## OMEC

## Technical details

## 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.



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.



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.

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