

INO MACHINERY XC 1000 - 3+1 AXIS CNC PROFILE MACHINING CENTRE



1

Description:

Servo motor controlled 3 Axis CNC profile machining centre with a manual protection cover.

Thanks to the protection cover, the machine has both sound isolation and the dust isolation.

Bridge type profile carriage ensures 0,1mm./1m. Accuracy.

3.0 Kw high speed double sided spindle 1ort up to 12.000 rpm. With ER-20 tool holders. Manual tool change.

Profile Processing Method:

The double sided spindle stands in 90 degree vertical position to process the profiles from the top. Thanks to the pneumatic cylinder that rotates the spindle in 90 degrees to a horizontal position, the spindle can work from the front and from the back of the profile. With a mechanical stop, the spindle can also stop at a pre-adjusted inbetween angle automatically.

In this way, the machine can process from the top, front, back and in a certain inbetween degree automatically.

The spindle has a manual tool changing system.

Uni Link "Piece Builder" Programming Software:

With this special software, the operator will only enter the name of the profile, the type of the hinges, the type of the handles and lock cases and finally the size of the profile, then press the "start" button; the machine will immediately start machining.

The alloys that can be processed on the machine: This machine especially designed to work on aluminium and PVC Windows and doors profiles. All the operations on the windows and doors profiles are carried out easily.

The XC 1000 has profile clamps that are manually positioned according to the positions assigned by the CAD-CAM software. All clamps are mounted on the machine with linear bearings and move on linear guides.

200 mm X 175 mm Profile processing from the 3 sides of the profile.

Waste pieces are isolated by the machine cover and extracted by the operator.

Axis information:

X axis net processing length: 3.000 mm. / with the second stopper 6.000 mm.

Y axis net processing width: 200 mm..

Z axis net processing depth: 175 mm.

The body:

Vibration free steel chasis, processed with the highest accuracy before mounting the mecanichal accessories.

Spindle Heads:

Double Sided Spindle: 3.0 Kw 12.000 rpm with manual tool change and rotating with the help of a pneumatic cylinder.

Axis technical information:

X axis is working on rack and pinion with brushless servo motors and guided by linear guides with **60 mt./min speed.** 1,6 Kw – 4.0 Nm – 4.000 rpm. – with 1/10 geared 90 mm body.

Y axis is working on rack and pinion with brushless servo motors and guided by linear guides with **60 mt./min speed.** 1,6 Kw – 4.0 Nm – 4.000 rpm. – with 1/10 geared 90 mm body.

Z axis with a screw mill and brushless brake type servo motor with a speed of **20 mt./min.**

1,6 Kw – 4.0 Nm – 4.000 rpm.. – with 20 pitch 20 diameter screw mill and 1/3 ratio belt&coupling.

All servo motors are working with **ABSOLUTE ENCODERS** so there is no need for making homing.

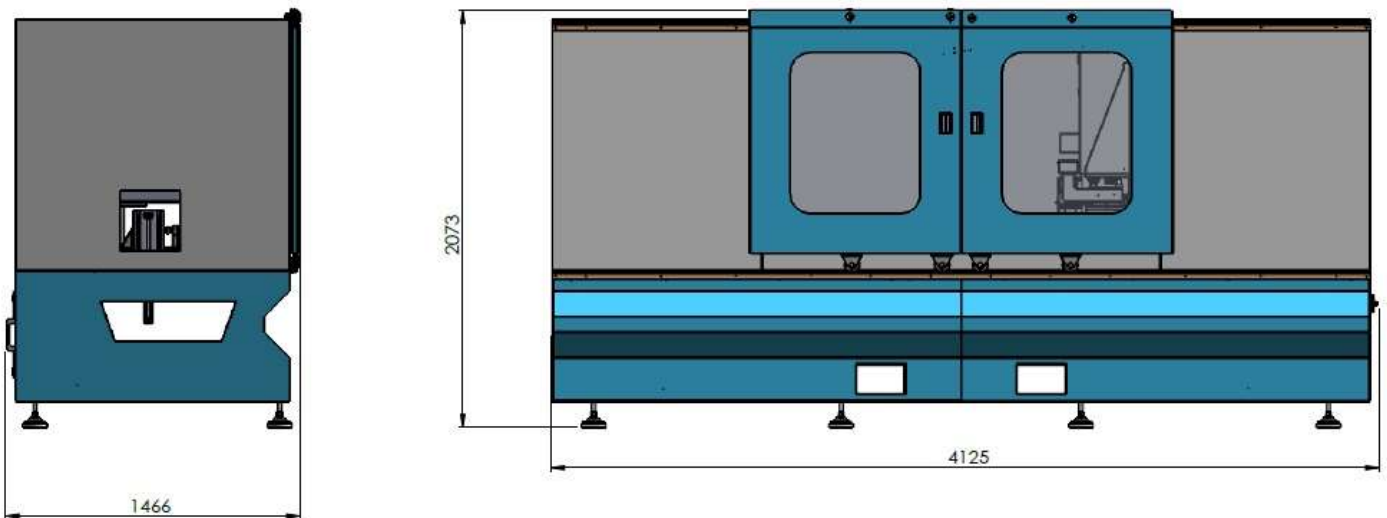
Technical Parameters:

Total installed power: 7 Kw / 16A / 400V / 50-60 Hz.

Air pressure and air consumption: 6-8 Bar. – 70 L/min.

Packing dimensions: 4.250 X 1.600 X 2.150 mm.

Weight: 1.800 kgs.

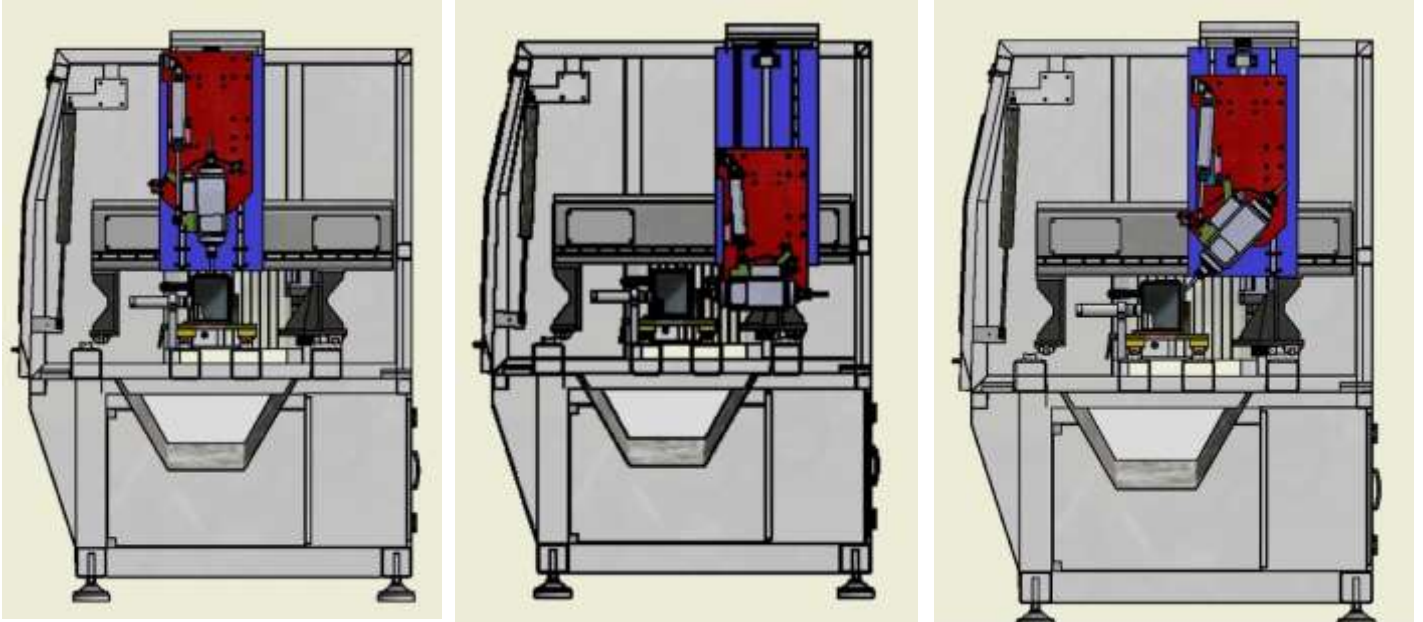


Pneumatic Profile Clamps:

200 mm. clamping section.

Manually positioned.

Thanks to the special design of the clamps, that for the machining Windows and Doors and Curtain Wall profiles, the loading and offloading is extremely easy.



Air Cooling electrospindle:

High speed spindle with ceramic bearings.

Standard ER 20 tool holder.

Manual tool changing.

Spindle Power: 3.5 kW

Spindle Torque: 2.9 Nm

Spindle rotation: 12.000 rpm (adjustable between 0-12.000)

Tool Holder Set - Optional

Collet Set - Optional

Cutter set - Optional





15.6" Color TFT LCD
HD - 1366x 768 (wide screen)
Single touch (Resistive 5 wires)
Intel i1900 quad core - 2.0GHz
2GHz
4GByte DDR3
Intel® HD Graphics
64GB M.2
7 x 10/100/1000Mbit Ethernet
1 x RS232
1 x VGA 1 x HDMI
No
1 x USB 2.0 1 x USB 3.0
Windows® 10 IoT Enterprise 2016 12Vdc - 50W External power supply input 110-240Vac, output 12V - 60W enclosed
121.1 x 270.7 x 66
+5/+40
CE



INDUSTRIAL CNC CONTROLLER – ESA AOTOMOTION – www.esautomotion.it

12 Axis RTCP (Rotation Tool Center Point) type of 4 Axis simultaneously interpolating real CNC controller.

Italian technology with the software and all the hardware.

15.6" Touchpanel + the CNC controller + the power supply + servo motors + servo drivers with Can-Open.

Each axis has "Absolute Encoder" for avoiding the problems caused by homing and home sensors. The Machine does not need to go to home position each time the operator turns on the Machine.

All power & encoder cables, driver mounted motor communication cables and all motor sockets are designed by ESA to be complete problem free and for perfect communication of the axis.

Movable CNC controller terminal mounted on the Machine body with the PC + keyboard + Mouse + operator buttons embedded on.

Licensed Windows10

Electric system and the cabinet with the cooling system. A/C is optional.

Easy to get support over teamviewer connection.

AC Inverter for adjusting the speed of the spindle 0-12.000 rpm.

Automatic tool measurement probe

Handwheel

Dry run

Changing the home position

Equipment:**Reference points:**

2 pieces manually operated. For using the Machine with 2 processign stations and also for machining profiles longer than the measure.

Both endings of the Machine is opened as a standard accessory.

Profile clamps:

4 pieces are standard.

CAD-CAM Software:

Uni_Link INO-OnBoard Software + Piece Builder - 1 licance for the Machine + Office Software is optional.

Manually opening and closing machine enclosure covers.

Spray mist cooling system with oil tank mounted on the Z axis.

User manuals.

CE certification.



UNI LINK 3D CAD-CAM:

- Design, R&D and application are carried through the vast experience of ino 6ort he6n team and Uni_Link engineers in Belgium.
- The perfect optimization of economic profile working in 3,4 and 5 Axis.
- Importing of DXF files and converting them to 3D images.
- Generating G-codes over the DXF files
- Understanding of the 6ort he6ns on the DXf files and auto-tooling
- Also available in Office version with a perfect simulation interface, so that the one working at the Office will also prepare the profile machining programs just like he is beside the machine.
- Incredibly user friendly 6ort he operator and also 6ort he Office responsible who will prepare the machining files in the Office.
- CNC clamp management and collision control.
- Auto positioning of the profiles on the clamps according to the 6ort he6ns on the profiles.
- Macro creation for each operation and placing them on the profile automatically.
- Independent from the size of the profile it is possible to place any operation on the same profile in different length parametricly.
- All the profiles that will be machined, will be listed on the machine HMI and operator will only have to press the start button.
- Ability to work with all Windows and Doors production softwares like Schücal or Orgadata or similar.
- Ability to prepare cut-list optimization 6ort he double mitre saw and import in .csv format. Optionally barcode generation from the cutting machine and reading by the machining center is available.
- This software is the easiest software in the market and the richest software also in capabilities.

The screenshot displays the Uni_Link software interface. At the top, there is a menu bar with options like 'Openen...', 'Openen als...', 'Profielen', 'Gereedschap', 'Tool Store', 'F3', 'Edit Parameters', 'Multiple', and 'Place-mode'. Below the menu is a toolbar with icons for file operations and a 'UL' logo. The main area is divided into a table and a 3D simulation.

#	Serie	Profiel	Color	Length	Id	Left Angle (H)	Right Angle (H)	Left Angle (W)	Left Angle (W)	Todo	Done	Tool Status	Clas...
1	SCHUCO	372220	rienwit structuur/zijdegrijs structuur	2385	1	90	90	90	45	1	0	011/012 OK	1
2	SCHUCO	372220	rienwit structuur/zijdegrijs structuur	2385	2	90	90	45	90	1	0	013/014 OK	2
3	SCHUCO	372220	rienwit structuur/zijdegrijs structuur	1030	3	90	90	45	45	1	0	004/004 OK	1
4	SCHUCO	395530	rienwit structuur/zijdegrijs structuur	2318	4	90	90	45	45	1	0	009/010 OK	1
5	SCHUCO	395530	rienwit structuur/zijdegrijs structuur	2318	5	90	90	45	45	1	0	025/026 OK	2
6	SCHUCO	395530	rienwit structuur/zijdegrijs structuur	932	6	90	90	45	45	1	0	004/004 OK	1
7	SCHUCO	395530	rienwit structuur/zijdegrijs structuur	932	7	90	90	45	45	1	0	004/004 OK	1

Below the table is a 3D simulation of a profile being machined. The profile is shown in a perspective view, with green blocks representing clamps. The simulation is divided into four zones, labeled 'Zone 1', 'Zone 2', 'Zone 3', and 'Zone 4'. Each zone has a corresponding icon and a 'Done' button. The coordinate 'X=103281' is visible in the simulation area.

C:\Un_Link\Macro\VP\Macro1.mcr

Macro List Utilis ?

Select machining

Hole Veeke
 Slot KWa
 Rectangle Cop To...
 Cylide Lin>R
 Blade

FLN Figure

Profile	Pcote = VB	Ppafic = 02002465	Plength = 600	Pwidth = 63.01	Pheight = 97.54	PLAngle = 90	PRAngle = 90	PVAngle = 90	PRAngle = 90				
V1	V3Width = W	V3Height = H-47	V3Angle = 0	V3DepthFram = 2	V3DepthTo = -20	V3DepthStep = 2							
V2	V3Width = 38	V3Height = H-15	V3Angle = 90	V3DepthFram = 2	V3DepthTo = -12	V3DepthStep = 1							
V3	V3Width = 0	V3Height = H-47	V3Angle = 180	V3DepthFram = 2	V3DepthTo = -34	V3DepthStep = 2							
MH1	MTool = FX	MCorX = 0	V1	MholeDiam = 14						MH1	Mhrotv = 0	MGroup = 0	Mhrotv = 0
MC1	MTool = FS	MCorX = 92	V1	MCVMaxDiam = 17.5	MCVMinDiam = 10.5	MCVLength = 34	MCVRotation = 180	MC1	Mhrotv = 0	MGroup = 0	Mhrotv = 0	MC1	V3CorW = 0

C:\Un_Link\List\140226.lst

Macro List Utilis ?

Preview

5300	1	90	90	90	45	1	130113	02-A-0-2	80 2	
2395	1	90	90	45	30	2	130113	02-A-0-2	80 4	
1300	1	90	90	90	0	1	130113	02-A-0-2	10 0	
1000	1	90	90	45	40	2	130113	02-A-0-2	40 2	
1300	1	90	90	90	0	1	130113	02-A-0-2	10 0	
2318	1	90	90	45	45	4	130113	02-A-0-2	80 1-4	
2318	1	90	90	45	45	5	130113	02-A-0-2	80 1-2	
3100	1	90	90	90	0	1	130113	02-A-0-2	10 0	
332	1	90	90	45	45	6	130113	02-A-0-2	80 1-1	
312	1	90	90	45	45	7	130113	02-A-0-2	80 1-3	

X=103373