

**OMEC 650-A
A USER-FRIENDLY SYSTEM
FOR FIXED-PITCH
MILLING MACHINES**

After designing the CNC-operated variable pitch milling machines, Omec is starting the renovation of its range of fixed-pitch milling machines.

The first machine that has been designed is the electronic version of the manual 650M milling machine.



Starting from the base of the manual milling machine, the electronic one has been fitted with a small CNC system with two axes and a centric spindle that uses the same milling cutters with two sharp sides that are fitted on the high-range milling machines.

The mechanical design of this machine has been improved and the use of suitable components

allows Omec to offer a machine with virtually the same size as its mechanical version.

Despite being a fixed-pitch machine, you can choose two different pitches: 25mm and 50mm.



This milling machine is very easy to use. To change the size of the work-piece, you don't need to move the stroke-pieces on the machine top to find the right position. Vertical stroke-pieces (where normally sides are machined) are stationary, whereas horizontal stroke-pieces are assisted by two position blocks that adjust the right offset between the vertical work-piece and the horizontal work-piece. By moving the horizontal stroke-pieces towards the outer blocks, the machining position for the 25mm pitch is obtained, whereas by moving them towards the inner blocks, the machining position for the 50mm pitch is achieved.



The CNC system also allows operators to move the position of joints on the work-piece by increasing or decreasing the distance of the first joint

from the edge.

It is also possible to adjust the thickness of the male-piece, the depth of the female-piece and tool feeding speed on wood. These adjustments are possible from the CNC system and there is no need for all adjustments that are normally found on mechanical machines.

The variation of tool diameter allows operators to easily adjust the coupling of male-female joints, and also to sharpen the tool several times without replacing it.

All machining data can be entered with a simple procedure by following the software instructions viewed on the machine's monitor. The numeric control runs a Windows® CE operating system.



Parallel joints can be manufactured using cylindrical milling machines.

It is possible to fit integral Widia tools with diamond facing, with or without deburring tool. A wide range of the tool feeding speeds allows operators to obtain the best results with all types of wood and composite materials (hardboard, plywood and MDF), avoiding splinters and machining burrs.

In addition to the position of horizontal stroke-pieces, the only manual adjustments that need to be done concern pushers' and spindle's height,

and are obtained with specially designed adjustments screws.

The machine's output is 40 complete drawers per hour.

Previous experiences with high-range CNC-operated milling machines have enabled Omec to offer this machine at just a slightly higher price than the Omec 750 electro-mechanical milling machine..

The 650-A milling machine will probably replace traditional fixed-pitch mechanical milling machines.

**OMEC 750CN VARIABLE-PITCH
MILLING MACHINE
INVESTING ON
VERSATILITY**

The standard features of fixed-pitch milling machines only partly meet the versatility that is required in the modern production of drawers for the furniture industry.

Due to the fixed-pitch feature, the user is obliged to adjust the height of side panels and front-pieces depending on pitch, in order not to manufacture parts ending with incomplete joints. It is also necessary to adjust the tool's feeding speed in order to adapt it to all types of wood or wood by-products (plywood, MDF, strips, etc.), and this is a problem when the manufacturing needs are connected with a wide range of products and production lots.

The Omec company is aware of the demands of the market, and has exploited the previous experience acquired with the F11CN and FCN3 milling machines to design a totally electronic version of this machine:



This model is equipped with a spindle unit and a milling cutter that can be used to manufacture

joints of different heights. The "750CN" machine can process male pieces and female pieces both separately and in a combined mode.

Pieces are locked and unlocked manually by means of specially designed pneumatic valves. Eight pneumatic cylinders guarantee the locking operation safely.

The CNC system is designed to offer the maximum machining versatility and allows users to vary the pitch, number and depth of joints, as well as cutting speed, tool feed and tool diameter variation (this feature is used to adjust with a simple operation the coupling of male-to-female joints and to sharpen tools several times before replacing it).

All machining data can be entered with a simple procedure by following the software instructions viewed on the machine's monitor. The monitor is equipped with an integrated Windows® CE operating system.



This machine uses tools of different diameter (from 6 to 14 millimetres) in order to manufacture small size and large size joints.

Parallel joints can be manufactured using cylindrical milling cutters. It is also possible to fit integral Widia tools or tools with diamond coating

(with or without deburring tool) and to set the desired speed for the tool feed speed. Thanks to these features, it is possible to machine all types of wood and composite materials (hardboard, plywood and mdf) with no chips or machining burrs.



Moreover, it is possible to complete the machine software with two optional programmes to machine joints with rectangular pass-through male pieces, parallel joints and mortise (French) joints.

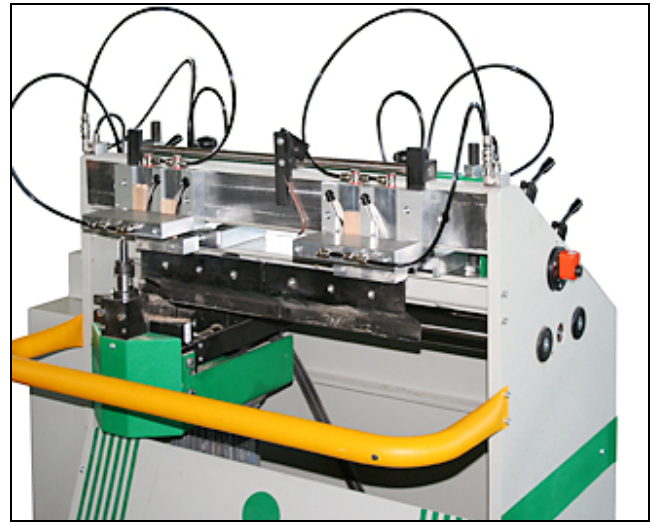


The only necessary manual adjustments concern the pushers height and the spindle height, which can be obtained by operating on the adjusting screw. The stroke-pieces of vertical parts are fixed, whereas horizontal stroke-pieces can be adjusted through a screw and have a specially designed position indicator. The stroke-piece position is provided directly by the CNC system depending on the pitch used for the machining process.



The machine's output is 60 finished drawers per hour.

The 750CN milling machine can be equipped with new tools for the production of small pieces. This machine finally lets you work even the smallest pieces quickly and easily.



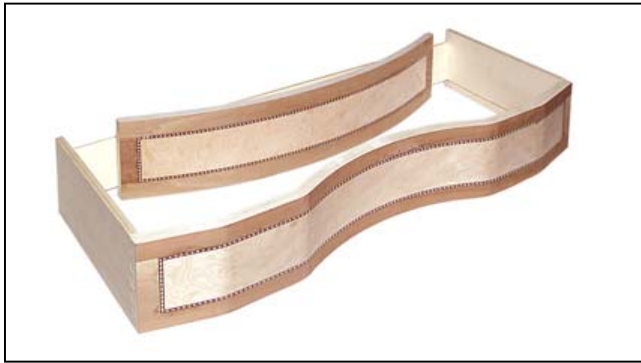
The machine has been designed to work eight pieces at a time (four male and four female joints in one work cycle). The particular characteristics of this machine, and the variable pitch program, let you work very small pieces (30 x 60 mm) for cigar boxes, jewellery boxes, or drawers with dovetail joints.



The "750CN" is also available in the version with the tilting workbench (OmeC 750CN-I).



The machine, equipped with a 90° tilting workbench lets you produce drawers with curved and shaped front pieces.



Furthermore, you can produce angled front pieces for single or double corner kitchens.



The 750CN milling machine is specifically designed for companies that need to manufacture small and medium series of drawers with small investments, but still preserving particular structural details, such as different joint sizes and the machining quality, which are essential elements in the furniture industry. The high versatility of this machine also allows manufacturers to successfully face the sub-supplying market and the market of custom-made furniture, because the machine's capabilities can be adapted to the needs of the end user.

**OMEC F8
MULTIPLE MILLING MACHINE
WITH 8 SPINDLES
FOR HIGH PRODUCTION OUTPUTS**

The Omec F8 multiple milling machine was designed in 1994 and is now a landmark in the sector of fixed-pitch electromechanical milling machines as far as output rates and machining quality are concerned.



The machine is equipped with an 8-spindle head for the manufacturing of joints with different heights and allows operators to quickly machine drawers' sides and front-pieces up to a max width of 400mm.

Compared to traditional milling machines for joints with multiple spindles, the eight spindles are fitted onto the head with a distance between centres that is twice as much the size of the joint machined. This special feature of design has made it possible to obtain a high speed for the tool (16,000 rpm) without the cooling problems that are typically associated with this type of structure. The 25mm fixed pitch is obtained by displacing the milling head sideways, with a motion controlled by a set of pneumatic cylinders and a cam system.

This machine can process single male workpieces, single female workpieces as well as combined male-female workpieces. In order to avoid the chipping of the male piece,

the two sides are processed on the vertical cart, where they are coupled with the outer face exposed inside the bundle of workpieces. This allows for a perfect machining quality under all aspects. Front-pieces are instead machined on the machine's horizontal top. It is possible to machine front-pieces with stroke-pieces without using any counter-mould; you simply have to push the workpiece into the stroke-piece, like with standard front-pieces.



Workpieces are locked and unlocked automatically by slipping workpieces inside their housing until they reach the stroke-piece. The PLC-controlled pushers will then lock the workpiece for the set time. Once the workpieces have been machined, the pushers are automatically released and are ready to receive a new workpiece. Eight pneumatic cylinders guarantee the locking operation safely.

The machine's output is 120 finished drawers per hour.

All adjustments are easy to obtain and are displayed by the corresponding indicators, which also allow inexperienced operators to quickly perform the machine setup each time the production is changed.

The machine's control panel features selectors for the choice of the type of machining and work cycle. It is essential to make the machine operation easy for users.



Thanks to these features, it is possible to obtain the best results on all types of wood and composite materials (hardboard, plywood and MDF) with no chips or machining burrs.

The enhancement of the mechanical design and the use of suitable components has enabled Omec to preserve the compact size of the machine.

It can also be fitted with different types of optional features:

Equipment for the machining of curved front-pieces for a problem-free processing of workpieces with a bending radius over 880mm.

Set of optional cams for the machining of sides with a thickness from 10 to 25mm.

Deburring tool for front-pieces for a burr-free machining of facing strips of wood with veins having the same direction as the tool's direction of rotation.

The equipment for the machining of small workpieces can be used to easily manufacture drawers with a front width up to 130mm.

This milling machine helps companies to minimise the cost per unit of products.



OMEC F11TS A COMPLETE MILLING SYSTEM FOR THE PRODUCTION OF DRAWERS

The CNC-operated F11TS milling machine has been designed to guarantee maximum versatility in the machining of drawers and furniture parts.



The milling machine is controlled by a CNC system that is programmed to give maximum machining flexibility and enables operators to modify the following parameters (within machining limits): type, pitch, number and depth of joints, work-piece size, cutting speed, tool feeding speed and compensation of tool diameter variation.

All machining data are easily entered by following the instructions displayed on the machine monitor. The CNC system can save up to 600 different machining programmes that can be recalled according to the operator's needs. The graphical interface of the machine software is based on drop-down menus and is designed to load programmes directly from the bar code scanner. The machine's software includes the Windows® CE operating system and can be set in order to accept the loading of programmes directly from the bar code reader (optional). The machine has a USB port to update the software.

The machine output is 120 complete drawers per hour.



The machine can work with tools of different diameter from 6mm to 18mm. It is therefore possible to manufacture joints with a very small pitch too. It is possible to fit integral Widia tools with diamond facing, with or without deburring tool. A wide range of the tool feeding speeds allows operators to obtain the best results with all types of wood and composite materials (hardboard, plywood and MDF), avoiding splinters and machining burrs.

The only manual adjustments that need to be done concern pushers' and spindle's height, and are obtained with specially designed adjustments screws. The stroke-pieces of vertical parts are fixed, whereas horizontal stroke-pieces can be automatically adjusted through the CNC system. The software also includes a manual control mode to machine special pieces.



This machine can manufacture different types of joints, in particular: dovetails with fixed and variable pitch, interrupted joints, pass-through joints with rounded male-piece and rectangular male-piece,

alternated dovetails, (a small one with a large one), drawers' fronts with stroke-pieces, parallel joints, French-style joints, housings for guides fitted on drawers' backs and housings for the mechanical coupling of front-pieces.



The machining range offered by this milling machine allows applications other than the machining of drawers, such as the making of hollows on table legs, the machining of sides of pieces of furniture, the making of hollows to house pins to support furniture shelves, joint-machining of bed frames and kitchen hoods.

The F11TS milling machine can be fitted with a series of tools to customise it according to the user's needs, even at a later stage from the purchase of the machine.

The following tools are available:

- Tool for the machining of drawers with curved concave/convex fronts and with irregular shapes.
- Tool for the machining of angle-shaped fronts.
- Tool for the milling of housings for the mechanical coupling of fronts.

- Vacuum unit for the machining of small parts.
- Bar code scanner.

It is also possible to complete the machine software with two optional programmes to manufacture hollows on the Y axis (hollows on table legs) and joint-machining of little wings of pieces of furniture.



The speed and simplicity of tool adjustments and replacement, as well as the available machining programmes, make this milling machine very versatile and make it a good tool for the cheap manufacture of small and large series of drawers, always keeping a high quality standard.

**FCN3 MILLING-DRILLING MACHINE
FOR DRAWERS WITH DOVETAILS
ON FOUR SIDES OR DOWELS ON
THE BACK-PIECES**

The Omec FCN3 CNC milling machine with five controlled axes was designed with the aim of enhancing the performance of traditional milling machines for joints.



This machine can work the following quantities of items, with the supervision of a single operator:

No. 400 front-pieces per hour machined with dovetails on two sides and No. 800 sides per hour with dovetail on one end and holes on the other end, for the assembly of back-pieces with dowels.

No. 200 drawers per hour with dovetails on the four sides.

In either cases front-pieces can be drilled to fit ball grips or finishing panels by means of an optional drilling unit.

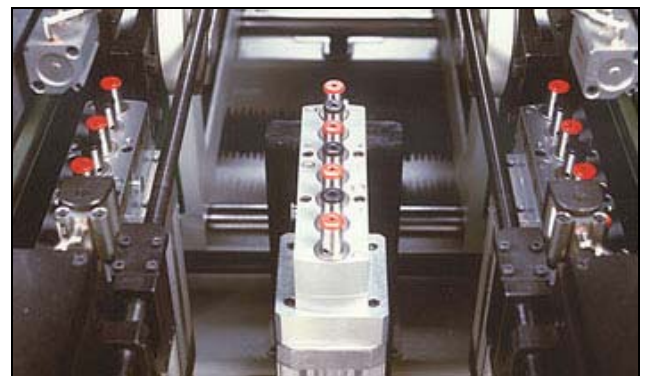
The machine is supplied with three input and output magazines and a power supply system. The blocking and downloading of work-pieces occurs automatically by means of conveyors and travelling lifts at each working cycle. The machine's working cycle is as follows: 1) The operator inserts workpieces in the specially designed loading magazines. 2) The sides' drilling operation takes place and then workpieces are fed to the milling station. 3) Joints are milled and then fed to the drilling station. 4) Front-pieces are drilled and finally stacked up into the output magazines.

The milling unit is fitted with two electrical spindles for the milling cycle.

On each side of the machine there is a sides' drilling station located on the input magazine and featuring one head each.



The (optional) drilling station for front-pieces is located upstream the output stackers and is composed of three heads. The two side drilling heads perform the drilling of the two ends of the front-pieces, whereas the central drilling head is used to drill the middle part of the front-pieces of the drawer. The central drilling unit can be rotated 90° and its height/width/length can be adjusted, so that several drilling combination can be obtained to meet all the requirements of customers. During the milling of joints, the front and rear drilling machines make holes on sides and front-pieces, in order to reduce the overall machining time. The central drilling machines can be easily disassembled to allow for the working of drawers with small size front-pieces.



The machine's CNC system has been programmed for the utmost machining versatility and allows users to reasonably vary the following parameters:

- Pitch, position and depth of joints.
- Cutting speed, tools' feeding speed and compensation function for tool diameter variation.

- Size of workpieces.
- Installation and removal of drilling heads.

The new design of the CNC board can control five axes, four of which can be interpolated on a CAN BUS line. The brushless motors with integrated drive and an absolute encoder are twice as much powerful as those installed on the previous model.

The machine's software has been completely rewritten in order to adapt it to the new board, and its graphics has been improved with the addition of drop-down menus.



Operators simply have to insert workpieces in the loading magazines and then remove them from stackers at the end of the working cycle.

The features of this machine guarantee a substantial reduction of machining costs for drawers with dovetails.



All adjustments can be easily performed by following the software instructions viewed on the machine's CNC monitor.

The OMEC FCN3 milling machine can work all types of wood and composite materials with no chips or machining burrs.

**OMEC ICM300
ELECTRONIC GLUING MACHINE
FIT FOR ALL NEEDS**

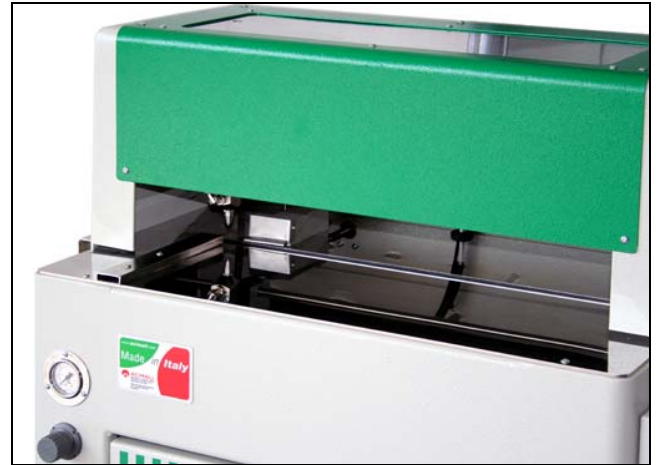
The ICM300 gluing machine is the first machine of this type that has been designed by Omec.

The design limits have been set in such a way as to create a machine that can be adapted to the features of the full range of milling machines for joints manufactured by Omec.



All machining data can be entered with a simple procedure by following the software instructions viewed on the machine's monitor. The numeric control runs a Windows® CE operating system. The CNC system can save up to 120 different machining programmes that can be recalled according to the operator's needs.

The machine has a single nozzle that is operated by an electronically-controlled axle in order to spread glue on both fixed-pitch joints and variable-pitch joints.



This type of solution offers considerable advantages as compared to the standard gluing machine available on the market.

You don't need to have one type of nozzle for each size of joints and for each different number of joints. This way, you can dramatically reduce the cost of nozzles if the drawer's size and the number/pitch of joints is often varied during the production process.



By varying the nozzle feeding speed parameter and the nozzle opening time, it is possible to apply glue precisely on workpieces, in order to prevent

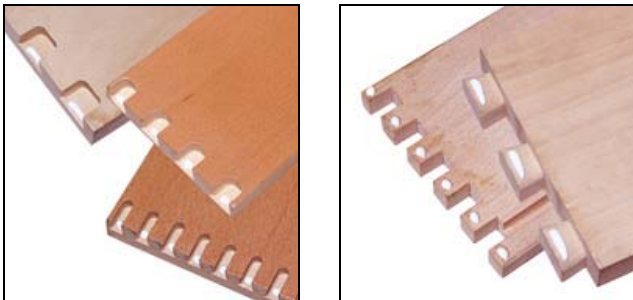
glue from leaking out when workpieces are assembled. This way, it is not necessary to clean drawers and the machine used to assemble them at a later stage.

The cleaning and maintenance of a single-nozzle system are definitely quicker as compared to multiple-nozzle systems.

The wide range of adjustments guarantees a minimum consumption of glue.

This system is suitable to glue drawers with dovetails, parallel joints and pins. The glue can be applied indifferently inside female joints and holes, or on male joints and pins.

In case of drawers with dovetails or pins, the glue must be spread uniquely onto the first portion of female joints and holes, so that the glue is then spread evenly on the whole mating surface when the male piece is fitted. When you are gluing wine crates with parallel joints, it is best to apply glue on the four sides, in order to spread it more evenly.

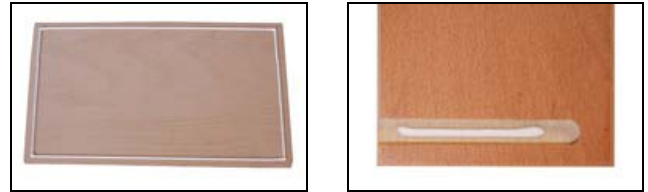


The machine features three different types of programmes:

Programme No 1 is used to spread glue on two sides of the drawer.

Programme No 2 is used to spread glue on four sides of the drawer.

Programme No 3 is used to spread glue in a continuous or intermittent mode on the bottoms of drawers.



Each side can be programmed independently, so there are no problems for the gluing of right or left sides, or when front-pieces are different from backs.

The only necessary mechanical adjustments are the depth of the gluing area and the thickness of the workpiece to be glued. These adjustments are performed by means of two adjusting screws connected to two position indicators.

All other adjustments, such as glue quantity, tool feeding speed, distance of the first joint and pitch are performed directly on the CNC panel.

The machine spreads glue on one side at a time, but it is very quick. The work cycle is simple: the workpiece is inserted until it reaches the spring-operated stroke-piece, and then a sensor triggers the spring to start the nozzle feeding motion.

It is not necessary to lock the workpiece. Operators only have to keep it in position until the nozzle has spread the glue over the last point. After programming the sequence of workpieces to be machined (right-hand side on the right side, right-hand side on the left side, left-hand side on the right side, left-hand side on the left side) the machine is ready for the right type of machining every time the workpiece inserted by the operator reaches the stroke-piece.

Vinyl glue is stored in a pressurised tank inside the machine base. An auxiliary tank can be ordered as an optional component for the separate flushing water system.

**SCM1200 MANUAL
CARPENTER'S CLAMP
A CHEAP WAY TO ASSEMBLE
DRAWERS**

The OMEC SCM1200 manual carpenter's clamp was designed to assemble drawers with dovetails or pins oriented towards the same direction. It is also possible to assemble drawers with curved or shaped front-pieces.



The machine has a hydraulic station which drives one cylinder to press on two sides the drawer parts that have been previously inserted in the specially designed clamps. The hydraulic motion allows for a pressing action that is free from the typical blows of pneumatic presses. The pressing power can be adjusted so that you can find the right balance according to the type of workpiece coupling. Moreover, a vacuum system is used to keep the drawer's bottom in position.

The pressing operation is performed on the five separate drawer's elements. Therefore it is not necessary to pre-assemble the drawer prior to inserting it into the machine.

The drawer size can be easily adjusted manually by the operator.

The drawer's width is adjusted by means of a handle that drives a rack cart with a metrical stick.

Depth is adjusted by means of two screws, connected with position indicators, which lift or

lower the bottom's supports.



Height is adjusted by sliding the stroke-pieces along a track that is carved directly onto the bottom's supports. A recessed stroke-piece is used to shift from the assembly of blind joints to pass-through joints.



Except for the recessed stroke-piece and the position of the bottom's supports, all other adjustments don't have to be precise because any millimetric difference in the position of stroke-pieces can be compensated by the cylinders' travel.

The machine can also be supplied in the

SCM1200/B version, suitable only for pressing pre-assembled drawers, which is however prepared for the successive installation of bottom's supports.



With a limited investment, this machine solves all assembly problems in the production of drawers. The machine is suitable for both industrial purposes and usage in small carpenter's shops.



**SCA1200 AUTOMATIC
CARPENTER'S CLAMP FOR
DRAWERS ASSEMBLY, A
MACHINE ABLE TO MEET
ANY KIND OF NEED**

The OMEC SCA1200 carpenter's clamp was designed to assemble furniture drawers.

The machine has been manufactured since 2003 and has been updated both in its mechanical and software features in order to make it complete, more functional and faster to operate.



The machine features a 3-axis CNC system that allows for the automatic adjustment of the main drawer's sizes. It is also equipped with a vacuum system that is controlled by a dry vacuum pump which keeps the drawer's bottom in position. Four different types of suction cups are available depending on the different drawer sizes, so as to ensure the best locking of the drawer's bottom in all conditions.

Pressing is performed on all four sides and is obtained by means of brushless motors. This solution allows for a smooth and constant feed at the max. available torque.

Reference stroke-pieces are provided in the form of pneumatic units. They are automatically lifted and lowered by the CNC system depending on the machining programme that has been selected. This way, it is possible to quickly remove the pressed drawer.



Thanks to the recent updates, the following programmes have been added to assemble a wider range of drawers (see enclosed drawing).

Drawer 1

With this programme it is possible to assemble most types of drawers, and specifically drawers with dovetails on four blind sides, drawers with pass-through joints, with dovetails on front-pieces and dowels on the back-pieces.

Drawer 2

This programme is suitable to assemble drawers with parallel joints.

Drawer 3

This programme is suitable to assemble drawers having sides higher than the bottom.

Drawer 4

This programme is suitable to assemble drawers having the bottom whose depth is less than the sides' depth.

Drawer 5

This programme is suitable to assemble drawers with dowels on sides.

Drawer 6

This programme is suitable to assemble drawers with folding system, drawers with dowels on the sides and on the back, drawers with dowels on the sides and on the front-piece and drawers with stroke-piece on the side.

Drawer 7

This programme is suitable to press drawers with male dovetails on back-pieces.

The pressing operation is performed on the five separate drawer's elements. Therefore it is not necessary to pre-assemble the drawer prior to inserting it into the machine. However, a programme (Drawer 6) is available to press pre-assembled drawers in special conditions when it is not possible to operate with standard programmes.

Controls are arranged on a control panel located inside the machine. All programmes are preset and easy to use. A graphical display allow users to view the data that are being entered. Operators just need to choose the programme depending on the type of drawer that is to be assembled and depending on its main sizes. Manual adjustments are minimal and can be performed quickly, thus ensuring a low-cost assembly even for small production batches.

This machine can operate with two different pressing systems:

- 1) Operation with set pressing time and automatic vise re-opening; in this case the time for pressing and for vise re-opening is set by the operator.
- 2) Operation with non-set pressing time; in this case the operator shall decide when it is time to re-open the vises by releasing the specially designed control on the control panel.

This way, it is also possible to hold the drawer in position to apply rivets if it is necessary to fasten the drawer's bottom.

To this purpose, a special pressure inlet line runs along the machine base to connect the rivet gun to the compressed air line, and a bracket is provided to support it when idle.

The memory of the CNC system includes 70 machining programmes. However, a memory expansion unit is available to increase the total memory up to 570 machining programmes.

The machine is fitted with an anti-twist system for workpieces. In case it is necessary to assemble parts that are not perfectly even (which is not so rare), four pistons connected to the corresponding

pushers bring faulty parts to a machinable condition.

The machine is also supplied with the right equipment for the assembly of very wide front-pieces (600 to 1200mm). A set of stroke-pieces prevent the front-pieces - and above all backs (which are usually thinner) - from bending under the vises' pressure.



In any case, the main advantage of the SCA1200 clamp is the great flexibility. In fact, this machine has been designed to make further modifications and custom setups possible both in moving the axes making changes to the software, and for the mechanical part with the possibility of studying various clamp units on the basis of the requirements of each single user. These modifications, within certain limits, can be made at any time during the working life of the machine, so the user can change the type of production without having to change the machine.

F10 MILLING MACHINE FOR THE MANUFACTURE OF FURNITURE DRAWERS, WINE & SPIRITS CRATES, TOOL BOXES, GIFT BOXES ETC.....

The OMEC F10 vertical-axis milling machine was designed to manufacture parallel joints for drawers, miscellaneous furniture parts, wine and spirits crates, cigar boxes, gift boxes and beehives for beekeeping.



This machine is fitted with a cutter arbor that is suitable for the manufacture of joints of different heights. Pieces are machined in bundles, first on one side and then on the other side, with an automatic feed mode. Each bundle of workpieces is pushed towards the cutter arbor by a cylinder that is driven by a hydraulic station. Bundles are locked with a pneumatic system that is controlled by a valve.

The locking and unlocking operations are performed manually at the beginning and at the end of each cycle. Controls are located on a built-in control panel. This milling machine is supplied in two models. One is smaller and is called F10/200; it can machine bundles of boards of a max. height of 200mm.



The bigger model, F10/450, can machine bundles of boards of a max. height of 450mm. Both models perform a cutting cycle every six seconds.



These machines have a solid design and are fitted with Ø200mm circular milling cutters. Operators only have to adjust the start of the first joint and the joint's depth.

This milling machine allows you to process all types of wood with excellent results including composite materials (hardboard, plywood) with no chipping. This is due to the presence of a deburring tool at the milling cutters' output area and to the adjustable feeding speed of the boards' bundle.

Tools are changed quickly by lifting the machine's upper cover to gain access to the cutter arbor. The milling cutters' unit can be replaced within a short machine stop time.

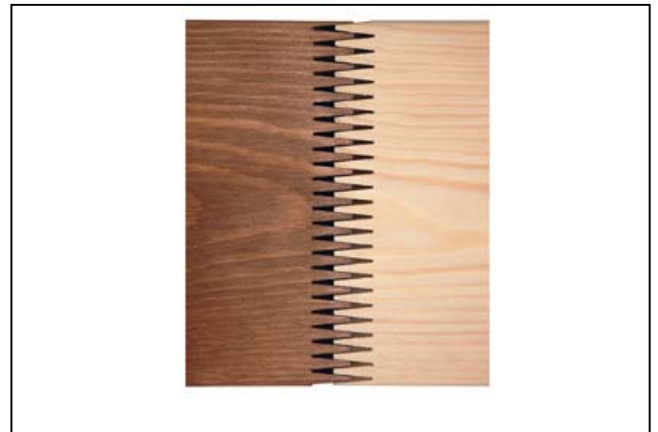


This milling cutter is suitable for an output of about 8000 pieces/hour and is used mainly by companies that manufacture pieces of furniture, packages and gift boxes.

Alternatively, these milling machines can be used for the manufacturing of frames for beehives, as well as trays with slanting borders (with the specially designed equipment for bevel cutting).



Using special milling cutters, these machines can also manufacture pieces with finger joints, for the recovery of machining rejects.



***SBM1200 MANUAL CLAMP
HYDRAULIC PRESS FOR
THE ASSEMBLY OF
WINE/SPIRIT CRATES,
TOOL BOXES,
ITEMS FOR GIFTS AND
FRAMES FOR BEEHIVES***

The Omec SBM1200 manual clamp has been designed and built for assembling boxes for packaging purposes machined with straight joints.

The machine has a hydraulic station that drives three cylinders to press the four sides of the box to be machined, which has been previously inserted in the specially designed vises.

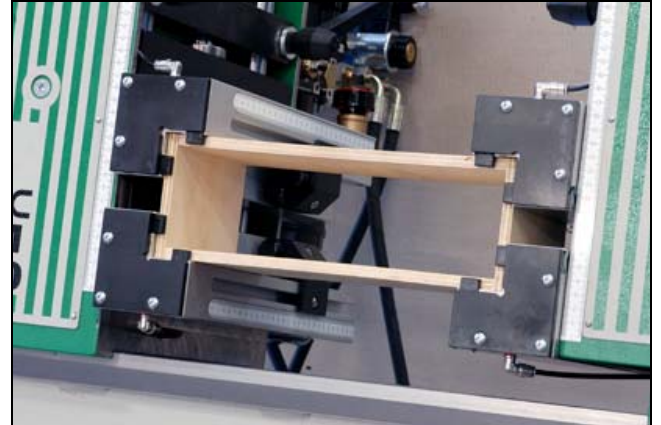


The drawer size can be simply adjusted manually by the operator. Height and width can be adjusted by means of a handle that drives a rack cart for width adjustment and two chain carts for height adjustment. Depth adjustment is obtained by sliding the stroke-pieces along a track that is carved directly onto vises.

The machine is designed to perform two different machining cycles, a continuous cycle and a non-continuous cycle, which are PLC-controlled.

In the continuous operating mode, the machining cycle is as follows: 1) The operator inserts the workpieces in the machine and presses the specially designed pushbutton to start the cycle. 2) The machine presses the crate. 3) The front stroke-pieces are automatically released so that

the crate is pushed towards the operator by the springs of the rear stroke-pieces and the work-piece is easily removed. 4) The machine automatically sets in the correct position for the insertion of new workpieces. In this way it is possible to achieve an hourly output of 180 crates.



In the discontinuous operating mode, it is possible to hold the crate in the pressing position as long as you wish, so that the operator can easily install the crate's bottom while the crate is still on the machine using the standard riveting systems. In this case, it is the operator's task to control the release of vises through the specially designed pushbutton when the assembly of the crate's bottom is completed.

This machines is suitable to assemble the full series of wine boxes, from boxes for single bottles to "magnum" boxes. It can also be fitted with different types of vises allowing for the assembly of small-size crates up to the minimum size of 85x70x35mm, frames for beehives or large packages with a size up to max. 400x400x1050mm.

The pressing operation is always performed with the four drawer's elements kept separate. Therefore it is not necessary to pre-assemble the drawer prior to inserting it into the machine.



OMEC F12 MILLING MACHINE FOR BOTTLE RACKS

Currently, the production of bottle racks and internal partitions for wood packing boxes involves quite non-standardized procedures and considerable labour. Production times are therefore quite long, costs high, and quality is not always what it should be. On the basis of these considerations, our company has developed the OMEC F12 milling machine.



This machine lets you automatically produce bottles racks and internal partitions for boxes.



The machine has a sheet steel base on which the loading magazine, a feed system, a milling head and a stacker are mounted. The machine is controlled by a 5-axes numeric control. One axis controls piece feed, two axes control the horizontal interpolation movement of the milling head and the other axis controls the vertical movement of the milling head. One axis controls the width adjustment for the loading magazine and for the stacker.

The fully automatic work cycle involves inserting the pieces to be worked in the infeed magazine, the pieces are fed to the blocking zone, the milling cycle starts, then the pieces are fed to the outfeed magazine stacker.

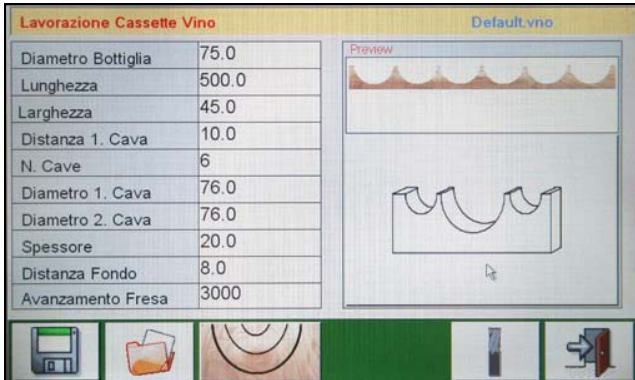
The machine works pieces in packs at a height of 24 mm; this means 4-6 pieces can be produced at a time. A bottom deburring unit is also used for burr-free machining of the pieces.

The machine is controlled by a pushbutton panel and a control panel.

The numeric control runs a Windows® CE operating system and dedicated software to produce racks and internal partitions for all types of boxes (for one bottle, two bottles, three bottles, six bottles side-by-side, and six bottles stacked). The software has been programmed for the maximum machining flexibility and lets you modify the size and number of bottle holders, the distance of the bottle holders from the edge, the size of the pieces, the cutting and tool feed speed and the compensation of tool diameter variation, within the operating limits.

All the machining data can be entered with a simple procedure, following the software instructions on

the machine's control panel with a touch screen monitor.



The CNC system can save up to 600 different machining programmes that can be recalled to suit the user's needs. The machine has a USB port to update the software.

All the work is done with one type of tool. The only manual adjustments required are those necessary for adjusting the dimension of the magazines to the dimensions of the pieces to work. Hourly production is 1000 pieces/hour.

A set of accessories can be fitted on the machine and optional programmes are available to machine chopping boards, inner partitions and housings for the installation of straps on bottle caps.



The fast, simple adjustments and replacement of tools and the machining programmes make this milling machine very versatile and ideal for manufacturing small and medium size runs cheaply, maintaining a high quality standard.

With this machine you can notably reduce the production cost and energy consumption per unit produced.

**OMECE F13
AUTOMATIC MILLING
MACHINE FOR CHANNELS**

Omece has designed the Omece F13 milling machine for channels in order to complete its line of machines dedicated to the production of light wooden packaging items.



This machine lets you automatically produce channels for bottoms, for covers, for bottle supports and for inner partitions.



This piece of equipment also machines the sliding edge along the long sides of covers with a sash closing system.



The mechanical part of this machine is composed of a sheet base where the loading magazine, two feeders, two blade units and a stacker are fitted. The machine is controlled by a 3-axes numeric control system. One axis controls the movement of the mobile shoulder and two axes control the movement of the magazine and the stacker, so that the fixed blade units can machine channels with different distance between centres.

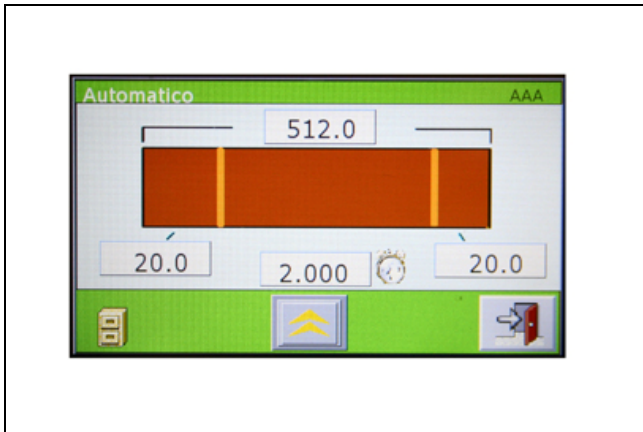
The fully automatic work cycle includes the loading of pieces to be worked in the in-feed magazine, the feeding of pieces to the cutting area and then the feeding of pieces up to the out-feed magazine's stacker.

The machine works single pieces and is equipped with magnetic components to be placed on the fixed shoulder in order to machine, on one side only, pieces that are very narrow.

Controls are positioned on a pushbutton panel and a control panel.

The numeric control runs a Windows® CE operating system and a dedicated software with a very user-friendly operator interface.

Machining data are entered in a very easy way following the instructions that are displayed on the touch screen monitor of machine's control panel.



The CNC system can save up to 600 different machining programmes that can be recalled according to the user's needs.

The only manual adjustments required are those necessary for adjusting the depth of magazines to the dimensions of the pieces to work. Hourly production is approx. 1200 pieces/hour.

The fast, simple adjustments and replacement of tools and machining programmes make this milling machine very versatile and ideal for manufacturing small, medium, and large size runs cheaply, maintaining a high quality standard.

The speed of production thus obtained allows you to significantly reduce production costs.

BC-5 NAILING BENCH FOR ASSEMBLING WINE, SPIRITS, TOOL, AND GIFT BOXES

The Omec BC-5 nailing bench has been designed to assemble the top and bottom of boxes using staples, panel pins or small nails.

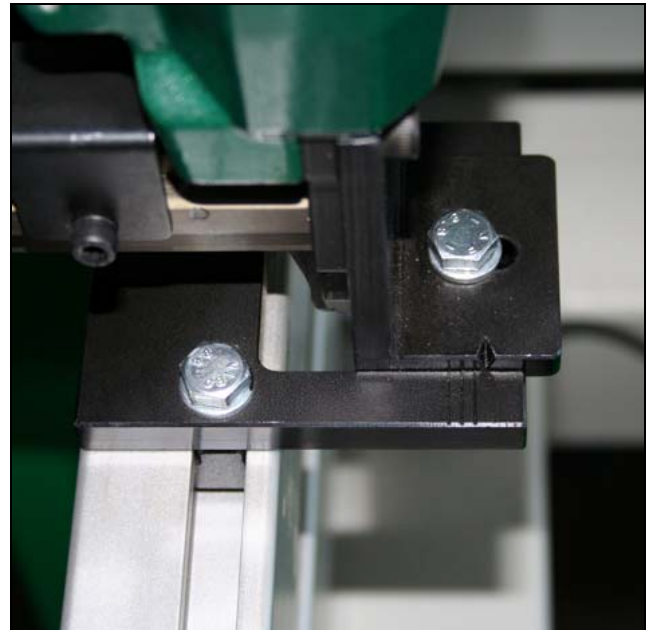


The bench has five nailing machines mounted on an aluminium profile setsquare: three on the long side and two on the short side.

All the adjustments are fast and easy. The machine is controlled by an electric panel with a PLC integrated in the base.

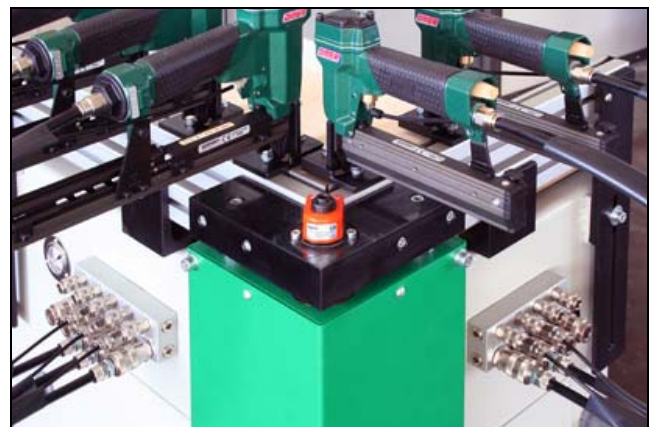
You can change the position of the nailing machines by simply loosening the screws on the horizontal clamp. The minimum and maximum distances from the centre of the nailing machine to the edge of the box are: 30-400 mm for the short side, 30-550 mm for the long side. Therefore, boxes with the following maximum and minimum dimensions can be worked: 80-450 mm for the short side and 80-600 mm for the long side.

You can adjust the thickness of the boards with the vertical clamp so the nail is exactly in the centre of the board. The thickness can be adjusted from 5mm to 16 mm.



The bench also has a presser on the long side that keeps also boards that aren't perfectly flat held against the setsquare. The presser can be activated with a selector on the control panel of the machine.

The height of the boxes can be adjusted with a handwheel that has a position indicator. The bottom aluminium setsquare is fixed; the top setsquare can be adjusted to a maximum height of 260 mm.



The work cycle is controlled by a sensor on the support setsquare. Simply place the box on the setsquare to enable the nailing cycle.



On boxes with just a bottom, the operator nails the two sides of the box, then turns the box over and nails the other two sides. On boxes with a top and bottom, the operator repeats the above operations also to nail the top.

The Cycle is fully automatic and timed by a PLC: the operator places the box to assemble on the support set-square. The horizontal supporting bench rises and moves the bottom up to the stop on the nailing machines, which then nail the piece. Then the horizontal bench returns to the rest position, ready for another nailing cycle.

The machine has a safety system that acknowledges the presence of the box under the nailing machines to prevent nails being accidentally shot out of the machines even if the operator activates the sensor.

Furthermore, when a box with a top and bottom is nailed with the presser on the long side activated, the bench acknowledges the presence of the top and prevents the presser rising when the bottom has been nailed.

The work cycle is extremely fast, despite the fact that there are four nailing cycles per box, and 120 boxes/hour with tops and bottoms can be nailed together.

The Omec BC-5 nailing bench is normally sold complete with 5 nailing machines, but it has been designed to allow for a variety of different users' requirements. Therefore, more or fewer nailing

machines can be fitted on the basis of the final user's requirements. The same goes for the type of nails to be used, which can be chosen when the machine is being ordered.



**OMEC F9TS
COMBINED MILLING MACHINE
FOR DOOR FRAMES**

The Omec F9TS combined milling machine was designed to manufacture door frames with one, two or three parallel joints and a 45° cutting angle in a single working cycle with no need to change the type of tool. With this type of machining, users obtain an exact reference stroke-piece and a very firm joint even with materials that are less compact than solid wood, where traditional fastening systems with pins, nails or screws are not easily applicable. This system is also very handy for the later stages of frame assembly and installation. What is visible from the outside is only a 45° chamfer that is nice to see.



The first step of the working cycle is the fitting of the workpiece in the mobile saddle until it reaches the stroke-piece. Then, the workpiece is blocked by two pushers and the machining occurs. Finally the workpiece is released and the machine is ready for the next machining cycle.

The milling machine is equipped with a milling cutter that rises upwards for the machining of joints, and with two blades that perform cutting operations with a 45° angle. The machine is suit-

able for milling cutters with a thickness of 10/20mm, as well as the traditional thickness of 30mm. This feature allows users to manufacture small size joints and to machine profiles for door frames with a width ranging from 60mm to 295mm.

It is not necessary to change the type of tool to machine male or female pieces, because the software allows for the machining of two different items with the same tool. These tools have motors performing a high number of revolutions and they are fitted with specially designed deburring tools that guarantee the precise and virtually fault-free machining of all types of veneered and painted wood, MDF and plywood featuring square or round edges. It is also possible to machine large size frames with pass-through elements.



The machine is fitted with a number of sensors and a software that prevents the wrong machining of work-pieces. Therefore, it is not possible to program the machine with a wrong number of joints as compared to the work-piece's and tool's size. Also, it is not possible to produce a right work-piece instead of a left work-piece. In both cases, operators are warned by an alarm message.

The machine is equipped with all safety devices and operators never touch the tool area. Moreover, pushers are protected with guards to prevent accidental contact with hands. Machine set-up is quick: the only needed manual adjustment is the thickness of the workpiece, by means of a specially designed handwheel and a digital dial. Machining data must be entered on the CNC keyboard that is on the machine. The working cycle allows for the machining of 25 finished door frames per hour (the average time may change

depending on the number of joints). The features of this machine are such that it offers a valid technical, economical and nice-looking solution for the machining and assembly of door frames.

Starting from 2011, the Omec F9TS milling machine is also available in the F9/75TS version.



This version is suitable for the machining of frames with thickness from 40mm to 75mm and width from 140mm to 350mm



This machine is fitted with a drilling unit for the machining of door frames' holes on the areas where joints are assembled, in order to block jambs and crosspieces.



The machine has been programmed in such a way as to perform one drilling action during the machining of door frames with a single joint, and two drilling actions when machining frames with two or three joints. This way, the overall assembly time of the frame is further reduced.

Furthermore, considering the easy and safe way in which the coupling is obtained, the frame can be assembled even by staff who is not specifically trained for the job.

The machine is fitted with a terminal with touch-screen monitor and graphics to make machining data input easier. The monitor is equipped with an integrated Windows® CE operating system.

