

posalux



Technical data

UltraSpeed 6000 - LZ **CNC 3000**

UltraSpeed

High performance automatic machine for drilling and routing of printed circuits boards

POSALUX SA
18, Rue F. Oppliger
P. O. Box 6104
CH - 2500 Biel-Bienne 6
Switzerland

Phone +41 (0)32 344 75 00
Fax +41 (0)32 344 77 01
drillservice@posalux.ch
www.posalux.ch

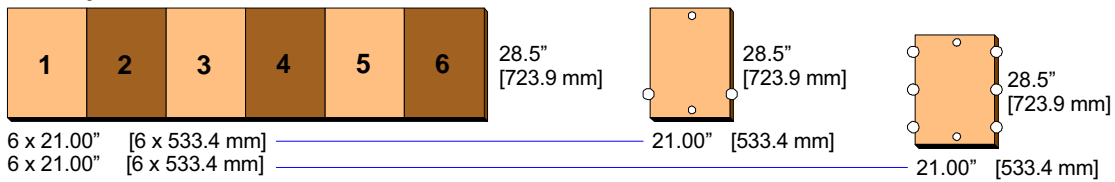
- UltraSpeed** Machine fitted with individual Z axis per spindle and a spindle per station, supplied by a chain driven tool magazine.
- UltraSpeed D** Machine fitted with individual Z axis per spindle and two spindle per station (*DUAL*), for the simultaneous machining of two identical images (*STEP & REPEAT*), offset along the X axis, supplied by a chain driven tool magazine.
- UltraSpeed C** Machine fitted with individual Z axis per spindle and a spindle per station, supplied by a tool magazine with removable cassette.

Machine models

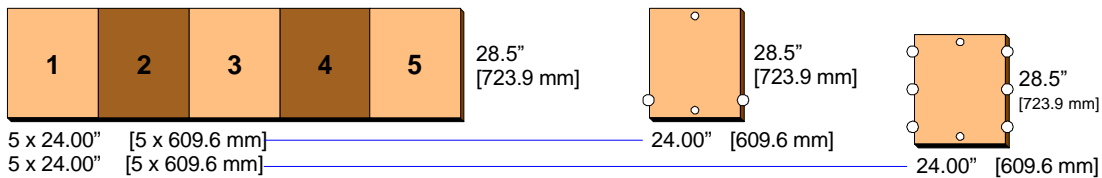
Workpiece formats

Without vertical clamping: With vertical clamping:

UltraSpeed 6000-6 6000-6 D 6000-6 C



UltraSpeed 6000-5 6000-5 D 6000-5 C



Workpiece fixing devices

- Standard**
 - 2-point clamping element, with pneumatically controlled prism and slot.
 - Multi-diameter clamping technique: 3.0 mm [.118"] to 6.35 mm [.25"]
 - Double contact claw for CONTACT DRILL device.
- Option**
 - vertical clamping device.
 - reference system for multilayers.
 - table without workpiece fixing device.
- UltraSpeed D**
 - option, X- / Y- clamping system: according to the pattern, the workpiece can be clamped in the X- or Y- direction.
 - X = with pneumatic slot clamping.
 - Y = between distance of pins on request.

- X axis**
 - spindle carrier unit.
- Useful travel**
 - according to types and formats: 548 mm [21.57"] to 646 mm [25.43"]
- Speed**
 - in drilling: 50 m min⁻¹ [1968" min⁻¹]
 - in routing: 50 m min⁻¹ [1968" min⁻¹]
 - limited by the tool and the spindle.
- Acceleration**
 - according to the mass of the equipment: 8 m/s² ≅ 0.81 g to 12 m/s² ≅ 1.22 g
- Drive**
 - liquid cooled linear motor and digital servo control.
- Spindle distance between XL and XR**
 - according to types and formats: min. 143 mm [5.63"] max. 403 mm [15.86"] to 501 mm [19.72"]
- LZ unit**

- Y axis**
 - Useful travel: machine table.
 - Speed: Y 28.5" format 742 mm [29.21"]
 - in drilling: 50 m min⁻¹ [1968" min⁻¹]
 - in routing: 50 m min⁻¹ [1968" min⁻¹]
 - limited by the tool and the spindle.
 - Acceleration: according to the mass of the equipment: 7 m/s² ≅ 0.71 g to 12 m/s² ≅ 1.22 g
 - Drive: liquid cooled linear motor and digital servo control.
- Z axis**
 - Concept: LZ unit.
 - Working stroke: driving system for each spindle.
 - Speed: limited by the aspiration opening of pressure pad, max.: 12.00 mm [.472"]
 - Acceleration: max. 30 m min⁻¹ [1181" min⁻¹]
 - Drive: max. 40 m/s² ≅ 4.1 g
 - liquid cooled linear motor and digital servo control.
 - Air consumption: per LZ unit: 12 NI min⁻¹
- Spindles**
 - Rotation speed: kr min⁻¹
 - HF125: 15 to 125
 - HF180: 20 to 180
 - Drilling capacity, maximum:
 - HF125: 6.35 mm [.25"]
 - HF180: 6.35 mm [.25"]
 - Routing capacity, maximum:
 - HF125: 2.40 mm [.94"]
 - Air consumption per spindle, approx.
 - HF125: 70 NI min⁻¹
 - HF180: 122 NI min⁻¹

Tools management for UltraSpeed 6000

Capacity chain of 6'000 tools per machine
 Tool supply in EUROMAGAZINES, no dwell time
 (no production interruption).
 Tool change 1 tool changer per spindle for ringed tools or
 tools without ring.
 Time of the tool change including the measurement of the diameter and
 the length
 approx. XX seconds, to 80 kr min⁻¹

Tools management for UltraSpeed 6000 C

Capacity 1 x or 2 x 110 tools per spindle
 Tool supply by removable cassettes
 (preparation out of machine):
 - grooved plate for EUROMAGAZINE.
 Tool change 1 tool changer per spindle
 - for ringed tools.
 - for tools without ring implies the use of the DL
 tool measuring station.
 Time of the tool change including the measurement of the diameter and
 the length
 approx. 27 seconds, to 80 kr min⁻¹

Measuring and monitoring of the tool

DL tool measuring station diameter measuring and length monitoring by
 optical barrier.
 Tool break monitoring in real time
 - by CONTACT DRILL device.

Acces to the machining area

door opening on operator's request.
 Machine with chain tool-magazine:
 door movements associated with tool-magazi-
 ne are pneumatically controlled.
 Machine with cassette tool-magazine:
 door movements are performed manually by
 the operator.

Quality assurance

X / Y	positioning accuracy	±0,005 mm	[±.00020"]
	repetition accuracy	±0,002 mm	[±.00008"]
Z	machining accuracy		
	in drilling	±0,020 mm	[±.00078"]
	in routing	±0,050 mm	[±.00197"]
Z	accuracy in depth		
	in drilling	±0,15 mm	[±.006"]
	in routing	±0,05 mm	[±.002"]
	drilling of blind hole	±0,01 mm	[±.0004"]

POSALUX CNC 3000 control

industrial PC equipped with a machine con-
 troller to supervise:
 - the man-machine interface
 (colour touch screen, connection to outside
 world through network).
 - the axes control through field bus.
 - the inputs / outputs through field bus.
 Galvanic Insulation with the machine.

Energy sources

Voltage 3 x 400 V~ ±10% + Neutral + GND
 Frequency 50 or 60 Hz
 Installing power
 50 Hz: 60 Hz:
 UltraSpeed 6000-6 18.5 kVA 22.0 kVA
 UltraSpeed 6000-6 D 30.0 kVA 33.5 kVA
 UltraSpeed 6000-5 xxx xxx
 UltraSpeed 6000-5 D 26.5 kVA 30.0 kVA
 Air pressure min. 6.5 bar max. 10 bar
 Air consumption
 UltraSpeed 6000-6 850 NI min⁻¹
 UltraSpeed 6000-6 D 1732 NI min⁻¹
 UltraSpeed 6000-5 708 NI min⁻¹
 UltraSpeed 6000-5 D 1444 NI min⁻¹

Environment

Mass approx. 8'250 kg [18'208 lb]
 Distributed load on the floor
 approx. 10'000 N/m² [209 lb/sq ft]
 Localized load (3 support points on the floor)
 max. 920'000 N/m² [19'210 lb/sq ft]
 Machine dimensions
 height, closed door 1865 mm [73.42"]
 height, opened door 2565 mm [100.10"]
 width 4380 mm [172.44"]
 front-to-back 1840 mm [72.44"]

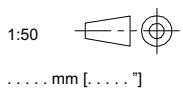
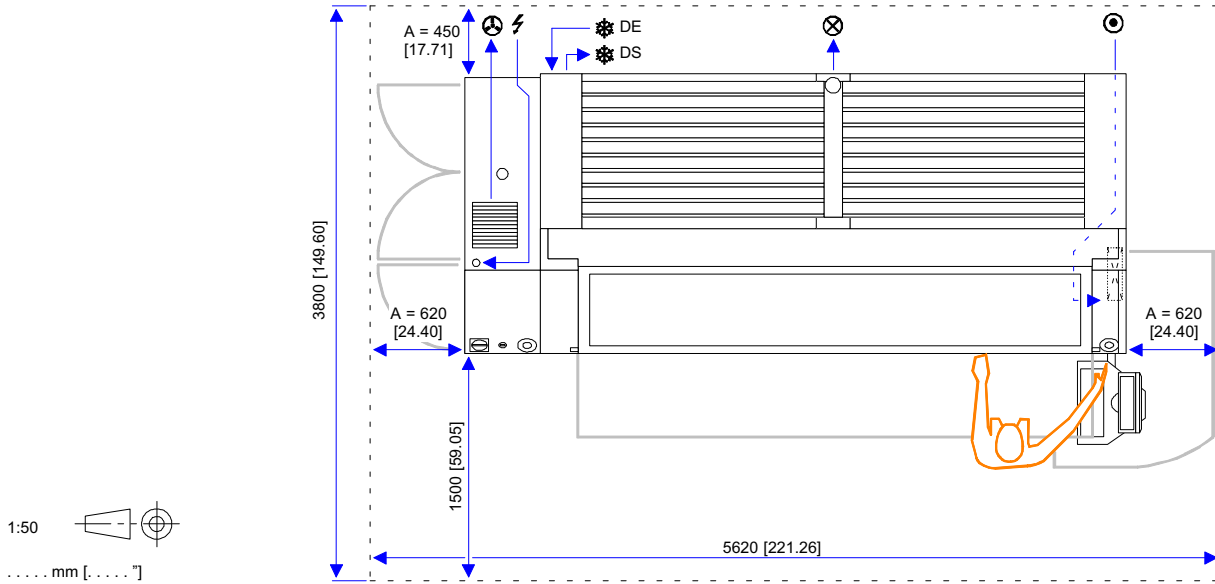
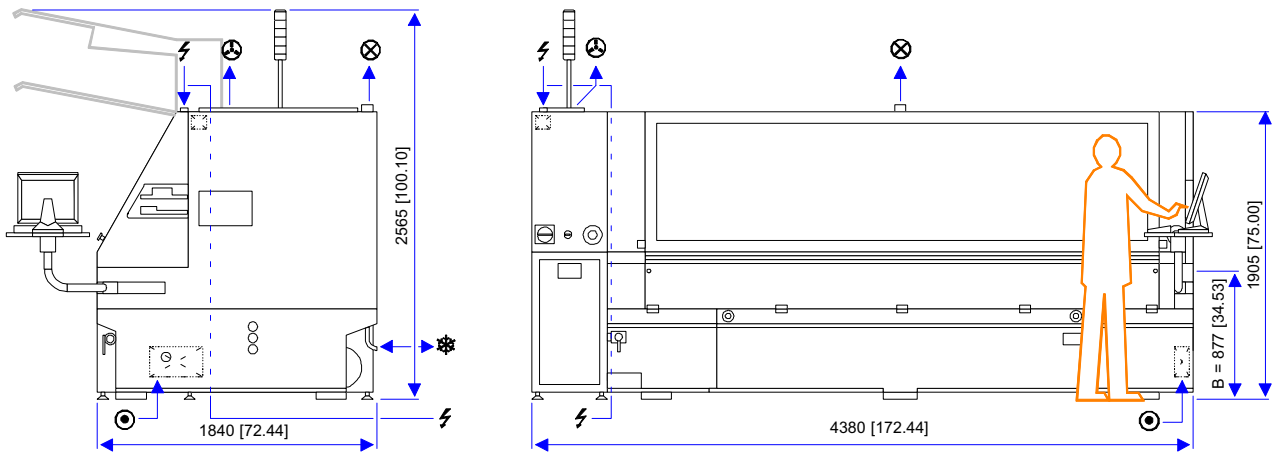
Automatic loading

concept leaving to the operator free access to
 the front of the machine.
 - Individual loader on 9 or 18 floors.
 - Down Time Eliminator loader.

Installation layout of the UltraSpeed 6000 machine

A = Minimum distances for maintenance work

B = Level of machine table from floor



Subject to alterations.
 Copyright © 2003 POSALUX SA CH - Bienne

K:\DOC\DOC_P\ILF\E_US60\E_PR\E_SPECIF