

# DRILLING MACHINING CENTRES

Increased productivity and flexibility





# OUR TECHNOLOGY BEHIND YOUR IDEAS

uniflex



flexa 900



author 900



zenith



powerflex



**uniflex**

HIGH CUSTOMISATION AND  
MAXIMUM PRODUCTIVITY







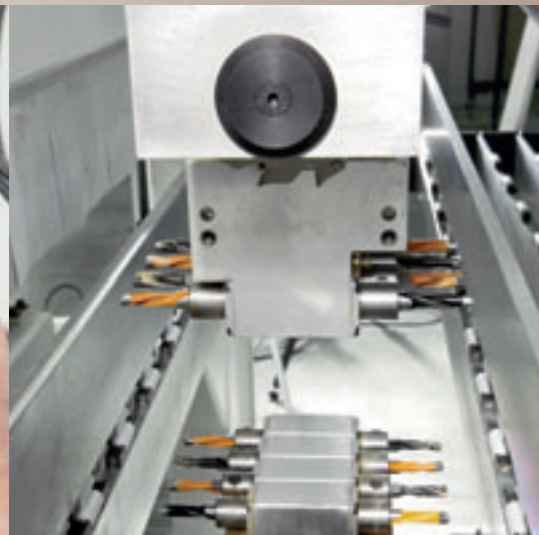
excellent drilling capacity



eliminates machine set-up times



simple and practical to use



▶ Opposed machining heads (LOWER and UPPER) up to 132 independent spindles.

▶ All operations completed, with the possibility of routing, blade cutting in both X and Y, and insertion of any type of hardware.

▶ Dedicated and powerful software for increased optimisation of the machining phases.

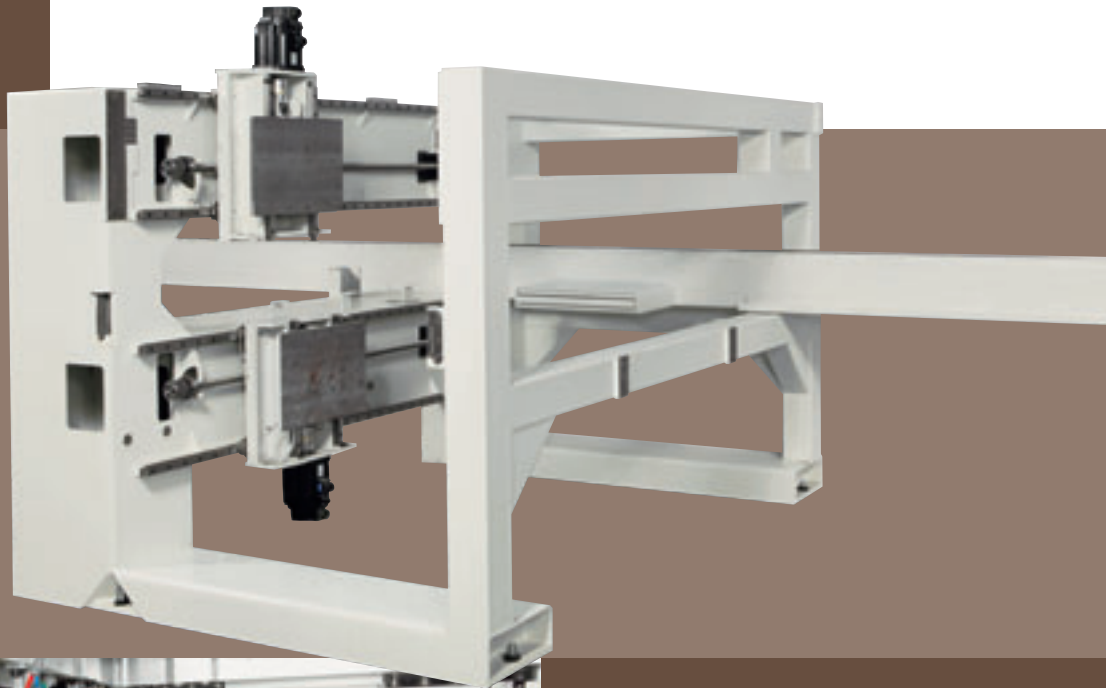
▶ The highest levels of productivity achieved with the minimum number of spindle downstrokes.



# uniflex

## QUALITY AND PRECISION FOR THE DEMANDING PROFESSIONAL

Arc-welded O-frame closed structure guarantees maximum rigidity of the machining heads in order to achieve the best quality finish of the workpiece



Drilling head produced in a single aluminium alloy fusion machined from a solid for the best drilling precision ( $\pm 0.1\text{mm}$ ): up to 66 independent spindles: 48 vertical and 18 horizontal.

The new tempered steel spindles and the patented integrated ceramic bearings ensure rotation speeds of 6000 rpm.

The new-concept work table is designed to perform all machining operations in the spaces between the supports.

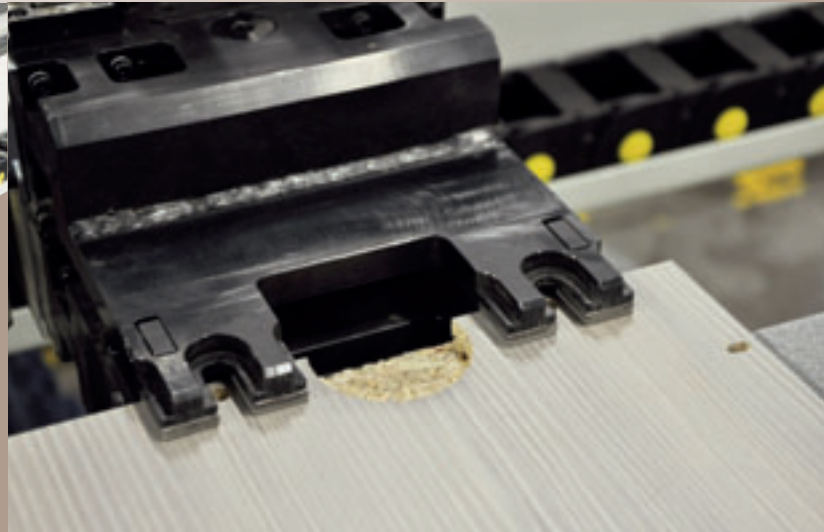
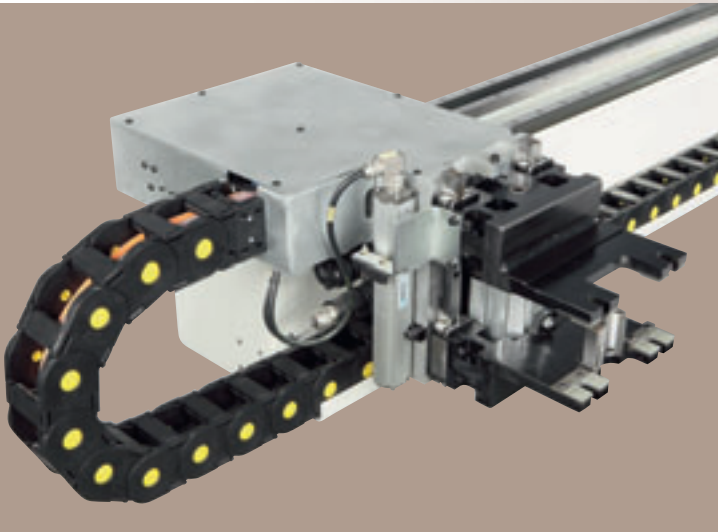
The supports, consisting of rollers in a scratch resistant material, guarantee the careful movements of the panels to ensure that the panel surfaces are not scratched.

Rigid pressers at the infeed and outfeed to the work area, guarantee the quality of any type of machining by clamping the panels automatically and precisely.





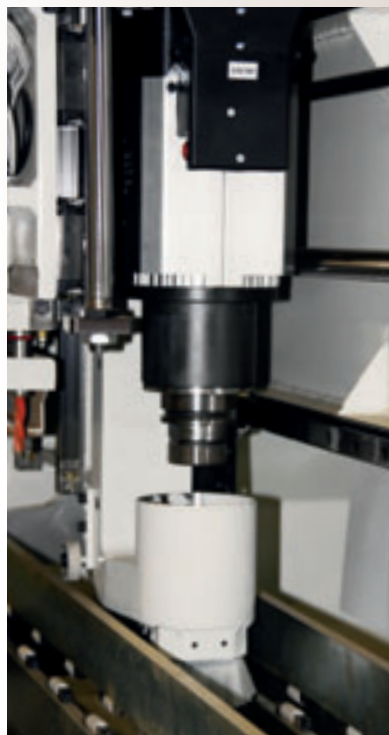
The new panel hold-down grippers feature a revised geometry and independent movement to also allow drilling operations in positions inside the gripper area, for an improved optimisation of the machining of the workpiece and a reduction in the cycle times.



The two THK guides and the Brushless motors combined with the rack and pinion kinematic mechanism, offer rigid movement and precise positioning ( $\pm 0.005$ ) with positioning speeds up to 100 met/min.

The digital gauge, with centesimal resolution fitted directly on the main gripper, can be used to perform immediate tests on the thickness of the panels being machined.

The new workpiece transport gripper has been designed to also drill and router inside its geometry, thus avoiding its anti-collision repositioning and drastically reducing the cycle times.



Machining heads for any production requirement

- Integrated saw blade unit fixed in the X direction with tool  $\varnothing 120\text{mm}$
- Automatic saw blade unit  $0/90^\circ$  with tool  $\varnothing 160\text{mm}$
- 7.5KW electro-spindle (S6) with HSK 63 tool holder
- Integrated drilling unit for hinges

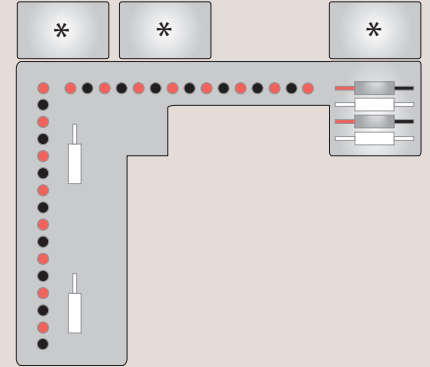
# uniflex

## TWO CONFIGURATIONS TO MEET ANY PRODUCTION REQUIREMENT

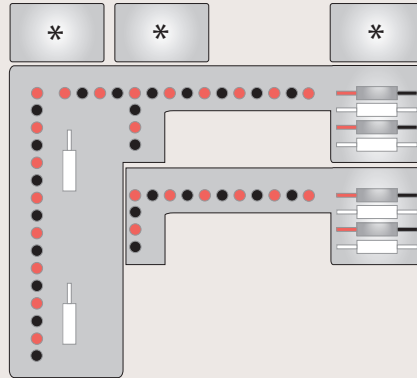
### UNIFLEX S

Essential and complete equipment to cover all requirements:

- up to 31 + 31 independent horizontal spindles
- up to 10 + 10 independent horizontal spindles
- up to 3 + 3 positions for:
  - Fixed integrated saw blade unit
  - Automatic saw blade unit 0/90 deg
  - Powerful electro-spindle
  - Integrated unit for hinges
  - Dowelling unit



\* Slots available for additional equipment\*



\* Slots available for additional equipment

### UNIFLEX HP

The best configuration for those requiring high productivity levels:

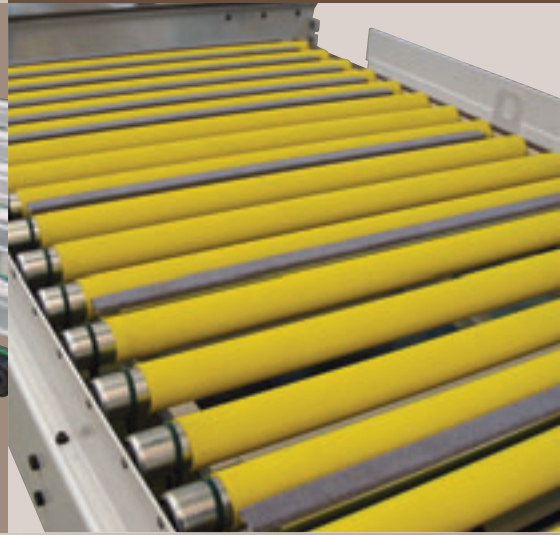
- up to 48 + 48 independent horizontal spindles
- up to 18 + 18 independent horizontal spindles
- up to 3 + 3 positions for:
  - Fixed integrated saw blade unit
  - Automatic saw blade unit 0/90 deg
  - Powerful electro-spindle
  - Integrated unit for hinges
  - Dowelling unit

### UNIFLEX HP

Drilling unit with 14 independent spindles with automatic positioning in the Y direction, indicated for drilling shelves.

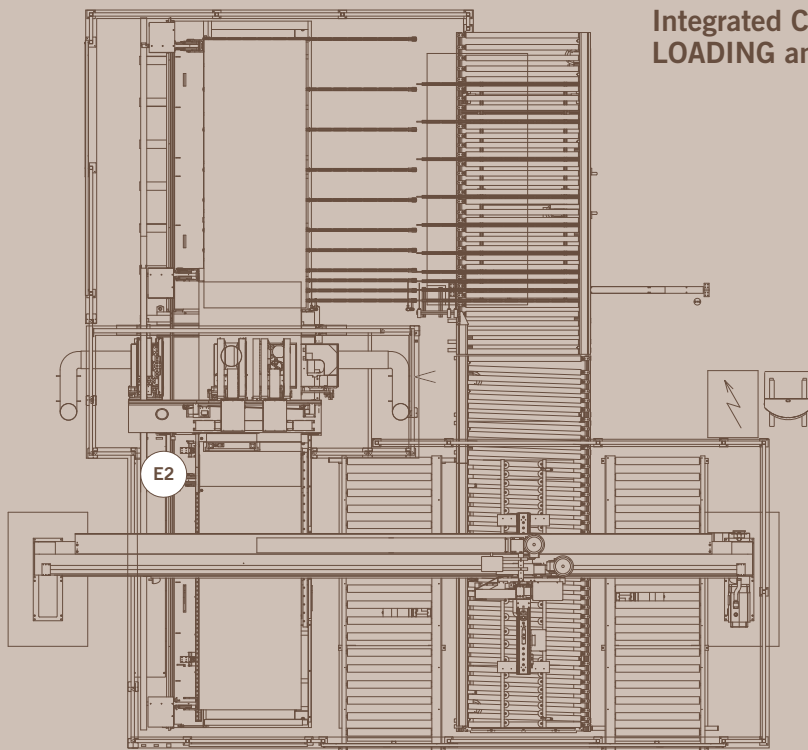


## GREAT CARE IN PANEL HANDLING



Highest versatility according to the customer's requirements, with various types of loading and unloading systems available for the UNIFLEX, when used as a stand-alone machine or inserted in production cells:

- FLOTEX table for manual loading
- longitudinal and transversal roller conveyors for automatic loading and unloading
- automatic loading and unloading devices (robot).



**Integrated Cell with automatic gantry for  
LOADING and UNLOADING operations**

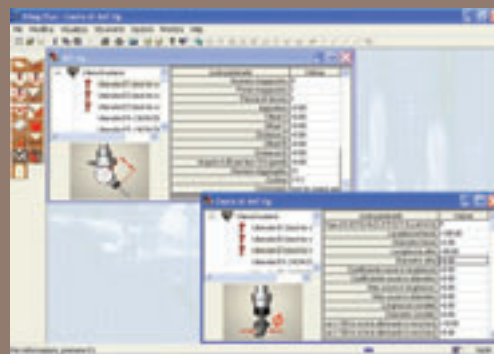
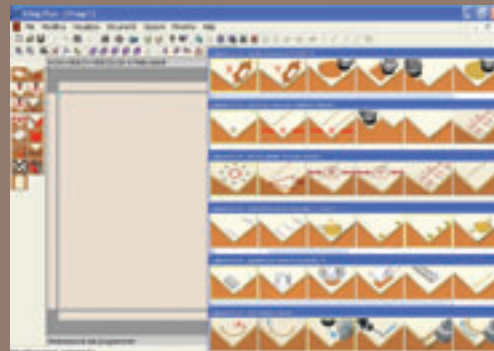
## POWERFUL AND EASY TO USE



### Powerful 'new-concept' Numerical Control, for Drilling-Routing Machining Centres with Personal Computer interface.

**Office PC:** very familiar and easy to use by the operator for all the machine's operations, with the latest hardware specifications. The Windows environment forms the basis of the Morbidelli software.

Simple and effective, it has been designed by taking the exact requirements of the end-users, whether expert operators or users new to machining centres, through graphic help prompts and specific MACRO.



### Main software features

Fixturing management with tool display and graphic support to avoid the possibility of entering incorrect data;

files in DXF format imported immediately and directly;

dynamic optimised drilling; graphic and syntactic help to speed up the data entry operations;

parametric programming, to automatically update the program when the dimensions of the workpiece being machined are altered, to avoid writing a new program;

self-diagnosis and warning of any errors or possible failures through alarm messages in the user language, with an online manual to quickly understand and resolve any issues;

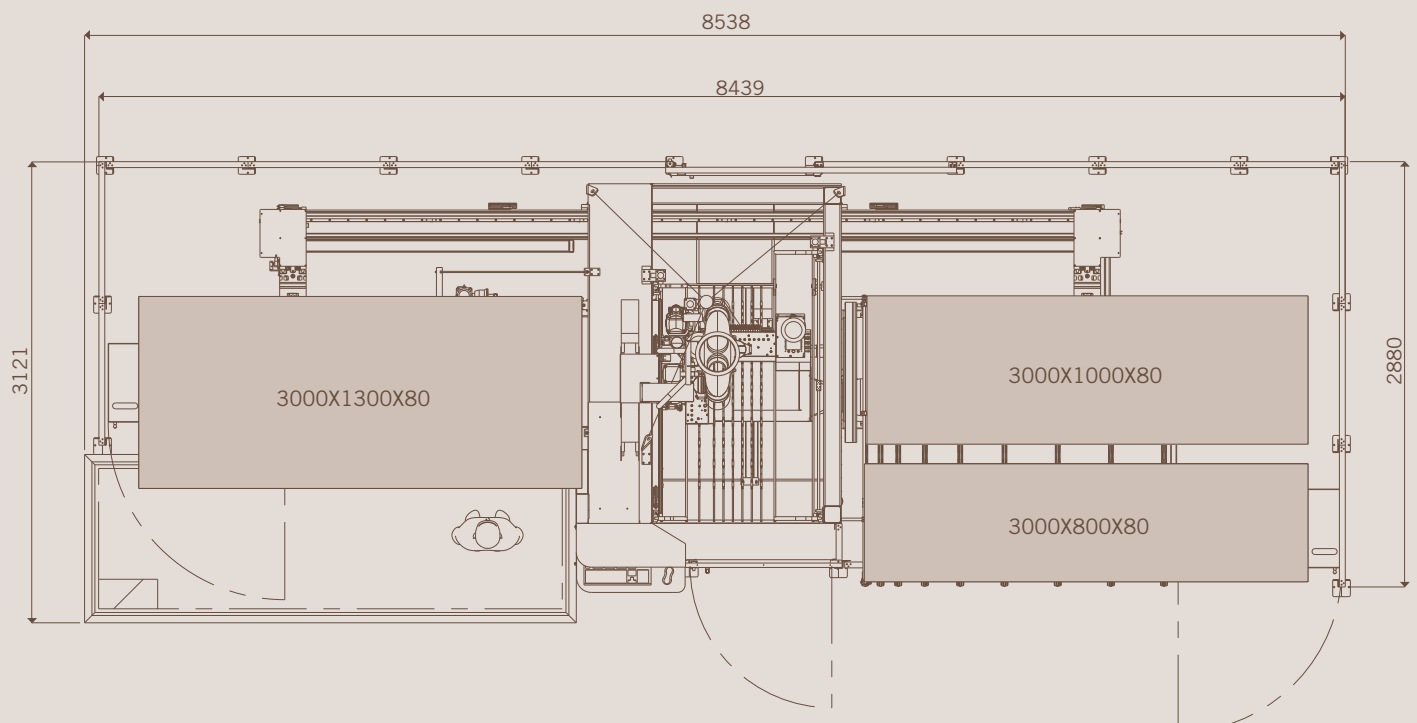
- graphic help for the work support positioning to avoid collisions with the tools in the case of through drilling and/or routing as well as to eliminate the empirical tests directly on the machine;
- program execution with barcodes.

# uniflex

## TECHNICAL SPECIFICATIONS

Work area (X-Y)	mm	3000 x 1300
Max machining thickness	mm	80
Drilling heads	n°	2
Drilling unit main motor	kW	3
Electro-spindle unit	kW	7,5 (S6)
Integrated optional units (max on each head)	n°	2
Independent vertical spindles (max on each head)	n°	48
Independent horizontal spindles (max on each head)	n°	18
Min. distance for shelf drilling (with drilling unit in control)	mm	192
Max. distance for shelf drilling (with drilling unit in control)	mm	512
Machine weight	Kg	2800

### LAY-OUT





**flexa 912**  
**author 924**

TWO MACHINES,  
INFINITE SOLUTIONS





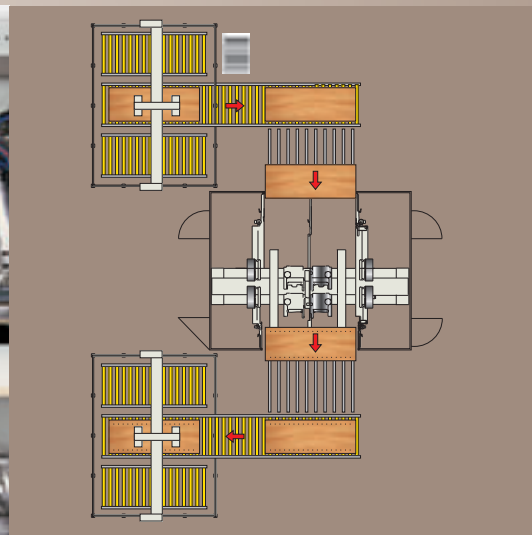
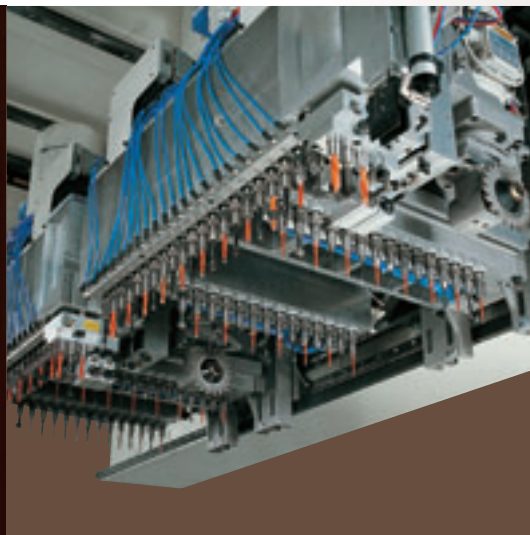
extraordinary flexibility



Modern technology for high level production



easily integrated into high flexibility machining cells



- ▶ High availability of independent spindles to resolve any drilling requirement: more than 180 for FLEXA 912 more than 320 for AUTHOR 924

- ▶ Simultaneous machining of two panels together (Y = up to 650 mm – Flexa 912 Y = up to 800 mm – Author 924)
- ▶ Reduced machining cycle time due to the horizontal drilling phase performed in masked time whilst the vertical drilling phase is operating.
- ▶ Maximum optimisation of the drilling cycle time: the machining heads perform the machining simultaneously on one or two panels, thus reducing the cycle times.

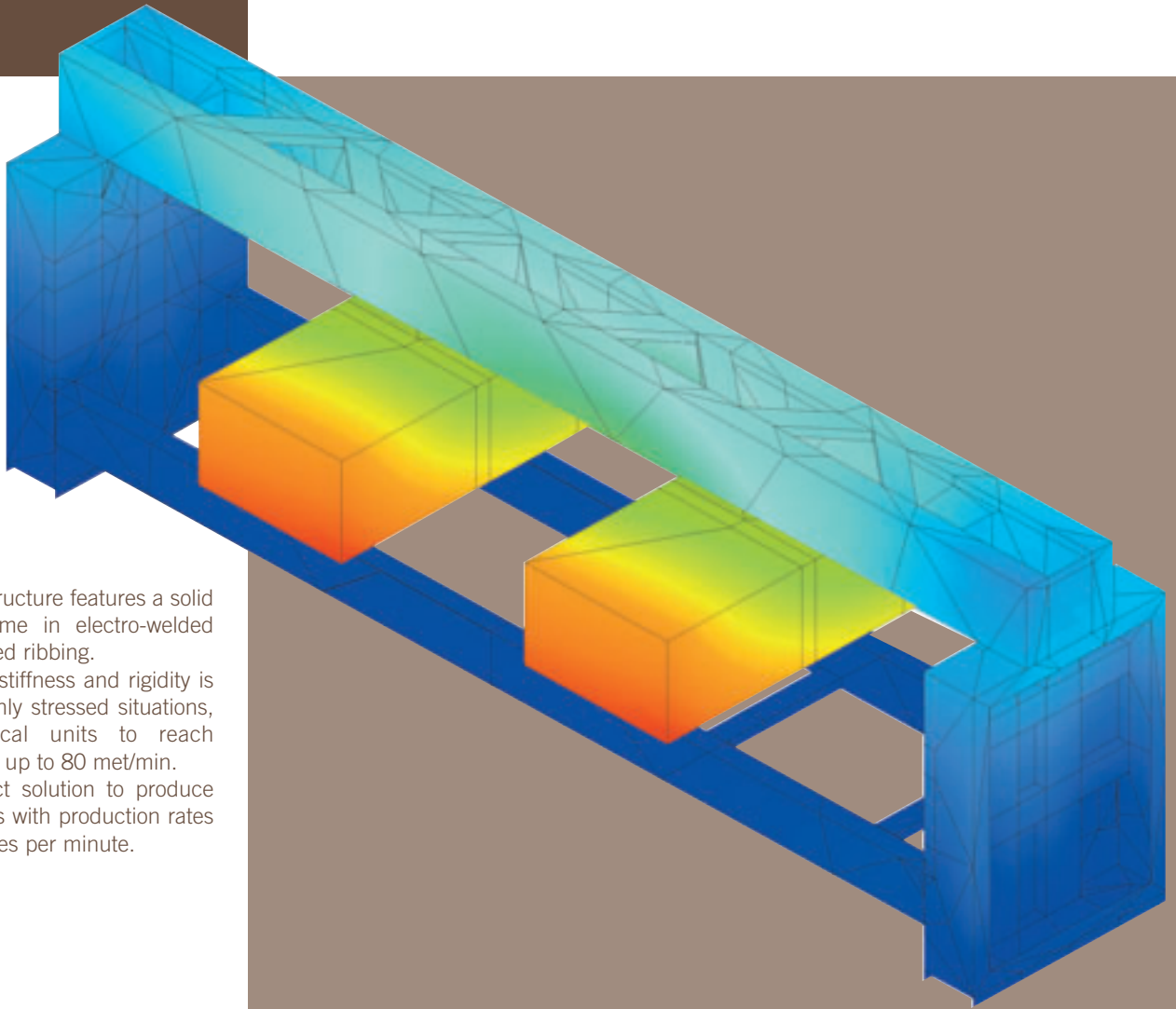
- ▶ Integration in high capacity lines for the complete machining of the panels on all six sides in one single passage.





**flexa 912**  
**author 924**

SOLID STRUCTURE DESIGNED TO  
GUARANTEE QUALITY, RELIABILITY AND  
PRECISION FOR A LONG TIME



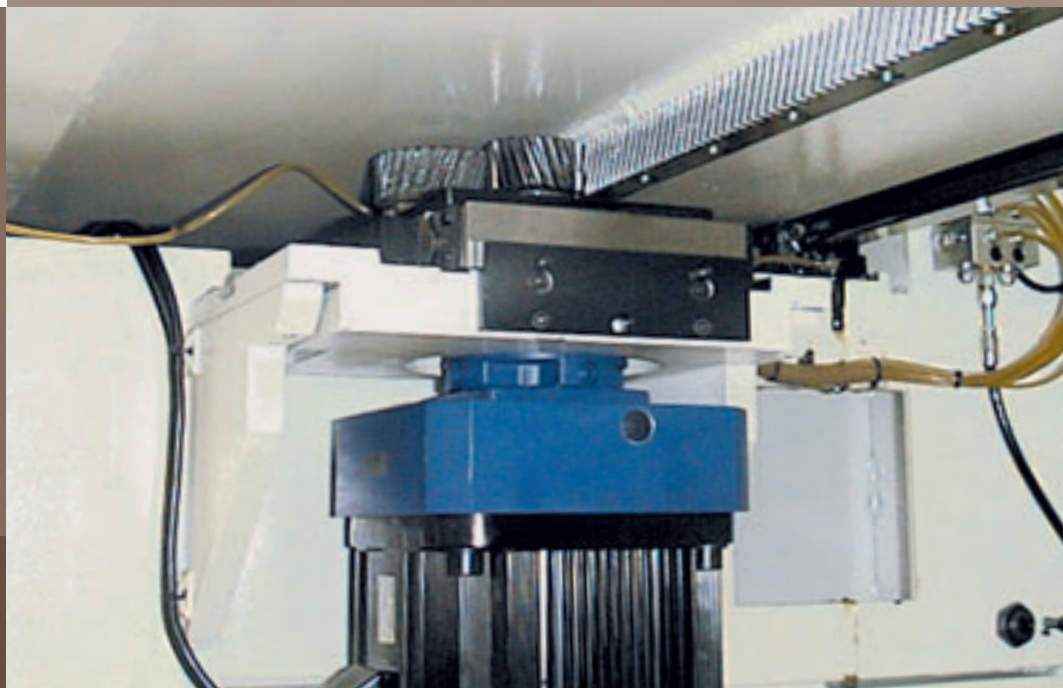
The gantry type structure features a solid double beam frame in electro-welded steel with reinforced ribbing.

The considerable stiffness and rigidity is guaranteed in highly stressed situations, allows the vertical units to reach movement speeds up to 80 met/min.

This is the perfect solution to produce high quality panels with production rates up to 20 workpieces per minute.

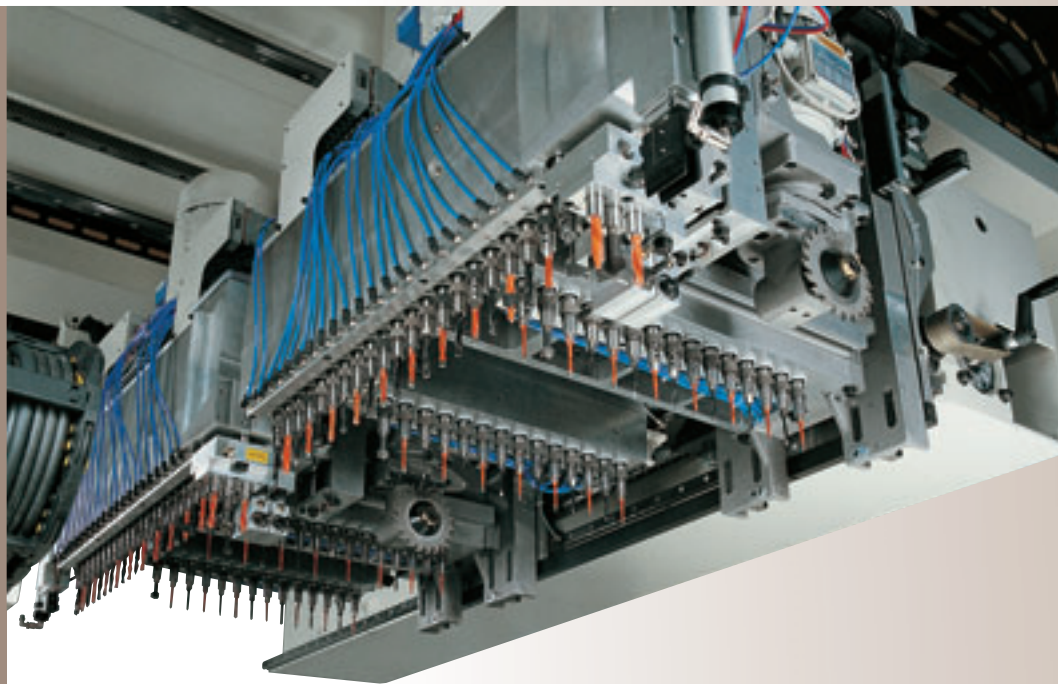
The machining heads move along X driven by Brushless motors utilising a rack and pinion system on 30mm prismatic guides.

The machining heads move along Y driven by Brushless motors and highly precise ground recirculating ball screws. The movement stability is guaranteed by two prismatic guides located along the external sides of the unit.





## GREAT CARE IN PANEL HANDLING



The vertical units (2 for FLEXA and 4 for AUTHOR 924) are mirroring each other. They have an independent stroke along the X, Y and Z axes and they are able to optimise the drilling, to reduce the panel machining times to a minimum.

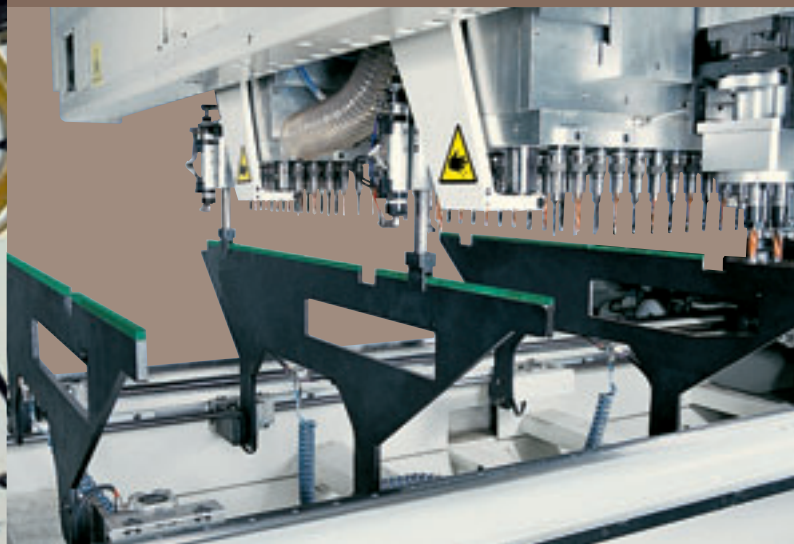
Each unit can be fitted with:

- 36 independent vertical spindles (15 + 21);
- a mobile unit in Y with 14 independent vertical spindles for the drilling of “fittings”;
- 8 horizontal spindles (4 + 4) to drill along Y;
- 1 auxiliary drilling unit with 5 vertical spindles or 1 auxiliary unit for hinges;
- 2 optional units, such as vertical electro-spindles and/or saw blades.

The four horizontal units can each be fitted with 21 independent spindles: their considerable stroke in Y and Z offers high flexibility when drilling horizontally, also with 32 mm out of step holes, without any manual intervention.



Displacement of the work tables managed by the numeric control. With the vertical unit a device picks up each single table and positions it at the desired quota, in a total time that can vary between 15” and 45”.



# flexa 912 author 924

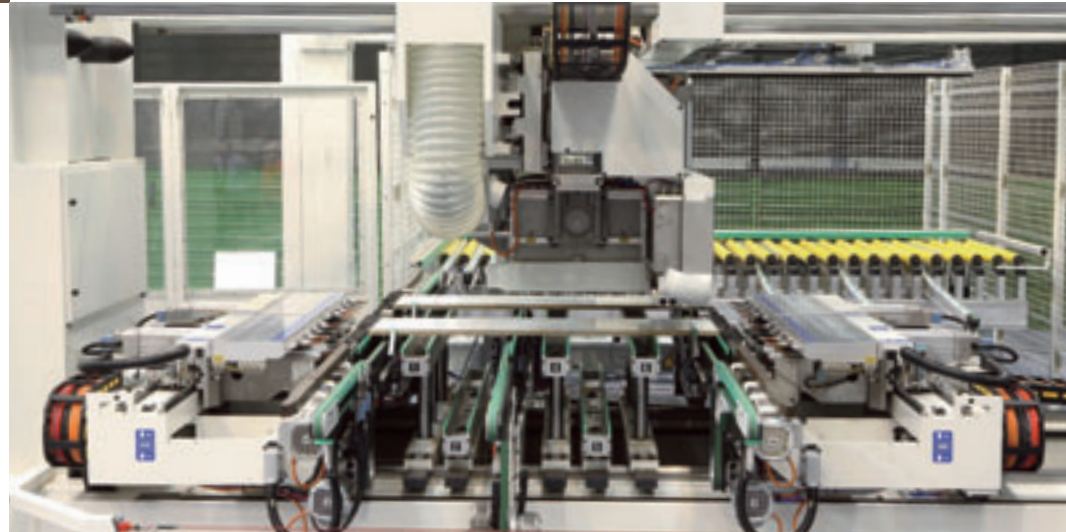
## WORK TABLES: SIMPLE, FUNCTIONAL AND PRECISE

Retractable work tables, managed by CN with independent movement along the X axis, have been designed to ensure total flexibility when machining two panels simultaneously. They include:

- 1 fixed left support;
- 1 right mobile support along X managed by the numeric control to adapt the table dimensions to the different panel lengths;
- 5 retractable supports mobile along X to support the panels being machined;
- 4 end stops located in fixed positions, 2 on the right and 2 on the left;
- 40 pressers to mechanically hold-down the workpiece, 20 on the left support and 20 on the right mobile support;
- 4 front aligners (2 right support, 2 left support) to align the panels to the stops.

The movement of the panels is managed by a system of conveyors divided in:

- 1 fixed left conveyor system supported by the fixed left unit;
- 1 central conveyor system, power driven, along X;



- 1 right mobile conveyor system integrated with the right mobile unit.

The infeed speed can be altered up to 80met/min via the inverter, to adapt it to the different types, weights and dimensions of the panels.

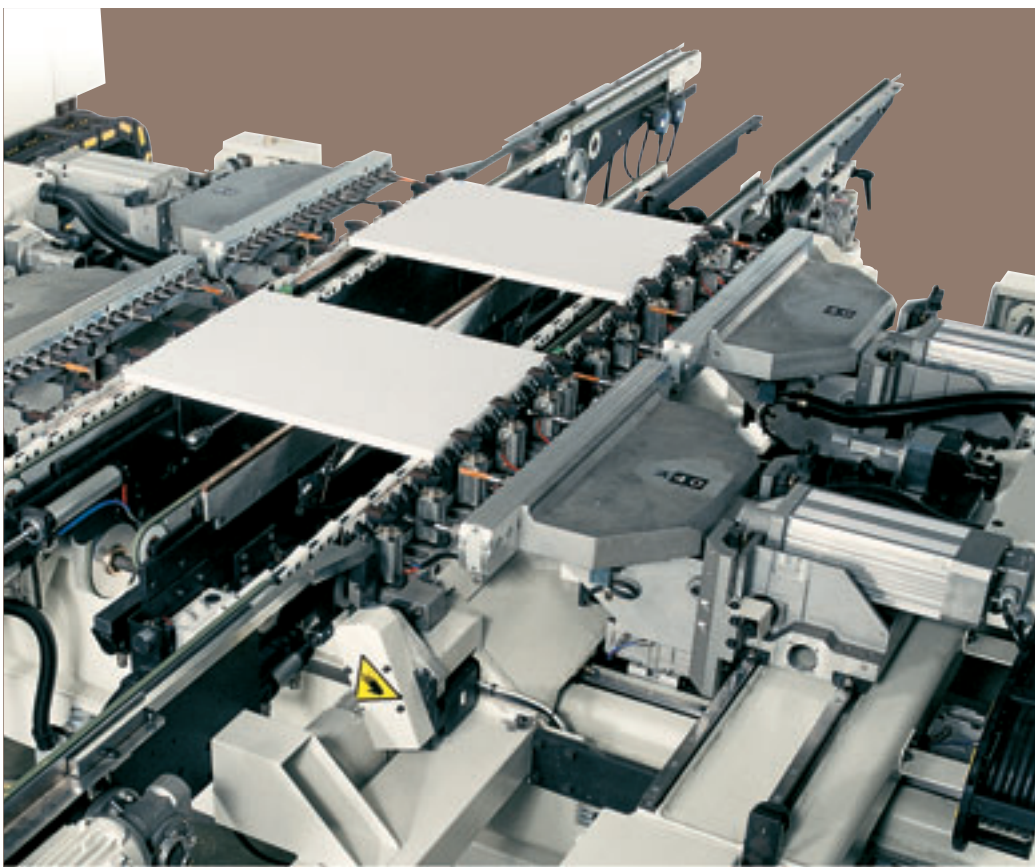
The work table, designed to machine two panels simultaneously, includes:

- 1 fixed left support;
- 1 right unit mobile along X with power driven movement and managed by the numeric control to adapt the table dimensions to the different lengths of the panels;
- 4 end stops (2 for each unit) managed by the numeric control;
- 40 aligners (20 for each unit) to align the panels to the end stops independently of their dimensions;
- 28 pressers (14 for each unit) to vertically hold-down the panels;
- 6 supports mobile along X to support the panels being machined.

The movement of the panels is managed by a system of conveyors at the infeed and outfeed divided in:

- 1 fixed left conveyor system, supported by the fixed left unit;
- 1 central conveyor system, power driven, along X;
- 1 right mobile conveyor system, integrated with the right mobile unit.

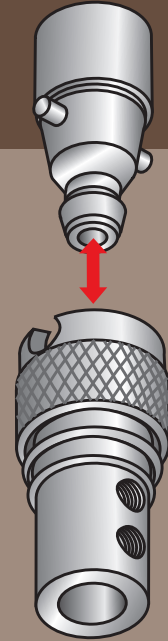
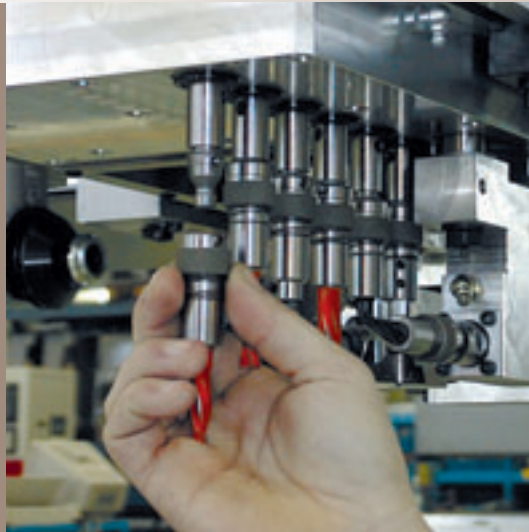
The infeed speed can be altered up to 120 met/min via the inverter, to adapt it to the different types, weights and dimensions of the panels.





## REDUCED MACHINE SET-UP TIMES FOR GREATER SYSTEM EFFICIENCY

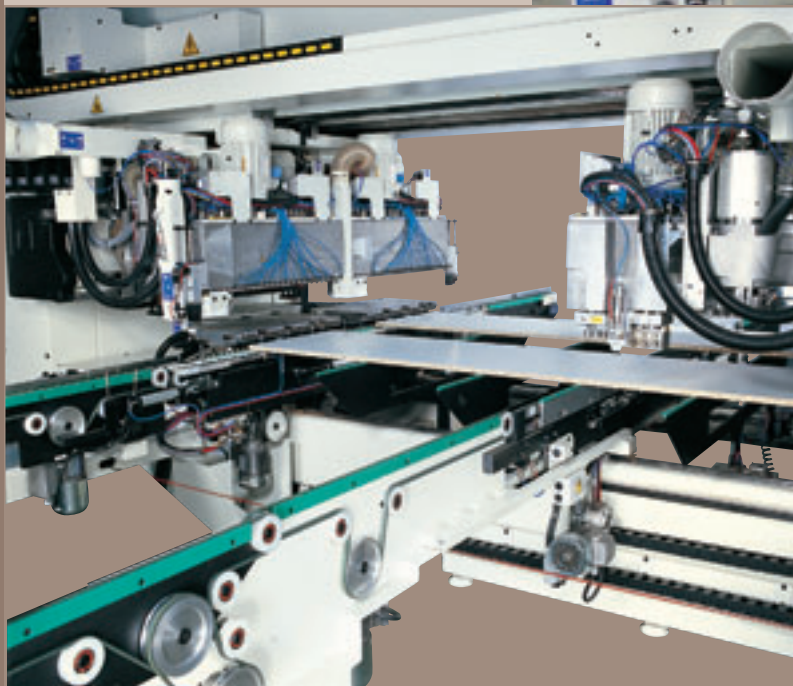
Extremely easy tool replacement operations for sharpening tools. The machine structure and the quick release spindles allow tool changes with a short interruption of the production cycle.



Extremely easy tool replacement operations for sharpening tools. The machine structure and the quick release spindles allow tool changes with a short interruption of the production cycle.



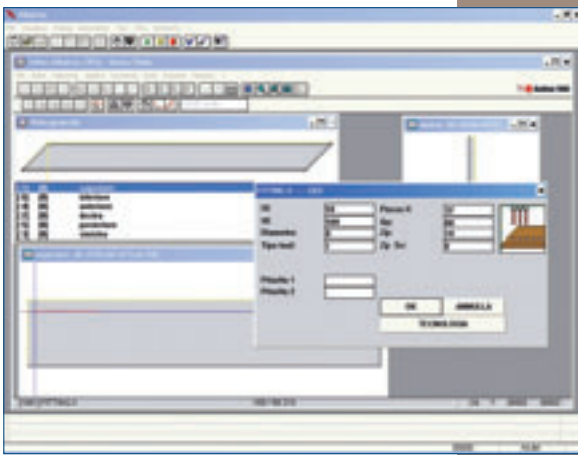
The panel conveyor continually adapts itself to the dimensions and the weight of the workpieces, thanks to an inverter that manages the speed up to 120 m/min.





## POWERFUL SOFTWARE, SIMPLE AND INTUITIVE TO USE

Easy to use and fast processing speed in an innovative and powerful numeric control, to guarantee fast and effective programming.



The advanced software of the numeric control ensures that even users that are not familiar with computers will be able to program quickly and directly.

An innovative drilling optimiser guides the execution of every drilling diagram, with the least number of downstrokes of the drilling units into the panels.

Simply enter the panel dimension and the drilling to be performed as per instructions and the optimiser selects which tools to use based upon the machine specification.

The economic benefits of this function consist of a double saving in time, both during workpiece machining and during programming.

### Main hardware specifications

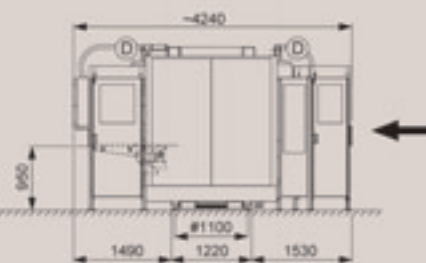
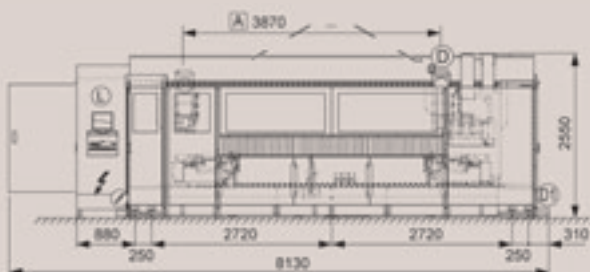
- Intel processor (2.4 GHz or greater);
- 15/17" Colour monitors;
- Keyboard and mouse;
- Hard disk da 80 Gb hard disk (or greater);
- 3.1/2 floppy disk drive unit (1.44 Mb);
- CD ROM unit (48x);
- 256 Mb RAM memory (or greater);
- 2 serial ports, 1 parallel port, 4 USB ports (to connect any type of peripheral device: barcode reader, modem, printer, scanner, etc...);
- Network interface card (opt.);
- Remote control device for the main machine operations

### Main software specifications

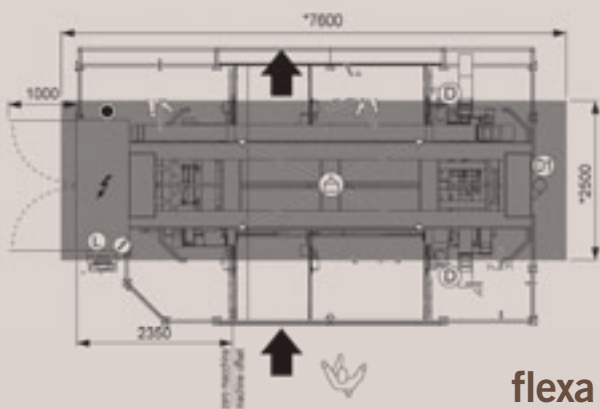
- Operating environment with basic instructions derived from the Windows XP operating system: copy, paste, change, delete, properties, drop down menu, quick menu with the right click of the mouse, multiple opening of various windows etc.;
- Fixturing management with tool display and graphic support to avoid data entry errors;
- DXF format files imported directly;
- Graphic and syntactic help to speed up the drilling and routing operations;
- Self-diagnosis and warning of any errors or possible failures through alarm messages in the user language, to quickly understand and resolve any issues;
- Graphic assistance for the positioning of the work supports to prevent collisions with the tools in case of through drilling and/or routing as well as eliminating the observed tests directly on the machine;
- Program execution through barcode and supervisor.

# TECHNICAL SPECIFICATIONS

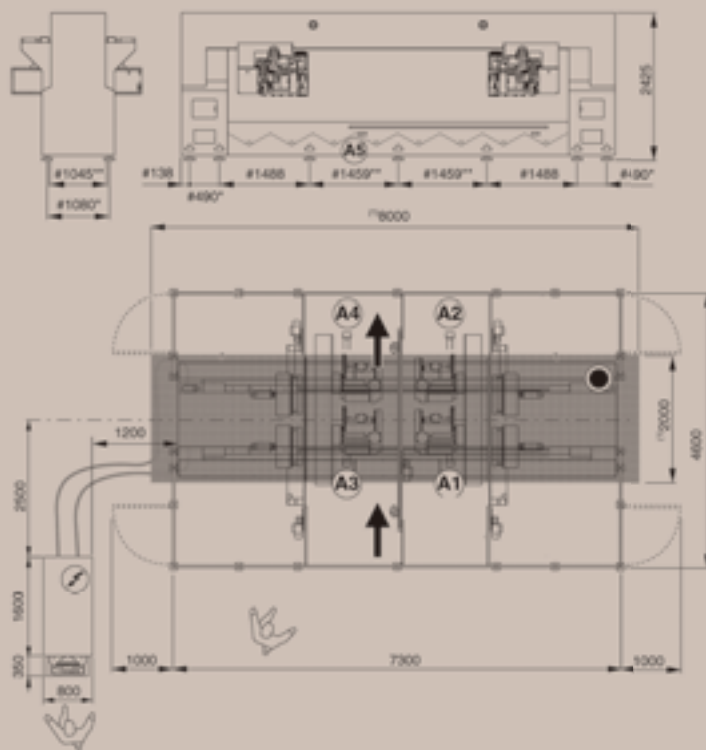
# flexa 912 author 924



author 924



flexa 912



		Flexa 912	Author 924
Work area X - min/max	mm	250/3000	250/3100
Work area Y - min/max (1 panel at a time)	mm	100-150/1350	100-150/1600
Work area Y - min/max (2 panels at a time)	mm	100-150/650	100-150/800
Panel passage	mm	12/50*	12/50*
X/Y/X stroke	mm	3660/896/115	2972/980/115
Vertical drilling unit motor	kW	1,5+1,1	4
Horizontal drilling unit motor	kW	1,5	1,5
Saw blade unit	kW	2,2	2,2
Electro-spindle unit	kW	6,6	6,6
Installed power	kW	48÷75	48÷75
Voltage / Frequency		380 V - 50 Hz	380 V - 50 Hz
Compressed air consumption	NI/min	1000	1000
Intake air outlet diameter	mm	3x200	4x150
Intake air consumption	m <sup>3</sup> /h	10100÷17000	3800÷10100
Machine weight	Kg	11000÷13000	14000÷16000

zenith-a-cdm

EXCELLENT PERFORMANCE  
FOR HIGH PRODUCTION CYCLES







Rigidity  
and reliability



Exceptional  
precision



High  
productivity



▶ Closed ring steel frame  
with double lower and upper beam.

▶ Absolute precise positioning of the  
drilling units with quota reading system  
using the digital display

▶ Up to 30 working cycles per minute  
▶ Machine down time reduced  
thanks to the ease of fixturing  
due to the ergonomic positioning  
of the devices.



## EXCEPTIONAL REPEATABILITY AND PRECISION

Over the last few years the choices of furniture manufacturers have also been based on statistical coefficients that can numerically certify the precision of a machine and facilitate the assembly of the various parts of a piece of furniture.

Often companies, before making a purchase, ask manufacturers for the drilling performance data.

The drilling repeatability is highlighted by the CM parameter (Machine Capability - the dispersion index of the quotas around the average value calculated on the bases of a set of drilled panels), is widely considered as extremely significant by both manufacturers and clients.

The CM parameter is measured by the maximum admissible tolerance, set by the client, related to the actual dispersion index of the quotas measured on the batch of panels tested.

$$CM = \frac{\text{Maximum admissible tolerance}}{\text{Dispersion index}}$$

A CM value of 1 (with tolerance around +/- 0.2 mm) is already an excellent result for a state of the art drilling machine.

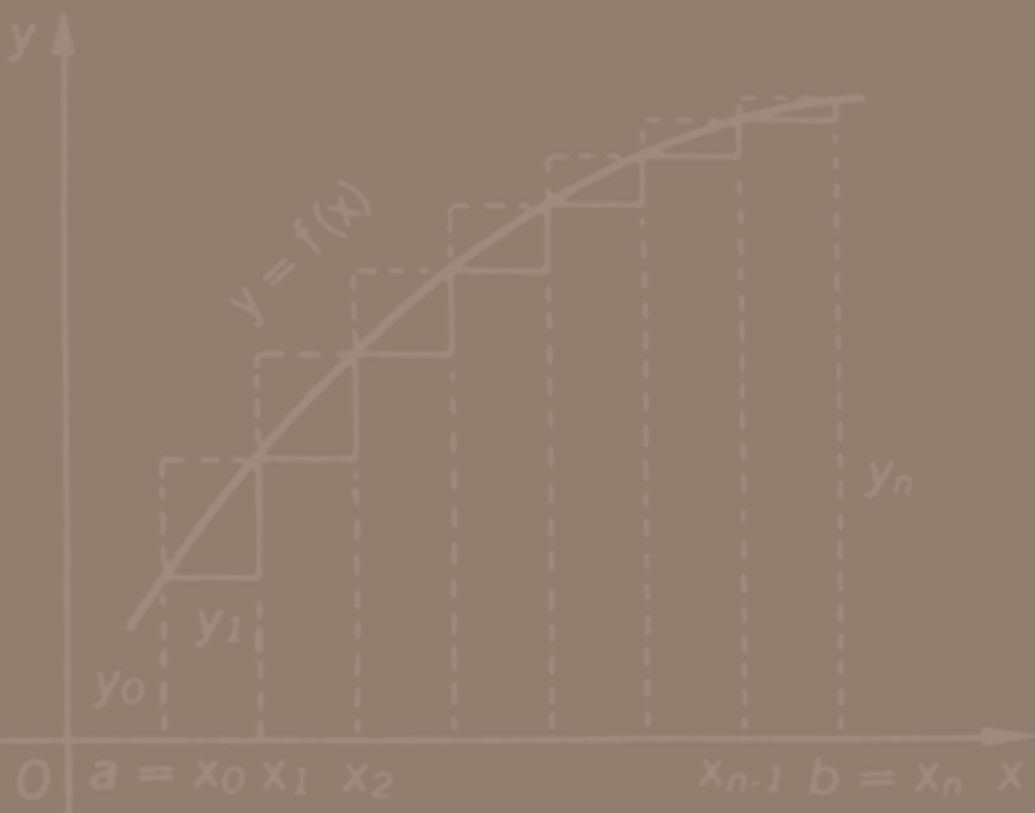
Zenith exceeds this reference threshold.

The operative tests performed on Zenith, shown in the table, have revealed exceptional results. The data refers to the measurement of 12 holes repeated on 30 panels; the final value is the average of the single CM for each hole, with a tolerance set at +/- 0.2 mm. The table shows different CM values according to the statistical sample examined.

**Average values of the Zenith CM index**

Statistical sample examined	90%	80%	70%
CM	2,2	2,9	3,5

The guarantee of a drilling repeatability parameter that is considerably higher than what the market can offer today, makes Zenith the best choice for your company.



## RIGIDITY AND STIFFNESS: GUARANTEED PRECISION FOR A LONG TIME



The machine structure consists of a welded and ribbed frame designed to absorb all the stresses created when machining. A double beam, both in the lower and upper part of the machine, is the support and sliding base for the machining heads. The movements along X of the vertical units occur through recirculating ball screws and THK prismatic guides. This ensures high precision and ease of movement along the X axis. The frame has been designed and dimensioned to park the units that are not used in the machining cycle.

The distance of 700mm between the two lower beams ensures maximum stability and rigidity as it maintains the drilling thrust barycentre within the guides, even with the tools positioned at the ends of the heads. Drilling precision is guaranteed in any situation due to the use of small sized motors, controlled by inverters. The distance between the guides and the work table is very small thus reducing the deflections that can compromise precision.



The drilling units are fitted with new monolithic structure machining heads. The heads are machined from a single block of extruded aluminium, which has allowed the machining of the bearing seating in a single operation and the assembly of the moving mechanisms without separating the structure. The advantage of this operation is the perfect alignment between the spindles and an absolute perpendicularity between the spindles and the head. This has allowed us to achieve precision levels 5 times greater than with a traditional head structure (by machining the two units separately, and subsequently joining them together).

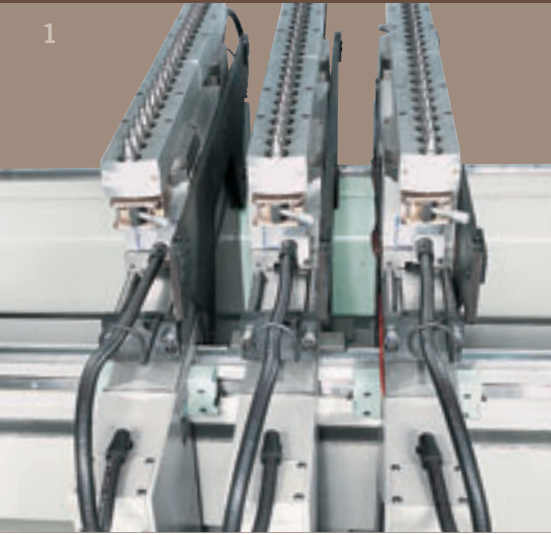
The maintenance operations are also facilitated by the new structure. Cleaning and greasing operations are much faster due to the removable side profiles.



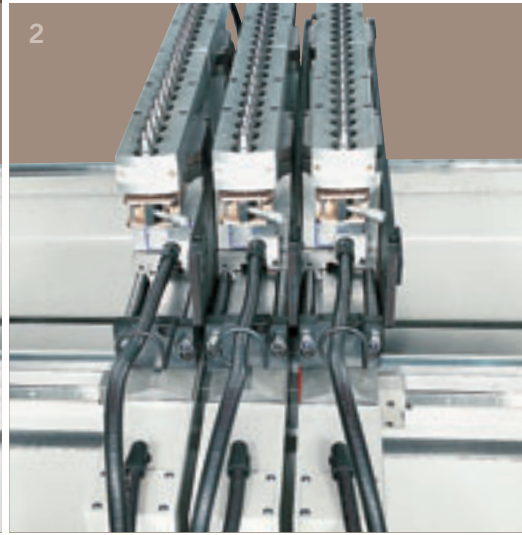
# zenith-a-cdm

## ALIGNMENT SYSTEM

1

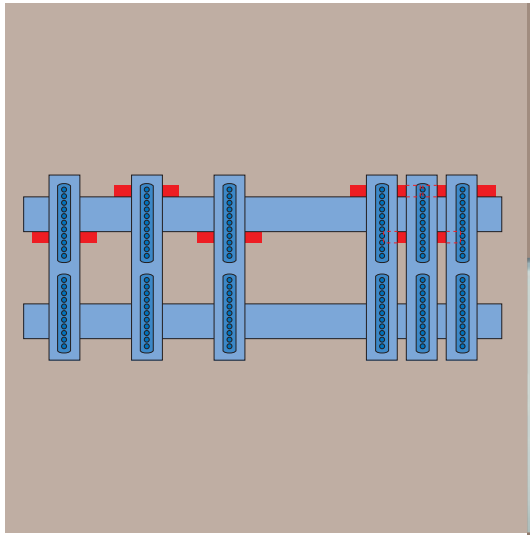


2

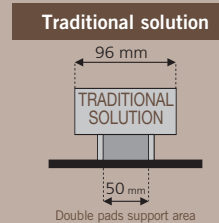
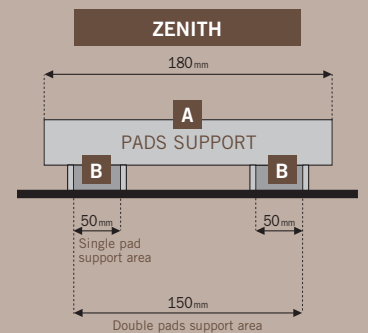
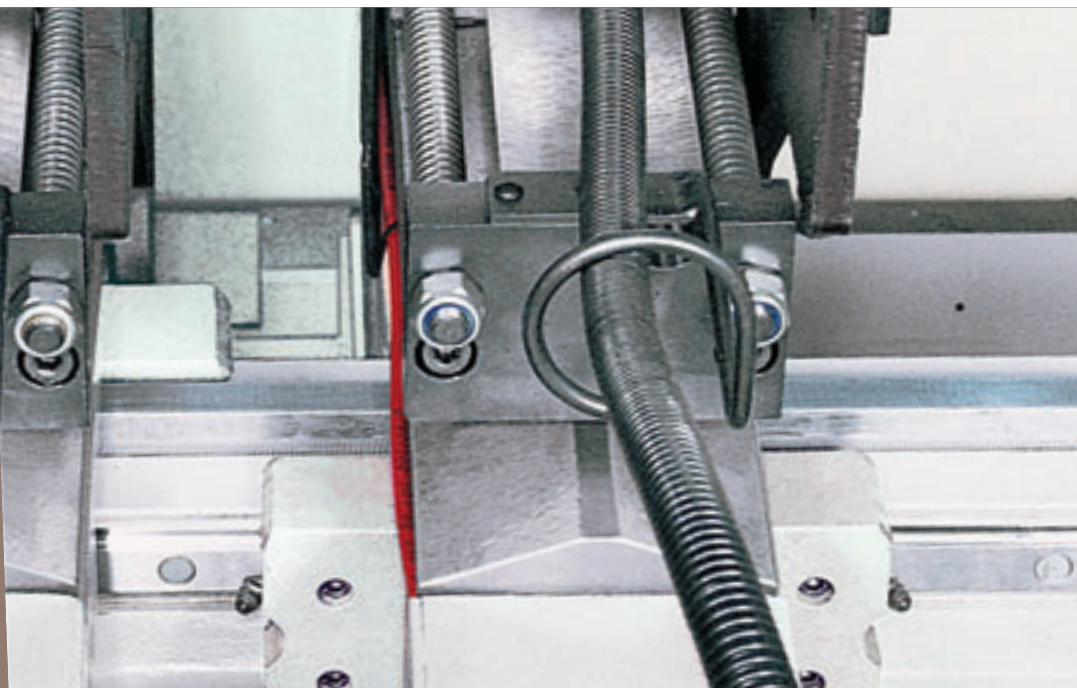


The dimensions and structure of the pads ensure that the groups are perfectly balanced. The supports, in fact, by sliding alternatively on the two THK guides fitted on the sides of the beam, penetrate each other, allowing the units to be brought together by up to 96 mm.

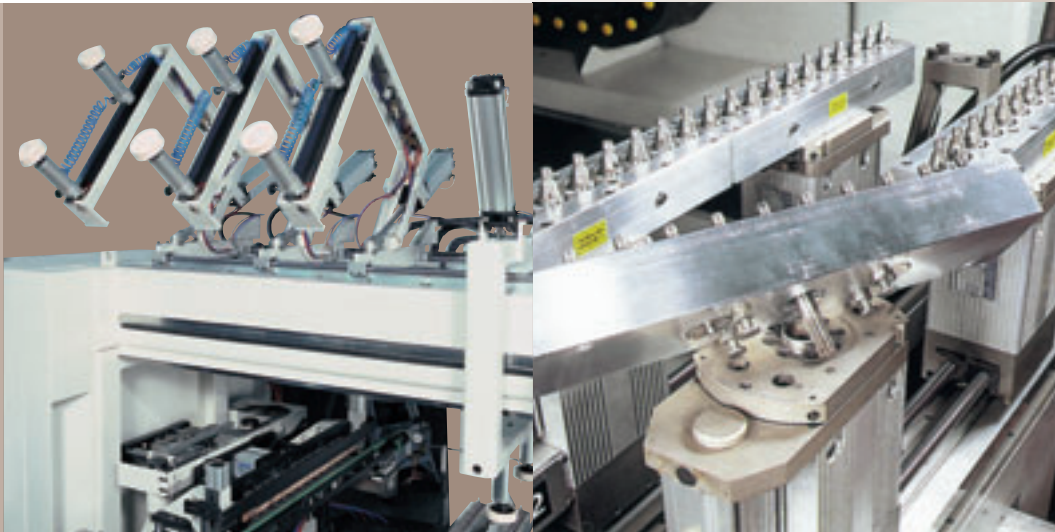
This solution has allowed us to increase the dimensions of the supports to 180 mm, in order to use a double pad. The advantage of this innovation is a support and sliding zone up to three times larger than a traditional system with a single pad.



This gives Zenith greater orthogonal precision between the X-Z and X-Y planes and absolute stiffness of the machining heads-frame assembly, even in situations with considerable stresses



# FAST AND PRECISE MACHINE TOOLING AND SETTING-UP



The pressers, thanks to a pneumatic system operated with a pushbutton located in easily accessible positions, raise and position themselves in the upper part of the beam, leaving the machine completely open for the various fixturing operations.

Zenith can be fitted with quick release drilling heads Q.R.H. (Quick Release Head-patent pending Morbidelli-opt.). In this way the heads can be fixtured outside the machine, whilst the machine is still operational and subsequently replaced on the units, with a considerable reduction of the machine down times and increased productivity. The drilling units are fitted with a new device that allows for the 90° rotation of the heads.

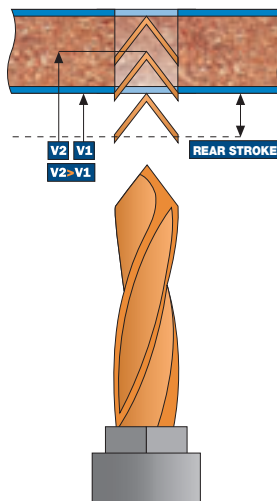


The drilling units positioning quotas are shown to the operator on digital displays, thus rendering the setup operations easier and more precise.

## ZENITH CDM: LOW COST AND HIGH QUALITY PRODUCTION OF THE FINISHED PRODUCT



Switching from one program to the next, the control unit sends to all the displays the differential quotas between the old and the new program: the operator must simply move each unit in the direction indicated on the display until the value is zeroed.

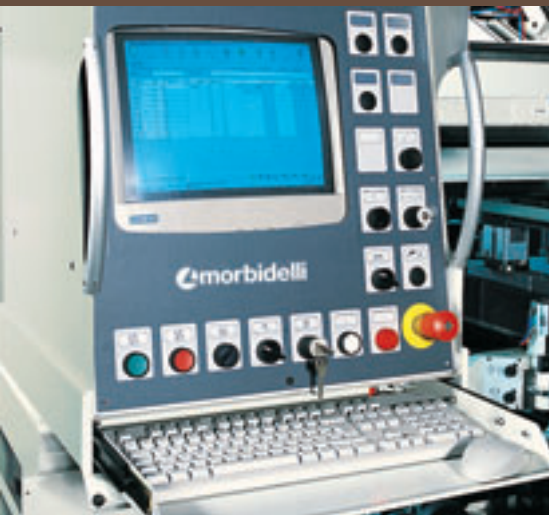


Higher quality drilling in faster times. The machining heads are fitted with coaxial motors at the spindles and an inverter that manages the power generated by the motors to achieve a uniform rotation speed in any situation.

The movement of the units along Z is managed by the control unit, which is also used to change the spindles entry speed into the panels, compared to the transversal and exit speed. It can also manage the rear stroke to position the heads closer to the minimum distance from the panel.



# DEDICATED SOFTWARE GUARANTEES PRECISE PROGRAMMING



## Software specifications

- Wizard guides the operator through every programming phase, easy to use even for non-specialist operators
- Electronic management of the drilling depth
- Optimised management of the advancement speed when drilling through holes
- Rear stroke control
- Electronic management of the fixturing (CDM)
- Automatic calibration cycle at power on
- Automatic management of the motors power on and off (only the operational motors are switched on)
- Counting of the produced workpieces

## Hardware specifications

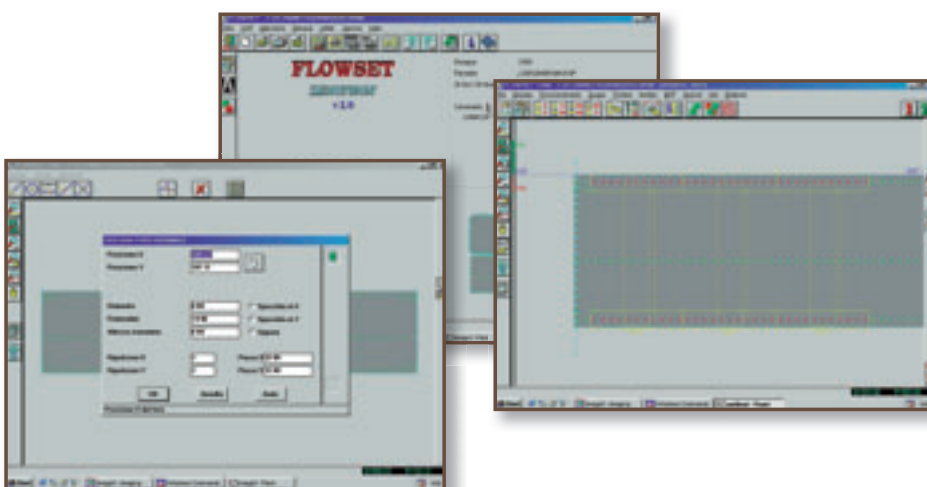
- Intel processor (2.0 GHz or greater)
- 15" colour monitor
- Keyboard and mouse
- 40 Gb hard disk (or greater)
- 3-1/2 floppy disk drive unit (1.44 Mb)
- CD ROM unit (48x)
- 128 Mb RAM memory (or greater)
- 2 serial ports, parallel port, 1 USB port (to connect any type of peripheral device: barcode reader, modem, printer, scanner, etc...)
- Network interface card (opt.), sound card



The presence of a specific Personal Computer, with a powerful hardware configuration, which can be expanded and defined for the specific requirements of the single users lends the Numeric Control unparalleled familiarity and ease of use; the advanced software operates in the Windows environment and it ensures that all the programming operations are simple, effective and accessible. This solution guarantees unlimited configurations, by using all the potentials of

a PC: floppy disk and CD Rom units, sound card, barcode readers, serial or parallel line connection of printers, modems, scanners or any type of peripheral device.

The PC also guarantees, in a machining line, a perfect dialogue with the other components of the line, such as loading and unloading systems, edge banders, etc.

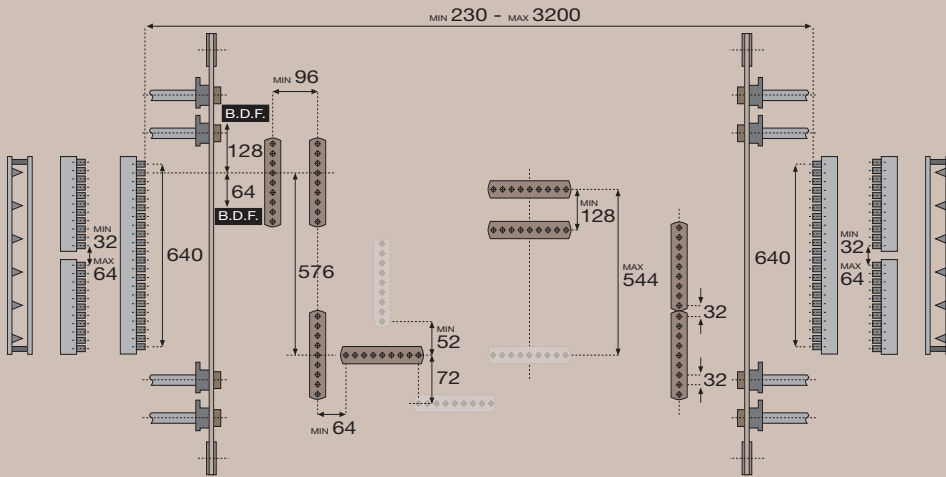


**FLOW-SET** uses the CAD drawing to draw the drilling diagram and to automatically configure the position of the units and the heads. The program can also check the feasibility of the drilling diagram, warning of any incompatibility with the machine configuration. In the P.C. version of Zenith, the positions are transferred to the machine via a serial port or with a disc.



# TECHNICAL SPECIFICATIONS

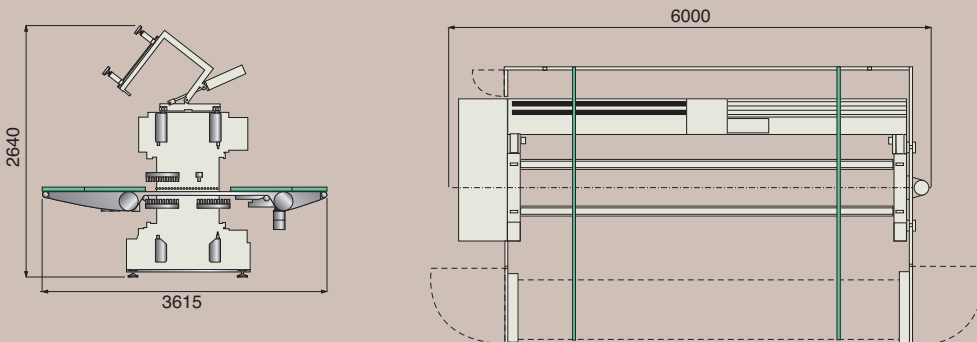
# zenith-a-cdm



## WORK AREA

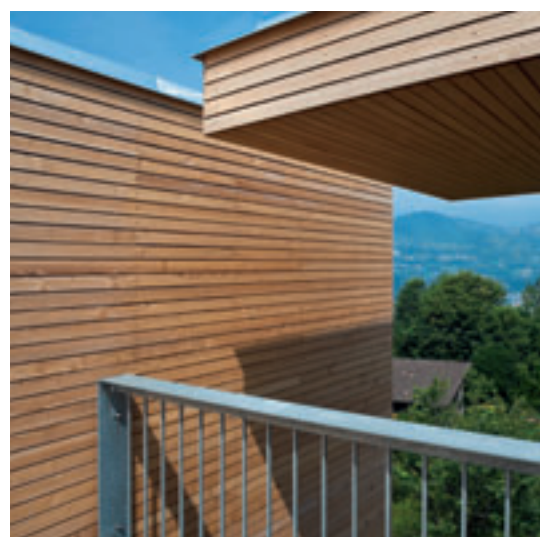
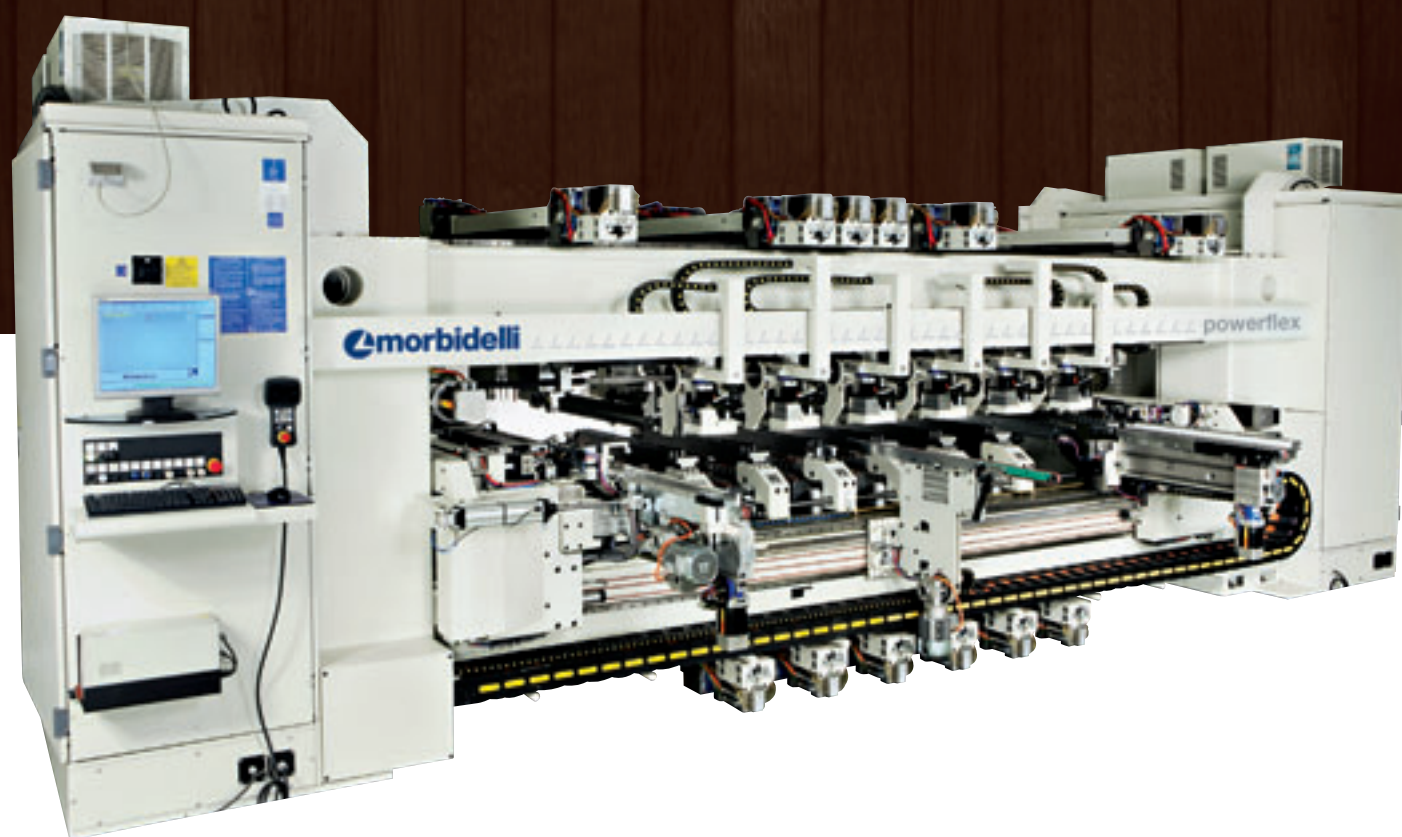
Panel length (mm)	230/3200	Panels conveyor motors power (Hp)	0,35
Panel width (mm)	50/800	Panels conveyor speed at 50 Hz (m/min)	50
Panel thickness (mm)	10/70	Maximum excursion of the conveyor from the side stop (mm)	275
Z axis stroke (mm)	70	Operating pressure (bar)	6-7
Work table height (mm)	900/950(A)	Shavings extractions air speed (m/sec)	30
Vertical units motors power (Kw)	1,3	Z axis motor power (Hp)	0,85
Minimum alignment between vertical heads(mm)	96	Maximum drilling speed (m/min)	6
Minimum distance between parallel heads (mm)	121	Z axis rear stroke adjustment (mm)	40
Maximum distance between parallel heads (mm)	544	Drilling thrust (N)	4780
End stops excursion (mm)	+64/-128	Maximum production capacity (panels/min)	30
No of vertical units (max)	8+4	Weight (kg)	6000
Spindles rotation speed (rpm)	4500		

## OVERALL DIMENSIONS



powerflex

MAXIMUM PRODUCTIVITY AND FLEXIBILITY  
WITHOUT COMPROMISE



- ▼ High drilling capacity
- ▼ Optimised drilling cycles
- ▼ Fast setup times



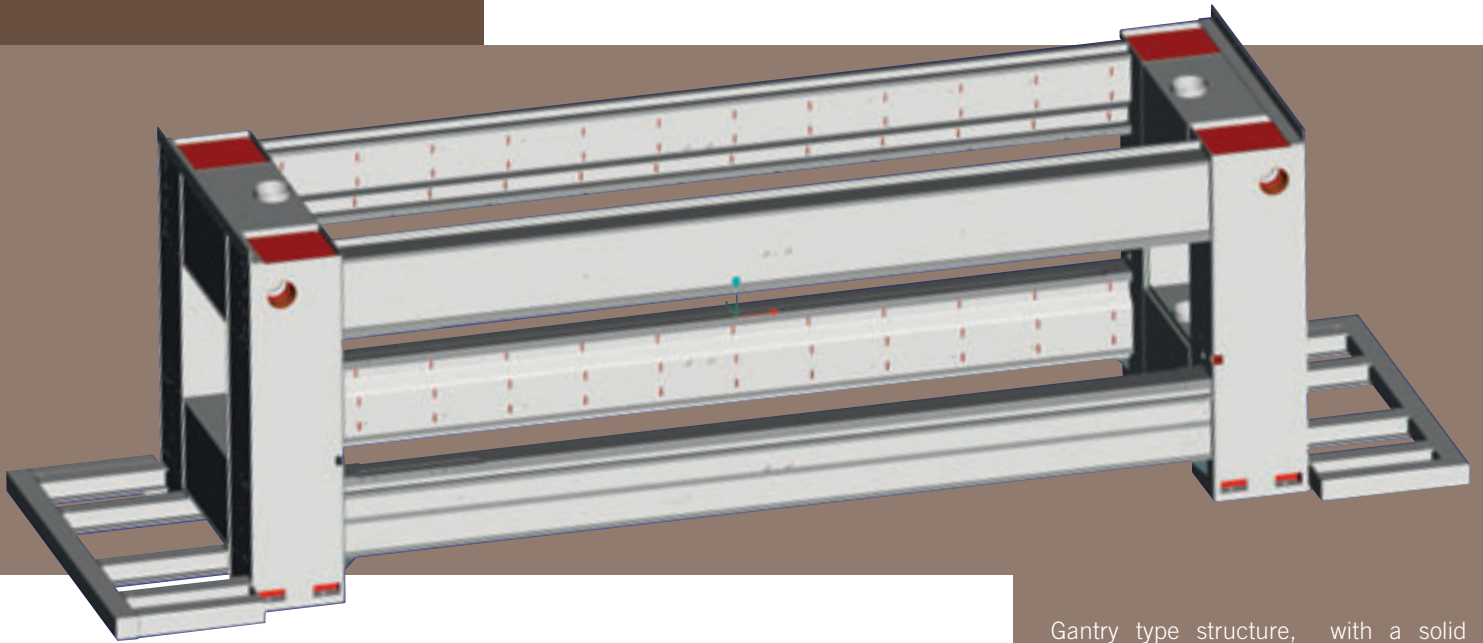
- ▶ Over 600 drilling tools can be independently selected to machine the 6 sides of a panel on a single machine.
- ▶ Maximum optimisation of the tool position due to the automatic rotation of the drilling heads, independent from each other.
- ▶ Machine setup time from one program to the next less than 10". Over 80 axes controlled.





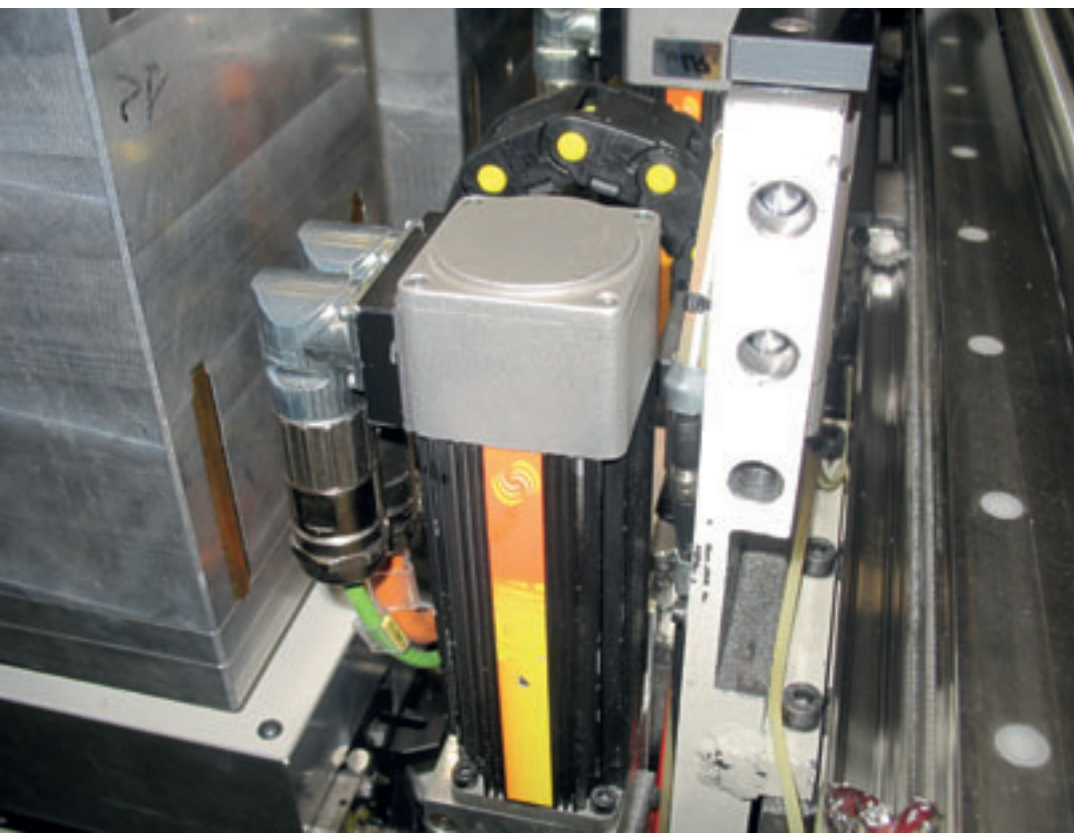
# powerflex

## STIFFNESS, PRECISION, REPEATABILITY



Gantry type structure, with a solid electro-welded steel frame with reinforced ribbing.

This guarantees a complete lack of vibrations and buckling even in situations with great dynamic stresses, such as the simultaneous positioning of all the machining heads that can reach movement speeds of 90 mt/min.

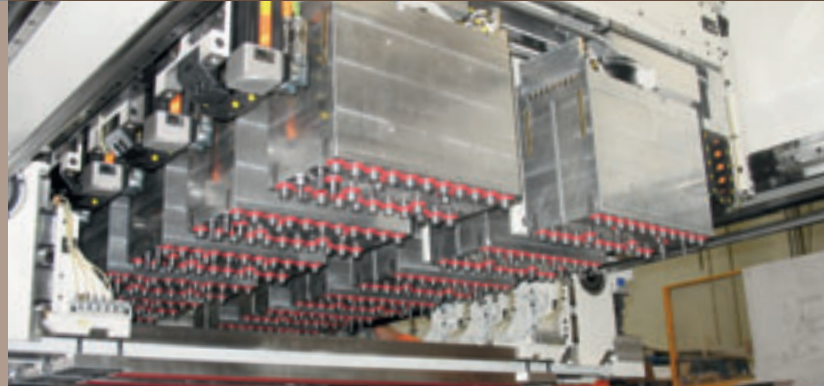


All the machining heads slide in the three directions X, Y and Z driven by Brushless motors and rack and pinion systems for the X axis and with recirculating ball screws for Y and Z



The maximum machine configuration features 624 drilling heads with independent selection to machine the 6 sides of a panel on a single machine. Every high section drilling spindle (Morbidelli patent) that guarantees maximum rigidity in all working conditions, is fitted with ON-OFF electronic sensors to maximise the speed of the drilling cycle and guarantee the safety of the machine. Drilling thrust greater than 55 Kg for every spindle to machine at high speed even with the most resistant materials.

Multitude of configuration choices for every type of requirement and level of investment: up to 6 upper units and 6 lower units with two drilling heads each, for a maximum of 24 drilling heads.



Complete in all its operations: possibility of inserting a specific unit for hinges on every lower machining head and on every upper head a specific unit for the horizontal drilling in Y (longitudinal).

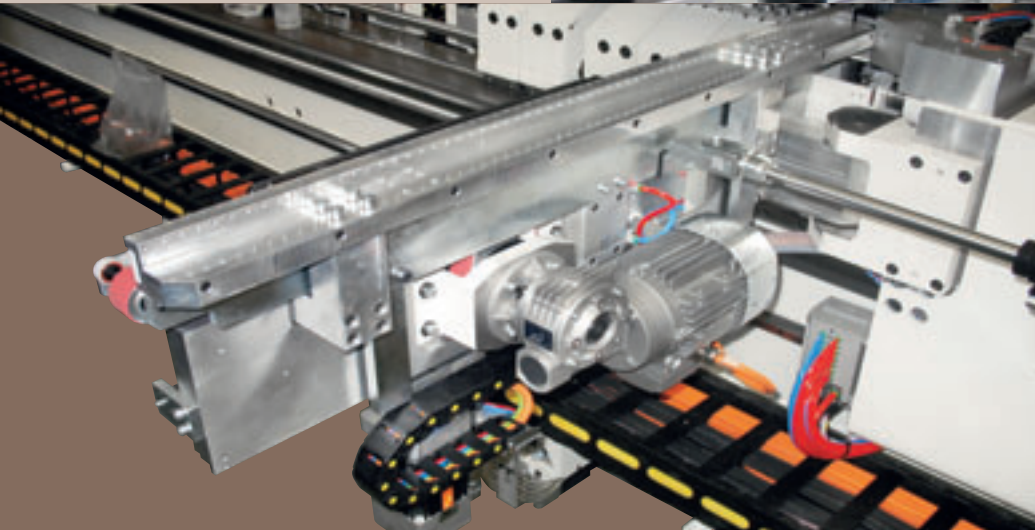




# powerflex

## MAXIMUM PRODUCTIVITY EVEN WITH BATCH 1

Maximum level of electronic automation and the use of state of the art technology to achieve extremely fast machine setup times (less than 10 seconds) guaranteeing maximum positioning precision of the axes ( $\pm 0.03\text{mm}$ ) with a recovery of any mechanical play.

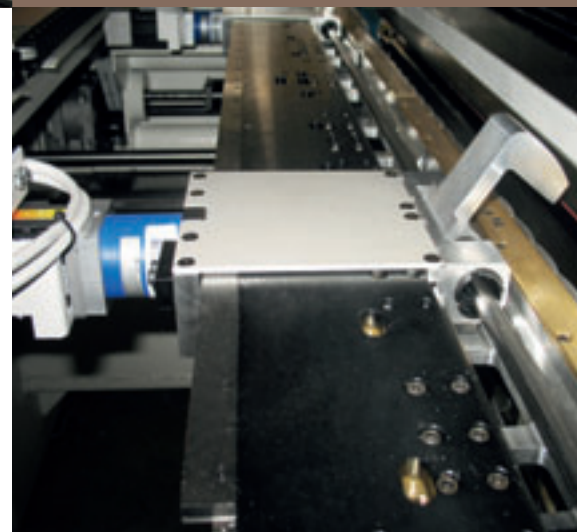


### UNLIMITED DRILLING

Movement of the work tables separated from the lower units that allows drilling in every part of the panel, even close to the edge.

### PRECISION AND SPEED

Automatic mechanical stops seated in the side aligners that guarantee the perfect zero grip of every panel.





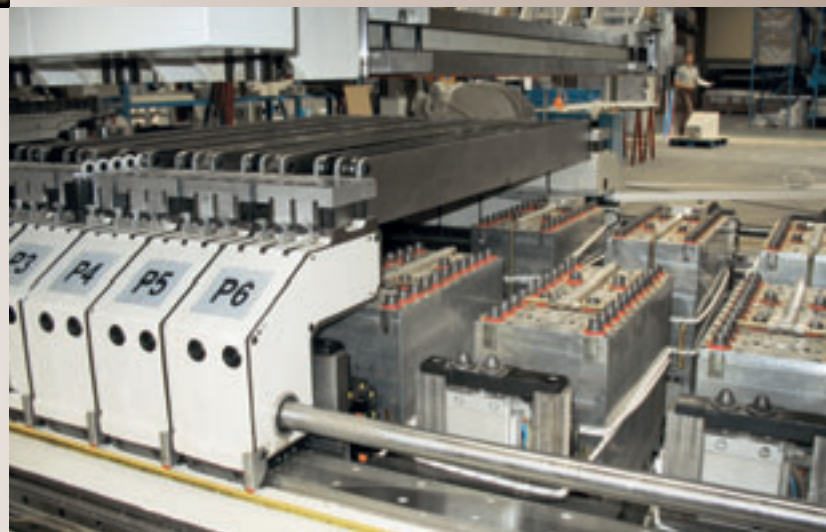
Work tables with independent movement and positioning in relation to the lower drilling units: the best optimisation of the machine work configuration allows the user to move the drilling units during machining without restrictions and risks to the panel surface coating



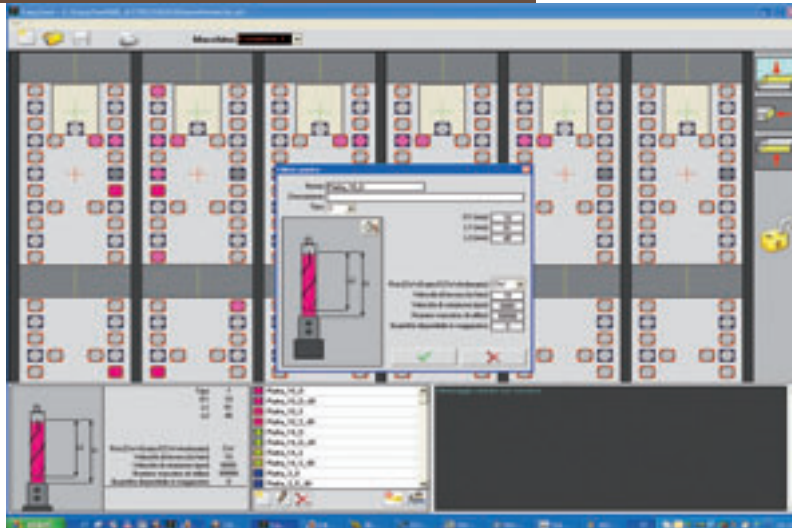
The most flexible solution which can be applied in the creation of your workpieces: the automatic and independent rotation of every drilling head, also within the single machining program, ensures utmost efficiency also with complex drilling patterns.



Independent movement pressers and workpiece hold-down with CN: in any situation the maximum panel hold-down speed married with guaranteed clamping during machining without compromising the surface of the workpiece



# HIGH-PERFORMANCE SOFTWARE OF A NEW GENERATION

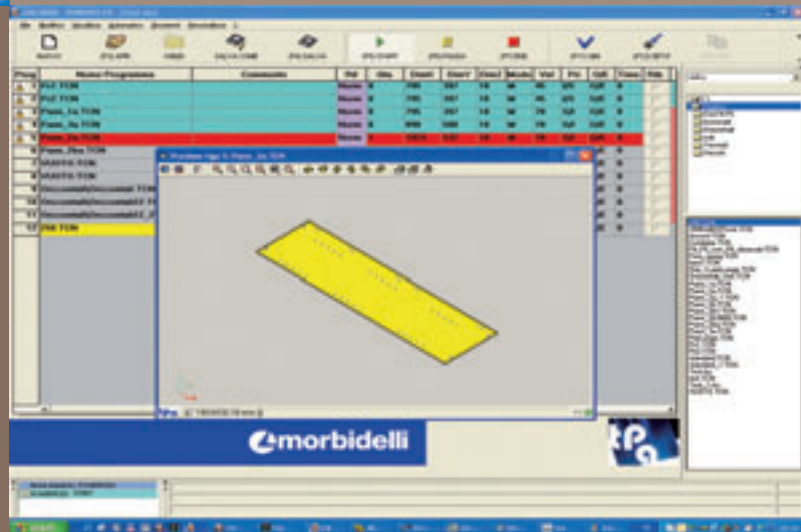


The complete machine management is supervised and guaranteed by a new generation powerful software.

The package includes:

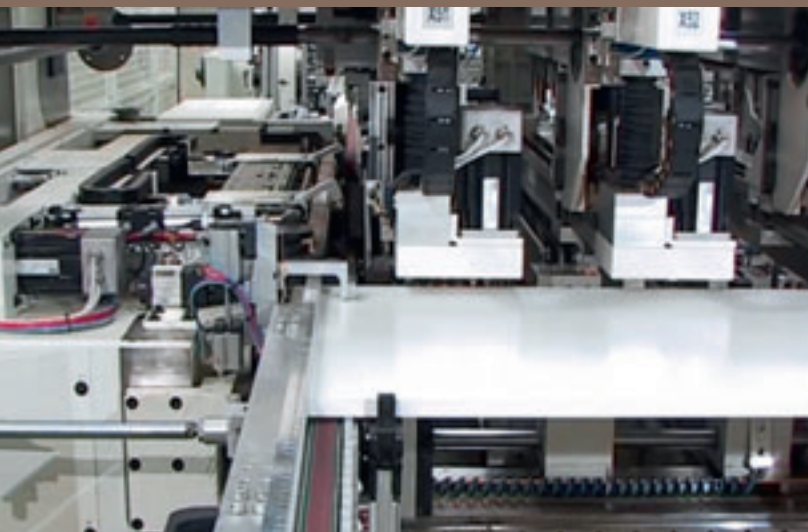
- CAD drawing functions
- operation and machining execution simulator (Powerflex Show)
- tool wear database for the best finish quality in every production phase
- fixturing optimisation function for an improved machine productivity.

The software processes the best optimisation of the drilling downstrokes for the highest machine productivity reducing to minimum the movement of the axes and the units.



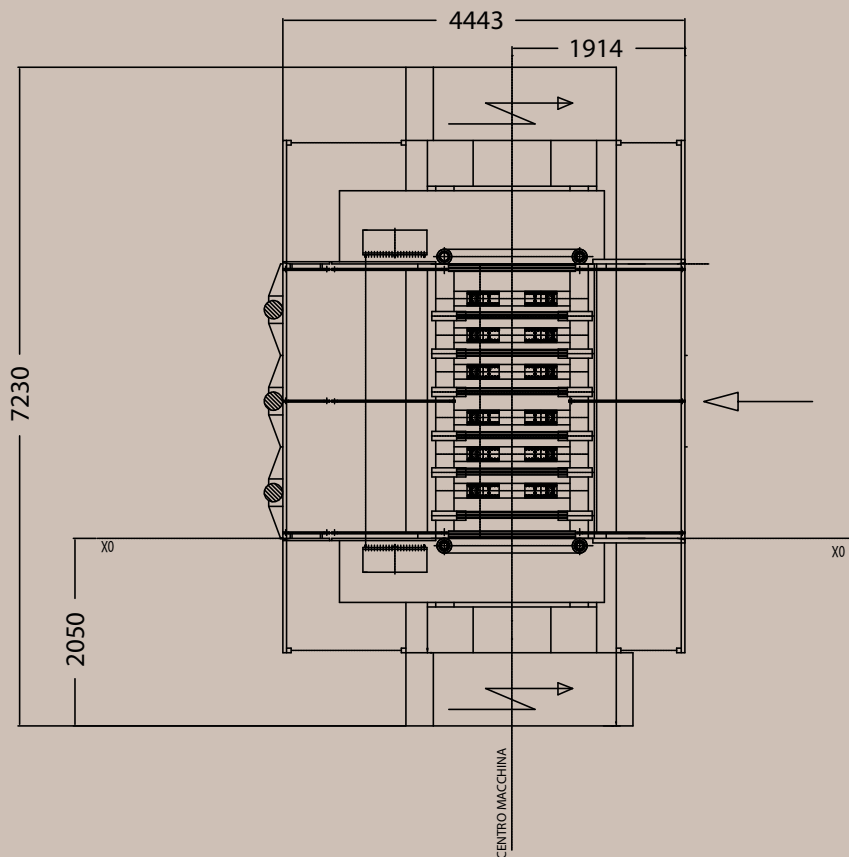
## SIMPLICITY AND PRECISION

Instant measurement at the machine infeed of the dimensions of each workpiece (X-Y-Z): The data updates the program variables edited in a parametric way for a simpler programming phase and, most importantly, absolute precision in machining.



# TECHNICAL SPECIFICATIONS

powerflex



Axis X	mm	250 - 3000
Axis Y	mm	100 - 920
Panel passage	mm	12 - 60
X-axis stroke	mm	3050
Y-axis stroke	mm	224
Z-axis stroke (Lower unit)	mm	80
Z-axis stroke (Upper unit)	mm	145
Vertical Drilling Unit Power	kW	2,2
Horizontal Drilling Unit Power	kW	1,5
Drilling spindles rotation speed (with inverter)	m/min	4000 - 6000
UPP/ LOW drilling units positioning speed X-axis	m/min	67
UPP/ LOW drilling units positioning speed Y-axis	m/min	30
Drilling units speed in Z-axis	m/min	19
UPP/LOW drilling heads automatic rotation		0 - 90°



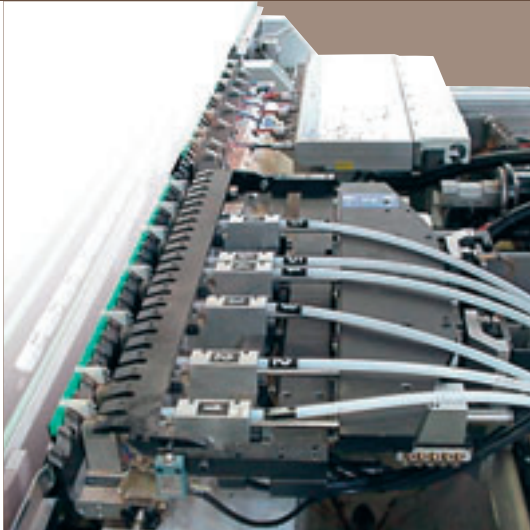
# flexa 912 author 924

## MAXIMUM FLEXIBILITY EVEN WHEN INSERTING

All the drilling and dowelling operations can be performed quickly, automatically and flexibly thanks to the modularity of the Flexa 912 and Author 924.

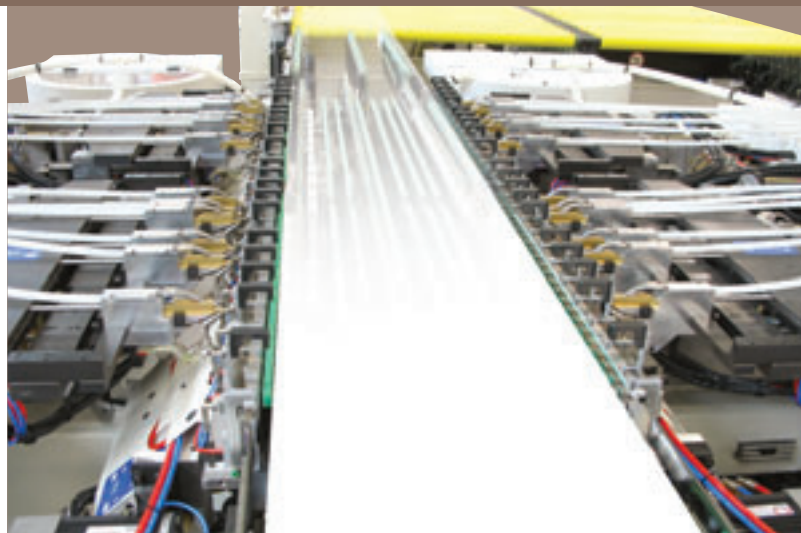
The vertical drilling units, the two drilling heads with 21 horizontal spindles and the dowelling units with 2 to 6 independent injectors can manage the drilling/dowelling cycle in a single positioning of the workpiece on the same machine.

The powerful numeric control optimises the machining (number and position of the dowels, insertion depth, quantity of glue to deliver, etc.) in order to minimise the drilling cycle and maximise productivity.

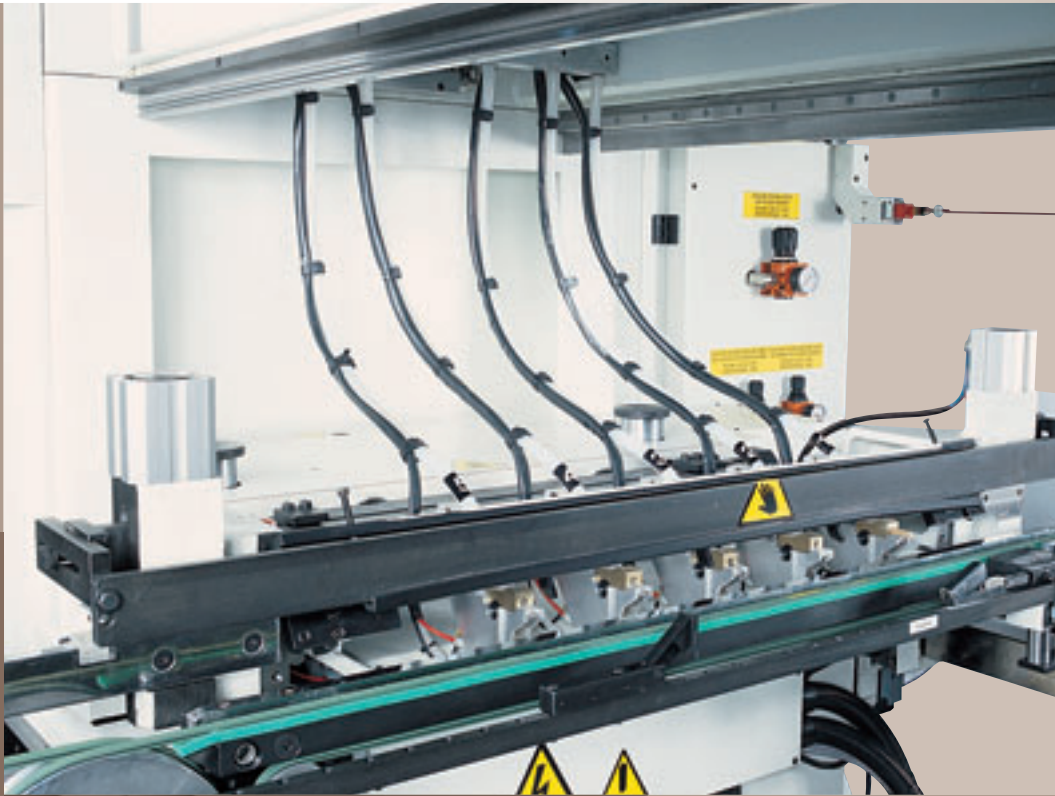


The software processes the best optimisation of the drilling downstrokes for the highest machine productivity reducing to minimum the movement of the axes and the units.

Unprecedented productivity and flexibility are guaranteed by a production line consisting of a drilling machine and inserter, controlled by a single software station.



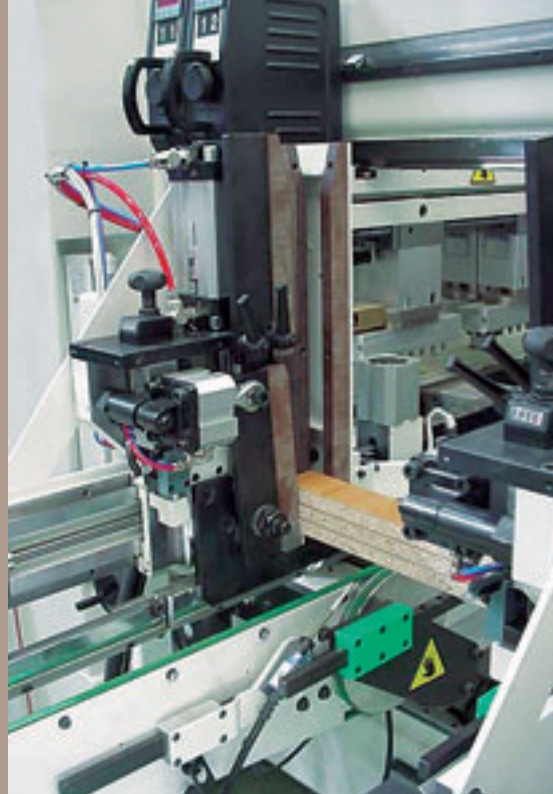
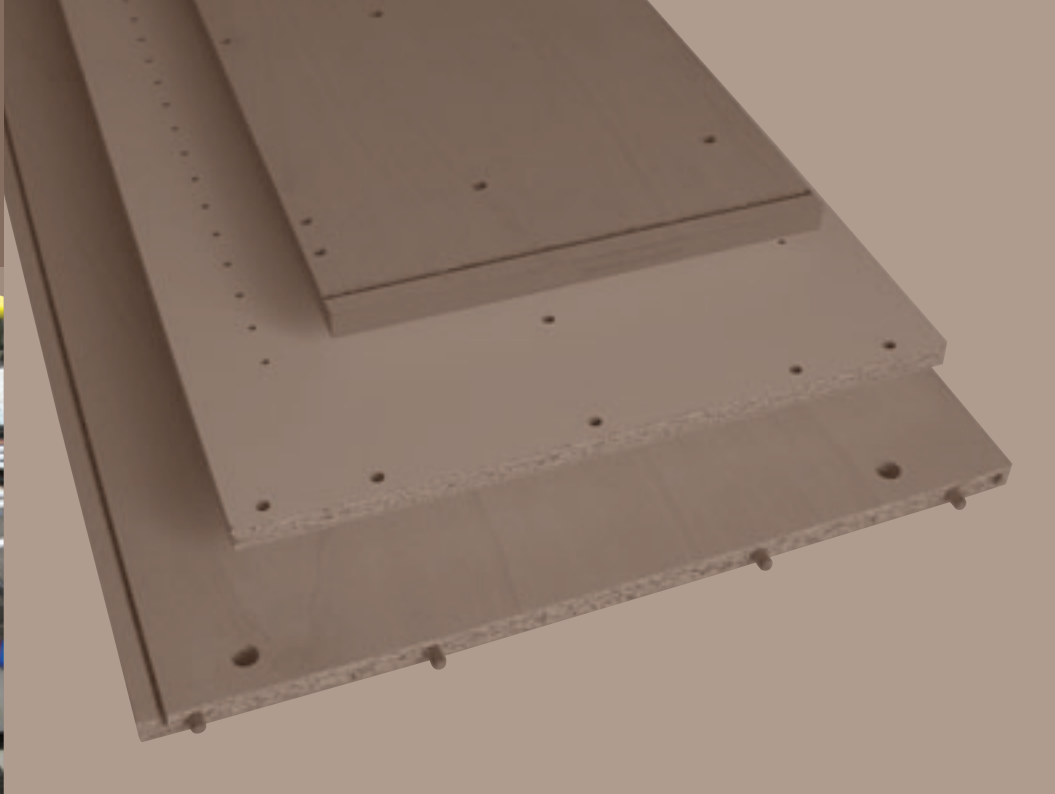
# zenith-a-cdm



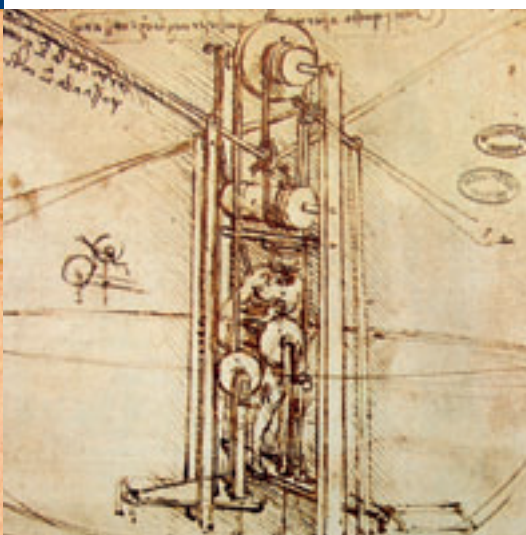
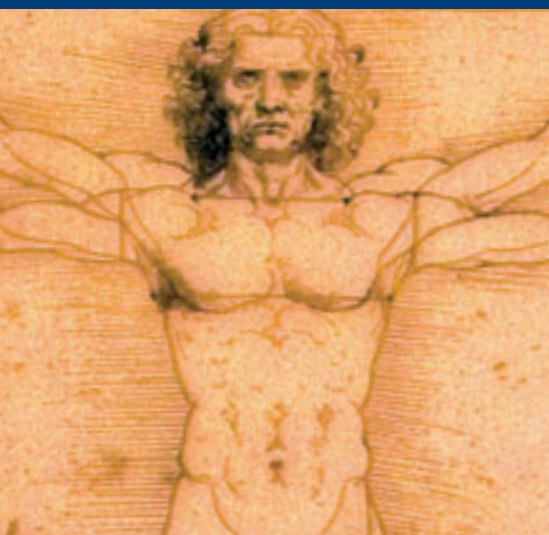
In the dowel gluing version, the machine is fitted with horizontal dowel inserters. They are constantly supplied, through a special circuit, from two containers with vibrators to ensure that the dowels do not jam.

The glue is sprayed from high pressure injectors that ensure maximum distribution; in the subsequent phase, the dowels, available in diameters from 6 to 12 mm, are pushed in to the hole.

A system for the perfect loading and unloading of small-sized workpieces is available to machine beads.







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