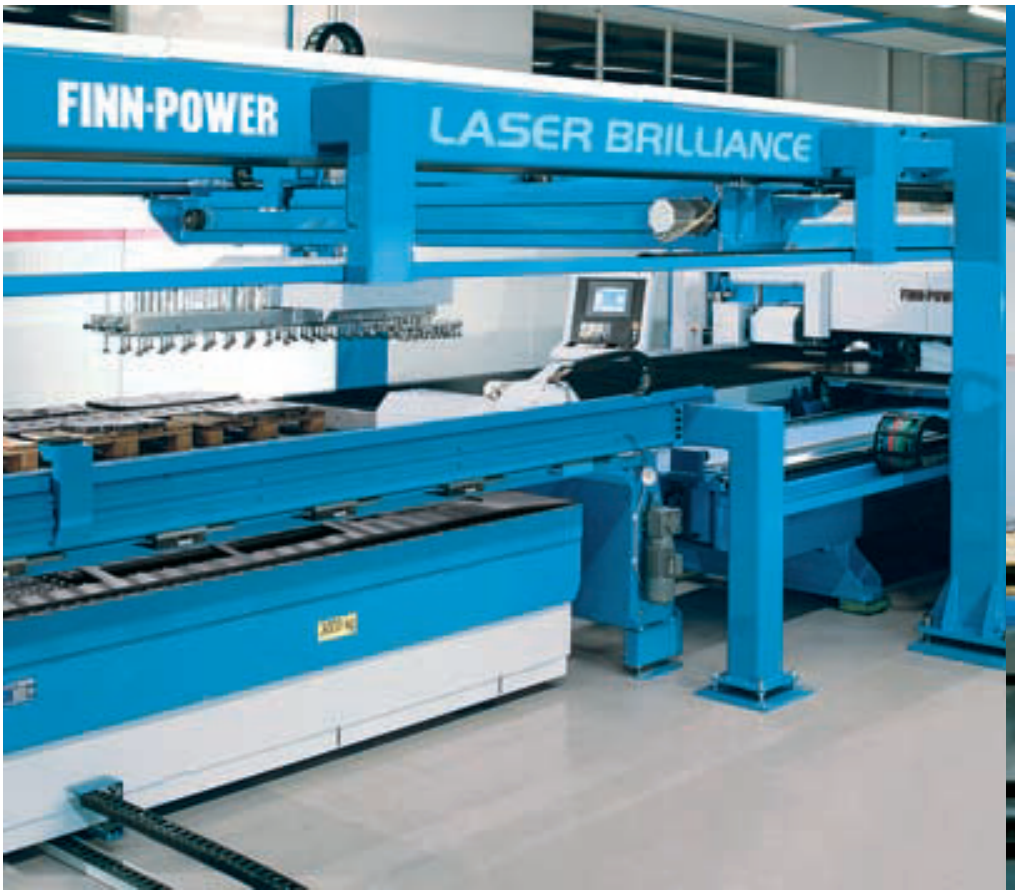

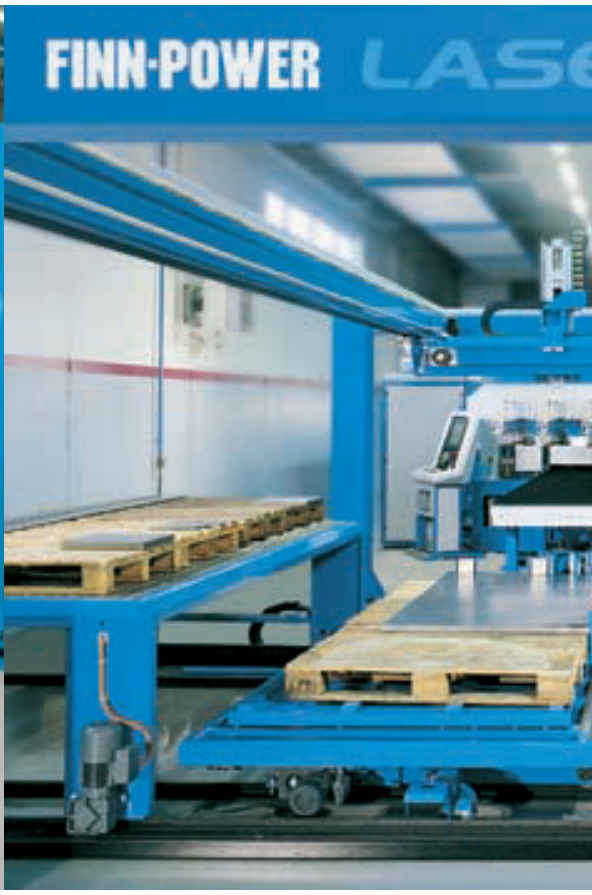

Combining speed with accuracy – ASD

Laser Brilliance™ machine design features the patented Active Synchronized Drive (ASD) principle for achieving extremely high accuracy even with high speed values. As the Laser Brilliance™ concept is a "moving sheet" system, ASD is the solution for keeping the axis movement correct, even the sheet weight/mass tries to twist the co-ordinate table due to high axis speed and high acceleration. In this system, the Y movement is actuated by two synchronized linear drives, and the active motion control of both axes minimizes any possible deflections.

No reclamping – extreme accuracy and fast processing

The long X-axis movement makes it possible to perform all operations – punching, forming, tapping and laser cutting – with a single clamping and without repositioning. This saves time, makes the process fast and ensures high part accuracy. Also big components can be manufactured with high efficiency. In Laser Brilliance™, there is no need to re-clamp, even though several work stages are performed by a single machine. This is made possible by the full 3,200 mm (X-axis) working area. The optional Laser Brilliance™ LB8 feature even sheet sizes with 1,524 mm x 4,200 mm without re-clamping.

High-performance laser cutting

The versatility of the punching capacity is added to by the laser as an unlimited contouring tool. In all, Laser Brilliance™ could be said to feature an almost "unlimited turret" for manufacturing most varied shapes.

Laser cutting capacity of Laser Brilliance™ is a 2,500 Watt diffusion cooled CO_2 laser. Manufacturing speed is guaranteed by the 228 m/min positioning speed and laser cutting speed up to 20 m/min.

The perfect construction for additional work stages

The dual-frame basic design not only separates the laser unit from any vibrations that might be transmitted from the punching unit, but allows the easy integration of equipment for additional work stages. Thus versatile forming capacity, a 6-station tapping device, real laser marking or part labelling etc. are available within a single system.

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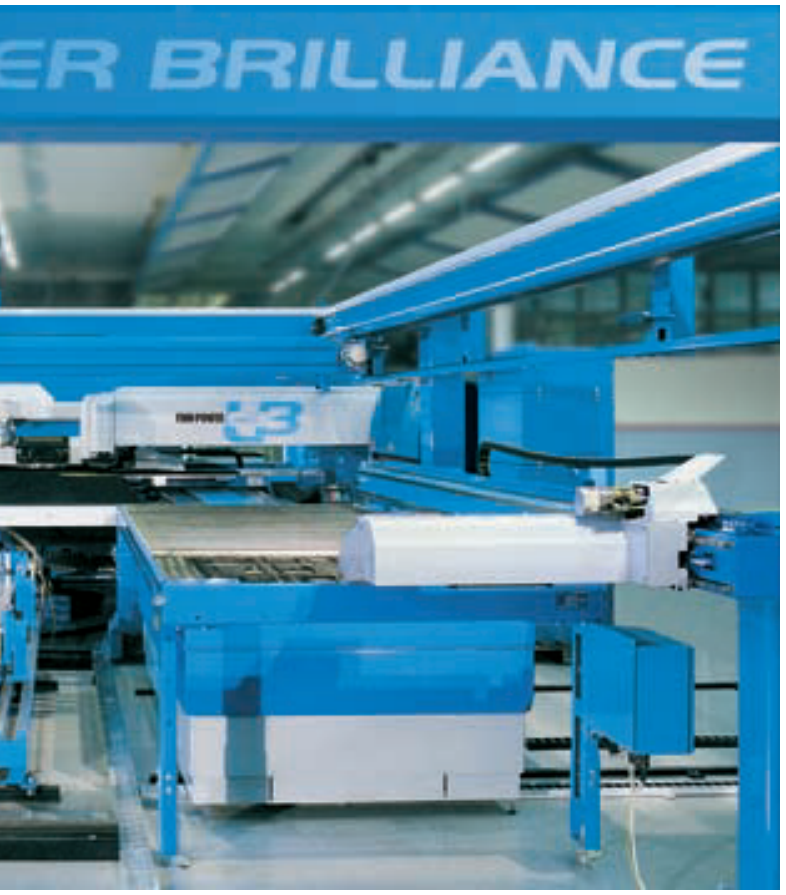


All integrated work stages are performed within the whole working area (3, 000 mm x 1,500 mm) without reclamping.

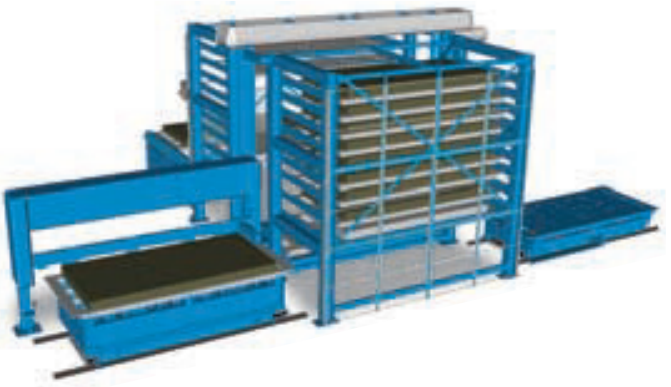
Low on consumables

The laser unit is a 2,500 watt diffusion-cooled CO_2 Slab laser with excellent mode structure (K-factor 0.8 or better) for the most effective laser cutting.

Increased cutting speed due to the machine design using linear drive technology leads to reduced part production time with no compromise to part accuracy. Accordingly, consumables like a significant amount of Nitrogen or Oxygen as cutting assist gas can be saved as well.

The solution if noise is a problem

The combination of hard-tooling methods like punching with the laser cutting process is beneficial, as the best manufacturing process can be chosen to reduce noise in the fabricating process. Thick materials or big openings, or even nibbling can be processed with the laser as the flexible tool.



Laser Brilliance® can be integrated into FINN-POWER's flexible manufacturing systems — Combo FMS™ features a compact automatic material handling solution.

Low on maintenance – easy to maintain

Linear drive systems are beneficial because there is no wear in the drive system. Regular and sometimes expensive maintenance for e.g. ball screw or rack-and-pinion drive systems is not required.

One inherent benefit of the dual frame principle is that access to maintenance points is easy, and thus operations are quick to perform.

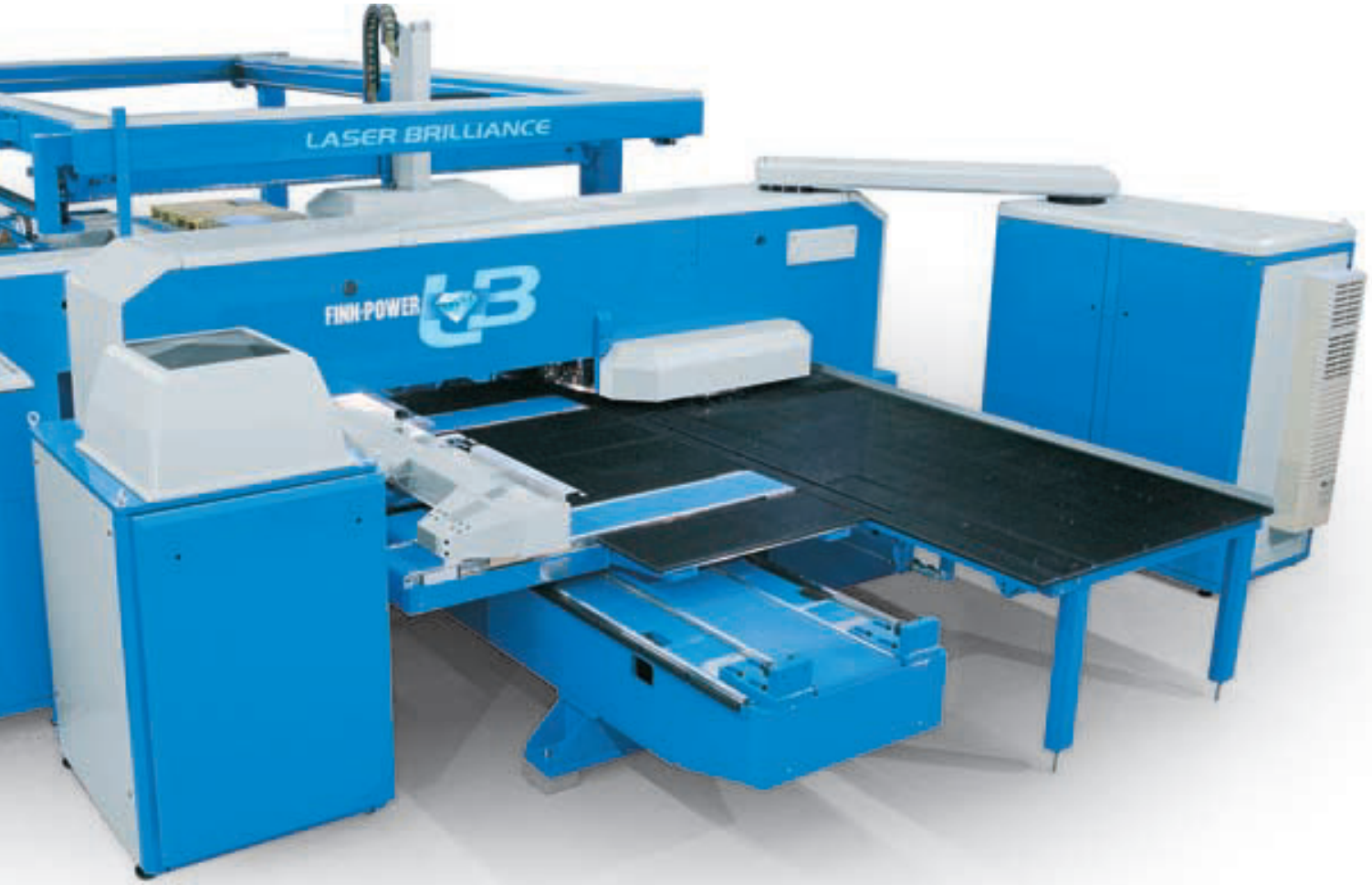
Central lubrication of all greasing points is a standard feature. There are no moving parts in the laser unit , and service requirements are low. Due to integrated gas bottle no laser gas installation is required and low gas consumption creates major savings – a gas bottle change once a year is enough.

Total solution for automated material flow

The entire material flow is automated by several, complementary solutions.

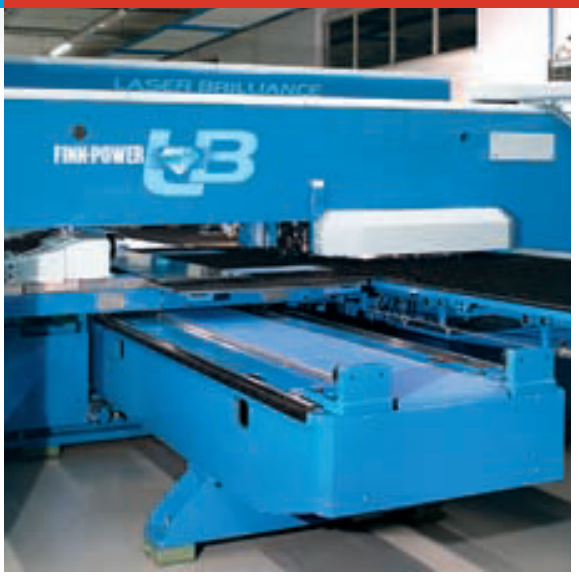
Laser Brilliance™ is equipped with the latest design of a 5-axis loading, sorting and stacking robot, as well as a sorting unit with 8 addresses. Laser Brilliance™ can further be equipped with flexible, modular material handling equipment like a cell concept using FINN-POWER's new, Combo FMS storage. It can also be integrated in a Night Train FMS®, where its extremely high capacity is easy to utilize to the full.

EXTREME ACCURACY AND FAST PROCESSING



Technical features LB6 / LB8

- Linear drive technology for X and Y axis
- Max. sheet sixe 3,208 mm x 1,524 mm (optional LB8 4,200 mm x 1,524 mm)
- Common working area (punching, tapping, laser cutting) 3,200 mm x 1,524 mm (optional LB8 4,200 mm x 1,524 mm)
- X-axis traverse 6,370 mm
- Y-axis traverse 1,586 mm
- 228 m/min positioning speed
- 1,000 hpm nibbling speed
- Index rotation speed up to 167 rpm
- 30 ton hydraulic system
- 30 tool stations
- Tooling capacity up to 200 (using Multi-Tools®)
- 2,500 Watt diffusion cooled CO_2 laser
- Laser cutting speed up to 20 m/min
- Autofocus cutting head for 5" and 7.5"
- 5-axis loading, stacking and sorting robot
- 8-position rotary sorting device



Flexibly yours®

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