

30
SPARKLING YEARS
2007

optimo
EVOLUZIONE



**30 years of surpassing evolution:
keep the lead with PRIMA**





The laser excellence, even faster and more accurate

EVOLUTION IN PERFORMANCES

- Productivity increased by 20%
- Direct-drive head: best precision and dynamics available on the market
- Mechanical rigidity doubled
- Structural frequency increased by 40%

EVOLUTION IN SIMPLICITY

- Maximum accessibility and greatest freedom of machine configuration
- PRIMACH-20L numerical control (enabling SYNCRONO to cut 1000 holes in a minute!)
- New handbox and console for making programming as easy as a game
- TOB (Technology On Board), the entire PRIMA INDUSTRIE experience at finger's tip

EVOLUTION OF EXCELLENCE

Since 1979, installation date of its first three-dimensional laser machine, PRIMA INDUSTRIE has been constantly innovating and improving its products, always under the sign of excellence. The latest version of its biggest and most accurate machine of the range, OPTIMO EVOLUZIONE, is a further step forward in that direction.

FASTER AND MORE ACCURATE

Direct-drive head with highly dynamic operation (1.5 revs per second, acceleration 60 rad/s²), new C axis with stroke of ± 10 mm and record-breaking acceleration of 4 g. Enhanced structural rigidity with the use of innovative material (carbon fibre).

Check of the alignments and active control of the optical chain to manage the laser tool, in any point and time, always exploiting all its potentialities.

The greater speed and accuracy deriving from these new solutions and the Fast Approach and LPM functions, which minimise the approach and piercing times, grant a dramatic increase of the production efficiency.

MORE FLEXIBLE, MORE ACCESSIBLE, SAFER

OPTIMO EVOLUZIONE has an exceptionally wide work volume, allowing the processing also of very large parts, keeping at the same time a total flexibility in the use of part handling/support systems.

The work volume is fully accessible from 3 sides, the automatic doors of the cabin can be programmed to optimise the parts change times and a great variety of loading/unloading solutions are available.

The tool replacement system allows an easy and immediate change from cutting to welding: with new tools and accessories each specific application is tackled in the best possible way.

The Safe Impact Protection System (SIPS), with full detachment of the head in the event of accidental impact, prevents damage to the machine, parts and equipment and ensures immediate restarting of production.

MORE POWERFUL AND SIMPLER

OPTIMO EVOLUZIONE is equipped with the latest generation PRIMACH-20L control for high performances, advanced control algorithms, technological parameters on board, HMI with Web technology, 15" touch-screen and trackball.

The new intuitive handbox has a graphics interface and joystick.

SPECIFICATIONS

Linear axes	X mm 4500	Y mm 2500	Z mm 1020
Rotating axes	A B	360° continuous ± 135°	
Adaptive axis (cutting head)	C	± 10 mm	
Speed	X, Y, Z A, B	50 m/min (maximum combined speed of axes: 85 m/min) 1.5 rev/s (90 min ⁻¹)	
Acceleration	X, Y, Z A, B C	0.4 g (maximum combined acceleration of axes: 0.7 g) 60 rad/s ² (9.5 rev/s ²) 4 g	
Resolution	X, Y, Z A, B	0.001 mm 0.00006°	
Precision (*) • according to VDI/DGQ 3441 standards		Positioning accuracy (Pa):	Repeatability (Ps):
Linear axes:			
- Standard version		0.06 mm	0.06 mm
- Optical scales version (optional)		0.03 mm	0.03 mm
Rotary axes		0.005°	0.005°
(*) the precision of the part depends on its type, size and pre-treatment, and on the conditions of application			
Maximum overall dimensions (excluding removable CNC and ancillaries)	Length mm 8200	Width mm 5250	Height mm 4100
Weight (basic machine)	~ 21000 kg		
Colours	Fixed parts: RAL 5012 - RAL 5001 Moving parts: RAL 2008		