OMAL

MACHINES AND SYSTEMS



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Ver. 2021

OMAL LINEA INSERT

- case goods
- drawers
- frame parts
- solid wood rails
- jambs
- Windows & Doors parts

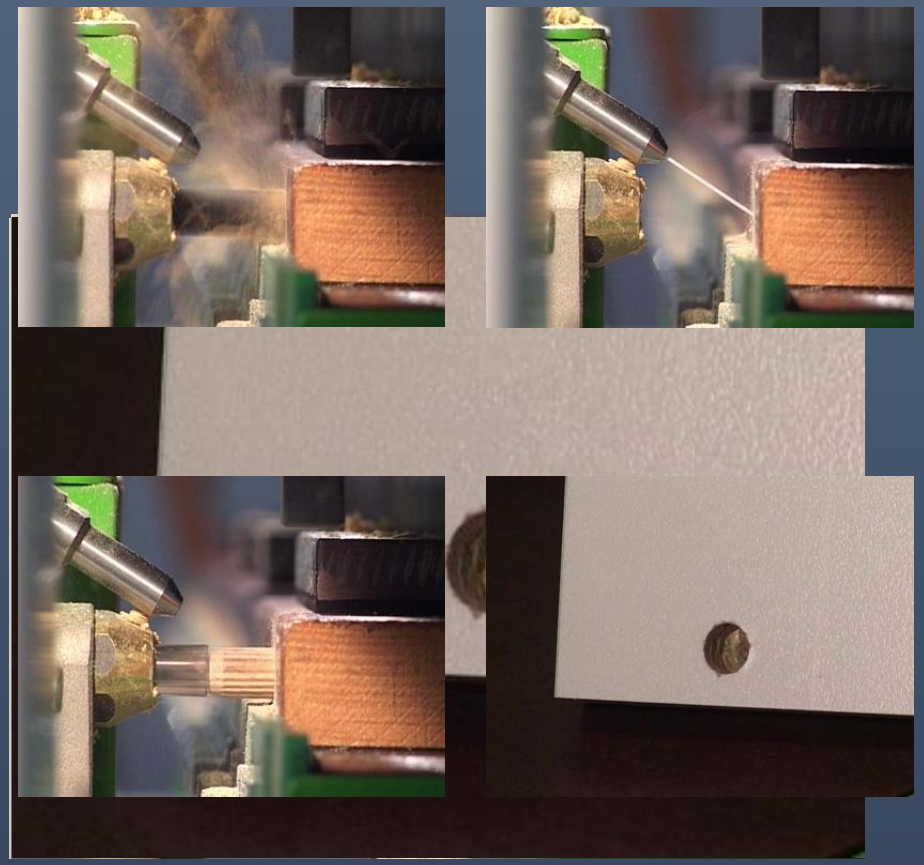




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P.T.P Machine function

- **Horizontal drilling**
- **Glue insertion**
- **Dowel insertion**
- **Vertical drilling (option)**
- **Hardware insertion (option)**



ONLY 1 SECOND FOR DRILLING - GLUEING - DOWEL INSERTING

The quickest machine on the market!!!

on 32 mm. STEP

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INSERT LINE

- VELOX 1300
- INSERT 1300
- INSERT 1300 HV
- CUBE 1300
- CUBE RT 1
- CUBE RT 2
- INSERT LIVELLO 3
- INSERT HW



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VELOX 1300

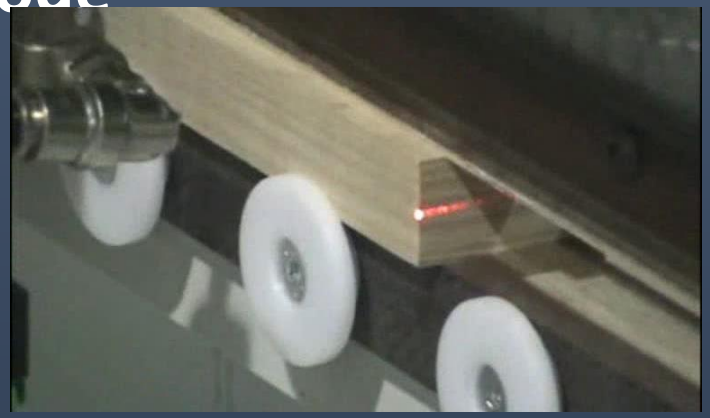
- X axis working area 1300 mm
- 2 working field 650 mm each
- One drilling unit – one gluing dowel insertion unit
- Possibility of tandem loading the machine
- 4 working reference A-B-C-D
- CNC X axis
- Manual Z axis with digital indicator
- Manual adjustment of boring depth with digital indicator
- Manual adjustment of dowel projection
- Pneumatic adjustment of drilling speed
- Pressurised stainless Steel 8 litres tank for glue
- Manual Glue-water bypass for cleaning
- Automatic lubrication
- 4 pneumatic clamping
- Bakelite working table





Options for VELOX 1300

- **Membrane glue pump**
- **Glue sensor**
- **Laser device to read the length of panels**
- **Barcode**





Software and control unit

CNC Elco Top 7

- CNC X axis
- 7” TFT colour TOUCH SCREEN MONITOR
- Parametric programming with variable
- List manager
- Serial line for barcode
- USB port for big programs storage
- Ethernet connection
- Laser reading on X axis (option)
- Very simple and intuitive software
- Automatic left and right program
- Sequence of programs
- List of programs
- Video-graphic



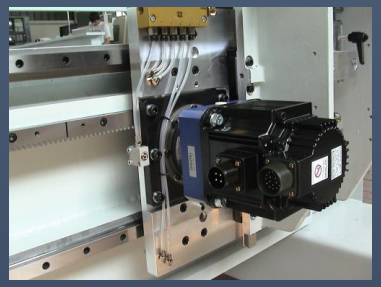
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General information INSERT LINE

- **Electrowhelded normalised and stabilised frame for high rigidity**
- **Prismatic linear guides**
- **High rigidity X & Z carriage mounted on four slides**
- **X Axis Positioning Speed 50 min. for INSERT with ball screw**
- **X Axis Positioning Speed 90 m\min for INSERT with rack & pignon (any model over 1300 mm)**
- **ACCELERATION: Less the 200 milliseconds to reach top speed**
- **Centralized lubrication system**



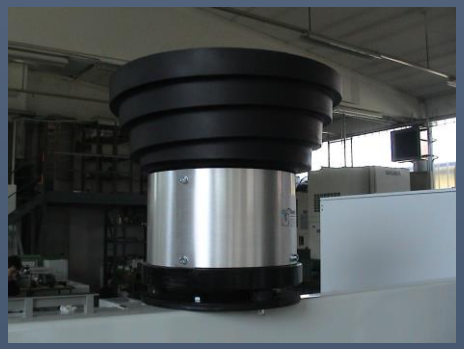


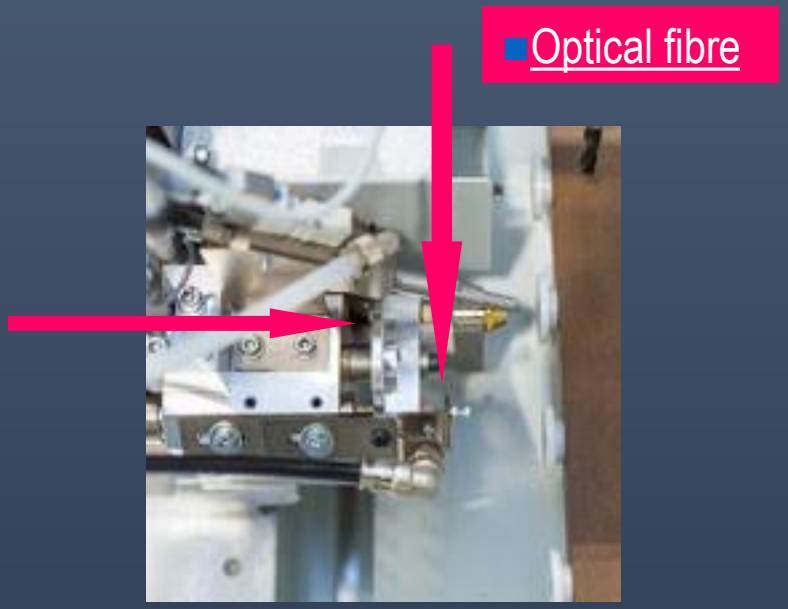




General information INSERT LINE

- **Automatic dowels vibrator**
- **OMAL dowels insertion unit with rotation system and optical fibre (dowels always ready no waiting time)**
- **OMAL sure shot system**





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General information INSERT LINE

- **Standard 8 by 30 mm. Dowels size (different diameter or lengths on request)**
- **6000 rpm drilling rotation speed**
- **Max Thickness of the panel 40/60 mm.**
- **Maximum dowels projection 19 mm.**
- **Maximum boring depth 30 mm.**
- **Digital glue quantity adjustment**



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INSERT 1300

- X axis working area 1300 mm
- One drilling unit – one gluing dowel insertion unit
- Possibility of tandem loading the machine
- 4 working reference A-B-C-D
- CNC X axis
- Manual Z axis with digital indicator
- Manual adjustment of boring depth with digital indicator
- Manual adjustment of dowel projection
- Pneumatic adjustment of drilling speed
- Pressurised stainless Steel 8 litres tank for glue
- Manual Glue-water bypass for cleaning
- Automatic lubrication
- 4 pneumatic clamping
- Bakelite working table

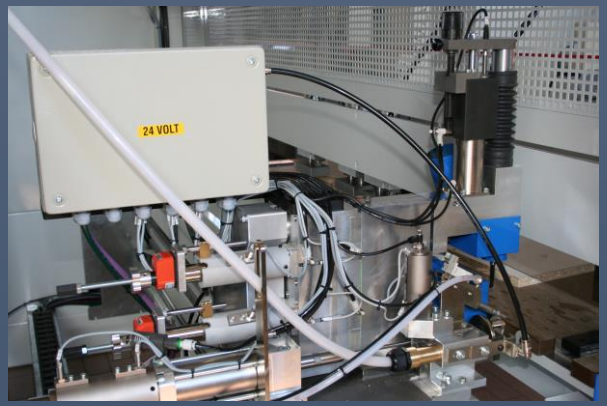




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INSERT 1300 HV

- X axis working area 1300 mm
- One drilling unit – one gluing dowel insertion unit
- One vertical drilling unit
- Possibility of tandem loading the machine
- 4 working reference A-B-C-D
- CNC X axis
- CNC Z axis



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CUBE 1300

- X axis working area 1300 mm
- 3 horizontal + 3 vertical drilling unit
- Possibility of tandem loading the machine
- 4 working reference A-B-C-D
- 3 CNC axis X, Y and Z
- Central and side sinking reference
- Auto-laser in X and Z
- Open frame to machine panels up to 2600
- Heavy duty clamps with easy set up
- Clamps extension for narrow parts with anti collision laser
- Centralized dust extraction
- Parts presence sensors
- Option 5+5 or 2500 mm frame



Video Cube





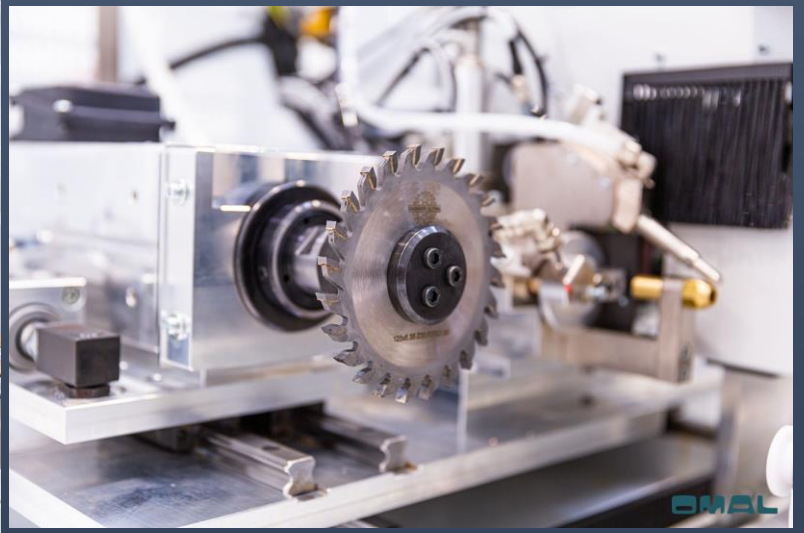
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CUBE 1300 RT 1

- 5 horizontal + 5 vertical drilling unit standard
- 5,6 kw horizontal routing unit for horizontal milling or grooving
- Sinking back fence





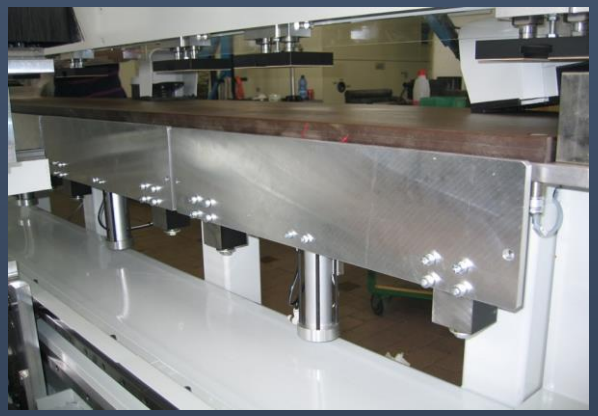


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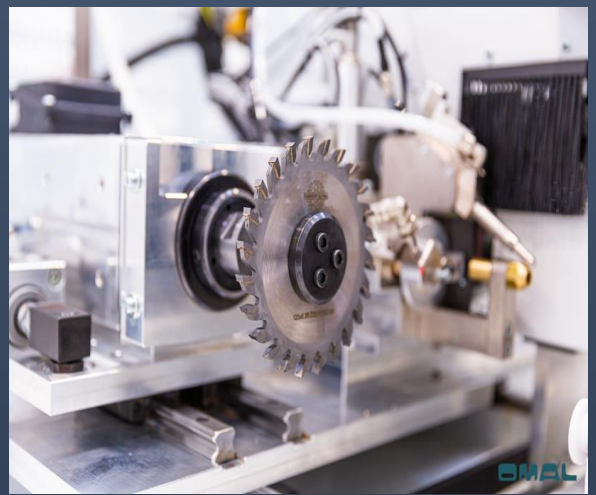
CUBE 1300 RT 2

- 5 horizontal + 5 vertical drilling unit standard
- 5,6 kw horizontal routing unit for horizontal milling or grooving
- 5,6 kw Vertical routing unit
- Sinking back fence









Options for INSERT 1300

- **Glue sensor (electronic sensor for check the correct working of the glue gun)**
- **Working field of 1550 mm 2500 / 3200**
- **CNC Z axis**
- **CNC positioning of Y axis**
- **kit for different dowels diameters**





Options for INSERT 1300

- **Membrane or High pressure glue pump**
- **barcode**
- **Second drilling unit**
- **Sinking references**
- **Open frame**

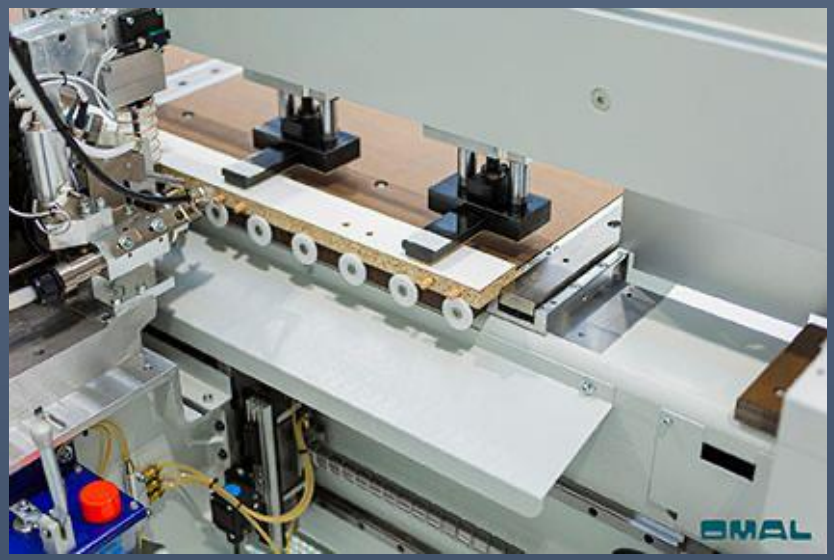


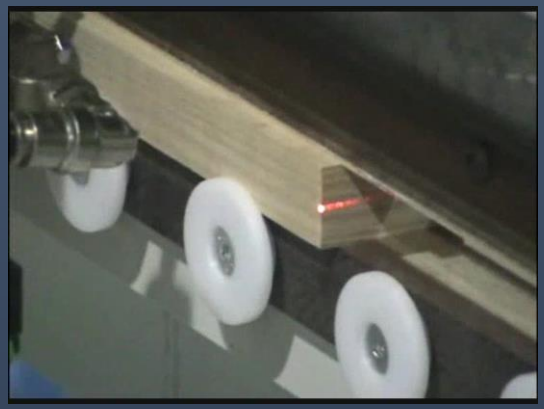




Options for INSERT 1300

- **Vertical drilling unit**
- **Laser to check the part dimension in X and Z**
- **Special clamps and extension to clamp narrow pieces**





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Options for INSERT 1300

- **Machine equipped with 2 vibrators and 2 drilling and dowel insertion units to change dowel diameter from the Cnc. Zero set up!**





Options INSERT 1300

- **POCKET HOLE unit**



- **Automatic feeding with Robot**



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INSERT HW

- **PTP drilling & hardware inserting Machine.**
- **Highly customize machines**









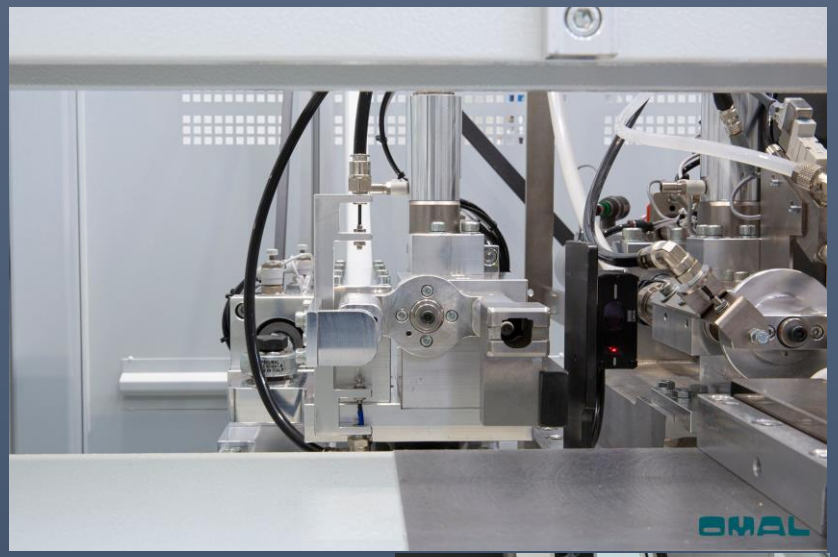


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Hardware examples

- **Hardware insertion**







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Albatros Software and control unit

- The user friendly **OMAL Software** makes the machine extremely versatile. The machine is equipped with a full PC interface used for writing and storing programs. Programs can be written parametrically, can include IF/THEN statements, and are generated using graphical icons (drill, glue, dowel check boxes). The selection of the offset of tools for inserting and for operations on different left and right hand references is automatic.
- 3 axis NC
- 3Mbit Fieldbus for input/output remote
- Very simple and intuitive software
- Automatic left, center, and right program
- List manager to sequence programs
- Graphic menu for selection of macros
- Parametric programming
- Graphical aids
- Conditional programming with built in simulation checking
- Pre-programmed executive lists which can be edited run-time and structured into
- articles
- Internal self-diagnosis, historical report of alarms
- INDUSTRY 4.0 READY - OPC UA data exchange protocol

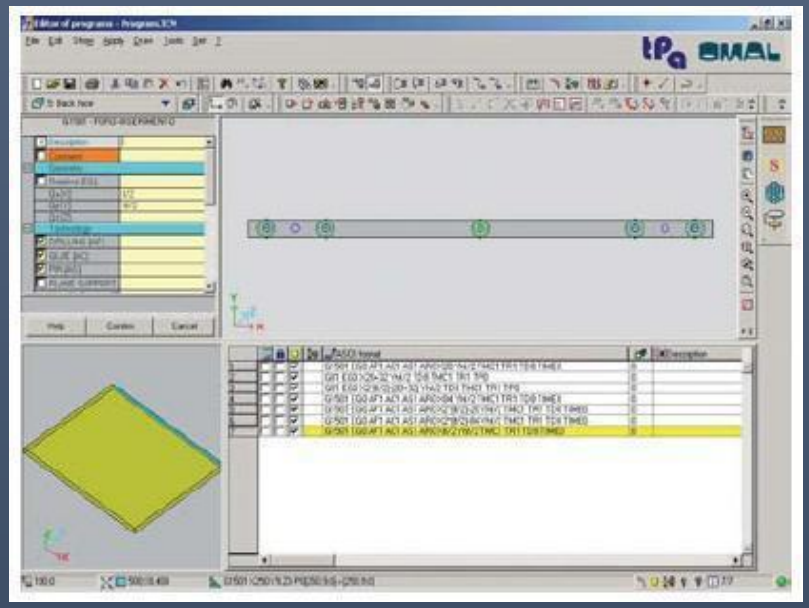
Commercial PC unit

PC Numerical Control:
Machine equipped w/ PC for machine control of all axis

- 4GBram
- Operating System, Windows 10
- Color video flat screen monitor
- 200 Gig hard drive
- Complete keyboard + mouse
- Ethernet network card 10/100
- Multitasking CNC

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Software





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Why Should Customers buy a PTP Boring and dowels inserting machine

- **Speed of the working cycle and Flexibility**
- **Accuracy**
- **Easiness of assembling the parts of the product**
- **Possibility to integrate the machine in an automatic cell**
- **No Set-Up time**
- **No risk of mistakes**
- **Possibility to work with different boring patters in different zones**
- **Compared to the manual doweling, the Productivity does not rely upon the operator speed**
- **Compared to screw a lot stronger and more accurate**

The insert Line in the NESTED base Production

- **Becomes a must in the NESTED base Production because is not possible the horizontal drilling**
- **Cycle time to drill and insert 1 second**
- **It matches perfectly the philosophy of the just in time production, flexibility and automation of the nesting**

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Why an Insert side by side with a PTP

- **4/5 seconds are needed to drill a horizontal hole with a PTP, therefore a panel with 4 holes on each side requires approximately 40 sec.**
- **+ unload and movement of the panel**
- **+ the time needed for the dowel inserting either manually or with a traditional machine**

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Why an Insert side by side with a PTP

- **With the Insert the advantages are:**
- **5 seconds is the cycle time for each side of the same panel (total of 10 sec.) therefore we save time**
- **we free the time of the PTP**
- **the same operator can operate the PTP and the CNC**
- **dowel inserting machine therefore we save labour and the related costs**
- **we drill horizontally and insert the dowels on the same machine**
- **integration and connection to the PTP**

Cnc dowel inserting compared to a traditional machine

- **With approximately only 50% of difference in a limited investment the customer enjoys all the advantages of the Cnc operation: flexibility, accuracy, integration, etc.**

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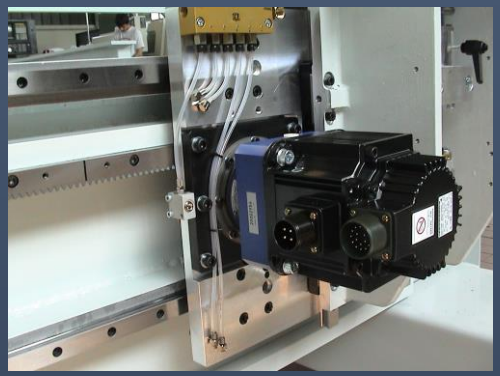
Main Competitors

- **Homag**
- **Gannomat**
- **Koch**
- **Vitap**
- **Pillar**

Advantages compared to competition

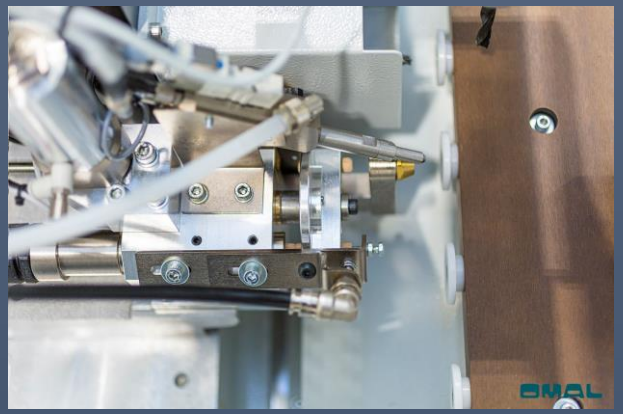
- **Rigidity of the machine frame**
- **The cycle time of the Insert from Omal is 15 / 20 % faster**
- ***The highest machine compatibility to satisfy any requirements of the customer.***
- ***The fastest machine on the market (drilling, gluing and dowel insertion step 32 mm, 0.8 seconds/dowel)***



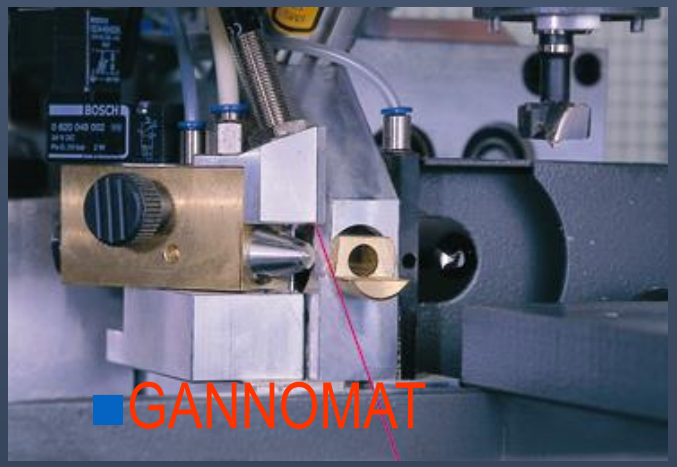


Advantages compared to competition

- ***Proprietary OMAL system of loading and dowel insertion through revolver that assure the highest work reliability (stops of the machine during the working fall to zero, maximum productivity)***
- ***The unique revolver system used by Omal ensure extreme simplicity and speed in eliminating faulty dowels. Competitors have to stop the machine and dismount the dowel insertion unit to remove the faulty dowel generating heavy loss of production (downtime up to 30 minutes for a faulty dowel!!!!)***



- ***Dowel always ready for the insertion with loading in masked time (no waiting time)***
- ***The ONLY system with Optical fibre for dowel presence checking***
- ***(KOCH and GANNOMAT HAVE NO CHECK OF THE DOWEL, Cheap mirror on the vibator entirely up to operator attention)***



Advantages compared to competition

- • *World leader in the construction of plants among wood working.*
- *Best control of glue insertion through glue sensor internal to injector unit. T Omal system is the only one that gra 100% that cycle has been completed. Competitors use just an external sens highly affected by the dust therefore their system does not work properly. .*
- *Double seal on glue side. Competitors use only ONE Thin seal. This ensure a much longer life of glue injector and a much better control of glue quantity*

