



CUTLITE PENTA

HX



HX

HX is the large-format fiber laser cutting system designed and manufactured by Cutlite Penta to meet the most demanding requirements of industrial production. Speed, precision and reliability combine in a versatile platform, capable of processing sheets up to 13 metres in length with up to 60 kW of laser power.

Structure and Motion

The machine bed is built as a monolithic structure and machined on a gantry machining centre. This design choice eliminates the reassembly tolerances typical of assembled structures, ensuring maximum precision across the entire working area and over time. The protective cabin, movable and compact, is moved by the same motors as the main beam, keeping the overall footprint to a minimum and simplifying the operation of the system. The X and Y axes are equipped with precision helical racks with reversed teeth, running on prismatic recirculating-ball guides. The direct transmission between pinion and rack, driven by brushless motors with low-backlash gearboxes and absolute encoders, eliminates toothed belts from the transmission system and ensures a high dynamic response, with rapid traverse speeds up to 30 m/min on the X axis and a maximum vector speed of 140 m/min.

Cutting Head

HX is fitted with the EVO cutting head developed in-house by Cutlite Penta: an autofocus head with a non-contact capacitive sensor, engineered for performance and reliability even in the most intensive work cycles. The head automatically manages the selection of the assist gas and its pressure among the three assist gases available — “Air, Nitrogen and Oxygen” — based on the cutting parameters and the material being processed. The optics and focusing lenses are rated for laser powers up to 60 kW, with three available focal lengths (150, 200 and 250 mm) and a maximum operating pressure of 25 bar. The pull-out drawer for changing the protective window simplifies routine maintenance and reduces machine downtime.

CNC Numerical Control

HX is equipped with the proprietary Z32 CNC, a control system based on an industrial PC with a real-time operating system that manages the part program,

controls the motion and the PLC routines with a control loop of 0.125 msec. The system supports advanced axis management in gantry configuration, high-speed processing algorithms G113X and G113X KA1, look-ahead of more than 190 blocks and dynamic and geometric jerk control. All communication between the modules takes place through optical fibre, ensuring complete immunity to electromagnetic interference.

Accessories and Configurability

The HX platform is designed to adapt to the specific needs of every production facility. On the same architecture it is possible to install the automatic nozzle-change system, the Gas Mix module for blending the assist gas, the vibrating tables for scrap management and other compatible accessories. The proprietary Smart Composer software, available as an option, allows nesting to be managed and optimised directly on board the machine, with support for the import of the main CAD formats and advanced management of tabs and cutting strategies.

Fiber Laser Source

The latest-generation fiber laser sources guarantee excellent application versatility, allowing the cutting of carbon steel, stainless steel, aluminium and numerous other metals. High energy efficiency, excellent beam quality and low power consumption are the distinctive features of these sources, housed in an air-conditioned and sealed NEMA 12 cabinet to operate reliably even in harsh industrial environments. Their high reliability translates into particularly low maintenance costs over time.

LASER POWER
2.000 W
3.000 W
4.000 W
6.000 W
8.000 W
12.000 W
15.000 W
20.000 W
30.000 W
40.000 W
50.000 W
60.000 W

HX MODEL	WORKING AREA
3015	3000 x 1500 mm
4020	4000 x 2000 mm
6020	6000 x 2000 mm
6025	6000 x 2500 mm
8025	8000 x 2500 mm
9030	9000 x 3000 mm
12025	12000 x 2500 mm
12030	12000 x 3000 mm
13030	13000 x 3000 mm

WORKING AREA UP TO
13 m x 3 m*

POWER UP TO
60 kW



HX

* Measurements may vary according to the customer's needs. Contact us for more information.



ENGLISH



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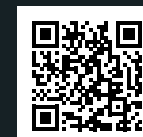
CUTLITE PENTA S.p.A. (a socio unico)

Phone: (+39) 0574 874301

Email: contacts@cutlitepenta.it

Head Office:
Via Guimaraes, 7/9
59100 – Prato

Registered Office:
Via Baldanzese, 17
50041 – Calenzano (FI)



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