

Technical data

UltraSpeed
CNC 3600
3000

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



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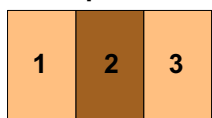
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- UltraSpeed** Machine fitted with individual Z axis per spindle and a spindle per station, supplied by a chain driven tool magazine.
- UltraSpeed D** Machine fitted with individual Z axis per spindle and two spindle per station (*DUAL*), for the simultaneous 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.

Machines models and Workpiece formats

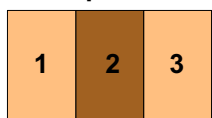
UltraSpeed 3600-3



standard:
28.5" [723.9 mm]

3 x 18.0" [3 x 457.2 mm]

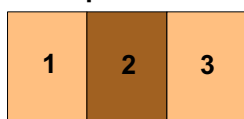
UltraSpeed 3600-3 DUAL



standard:
28.5" [723.9 mm]

3 x 18.0" [3 x 457.2 mm]

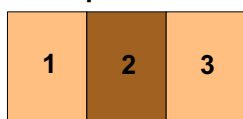
UltraSpeed 3600-3



standard:
28.5" [723.9 mm]

3 x 21.0" [3 x 533.4 mm]
Without vertical clamping

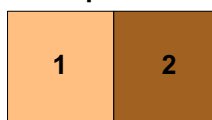
UltraSpeed 3600-3 DUAL



standard:
28.5" [723.9 mm]

3 x 21.0" [3 x 533.4 mm]
Without vertical clamping

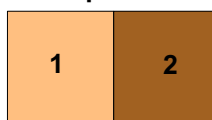
UltraSpeed 3600-2



standard:
28.5" [723.9 mm]

2 x 28.0" [2 x 711.2 mm]

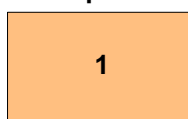
UltraSpeed 3600-2 DUAL



standard:
28.5" [723.9 mm]

2 x 28.0" [2 x 711.2 mm]

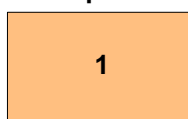
UltraSpeed 3600-1



standard:
28.5" [723.9 mm]

1 x 48.0" [1 x 1219.2 mm]

UltraSpeed 3600-1 DUAL



standard:
28.5" [723.9 mm]

1 x 48.0" [1 x 1219.2 mm]

Workpiece clamping devices

- Standard** 2-point system with pneumatic controlled V-bloc and slot clamping.
Option: with vertical clamping claws.
Multi-diameter clamping technique:
3.0 mm [.118"] to 6.35 mm [.25"]
Other diameter available on request.
- Option:** special toolings for multilayers.
- 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

- Useful travel** spindle carrier unit.
according to types and formats:
495 mm [19.49"] to 1342 mm [52.83"]
- 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 weight of the equipment:
12 m/s² ≅ 1.22 g to 20 m/s² ≅ 2.03 g
- Drive** water cooled linear motor and digital servo control.
- Spindle distance between XL and XR**
according to types and formats:
min. 143 mm [5.63"]
max. 320 mm [12.59"] to 1223 mm [48.15"]

Y axis	machine table.
Useful travel	Y 28.5" format 745 mm [29.33"] Y 30.0" format 890 mm [35.03"]
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 weight of the equipment: 12 m/s ² ≅ 1.21 g to 15 m/s ² ≅ 1.53 g
Drive	water cooled linear motor and digital servo control.

Z axis	UZ unit.
Concept	driving system for each spindle.
Useful travel	0.0 mm to 12.0 mm [0.0 to .472"]
Speed	max. 30 m min ⁻¹ [1181" min ⁻¹]
Acceleration	max. 40 m/s ² ≅ 4.1 g
Drive	water cooled brushless AC motor and digital servo control.

Concept	LZ unit.
Useful travel	driving system for each spindle. depending on the length of the tool: standard 20.32 mm [.8"]
Speed	max. 30 m min ⁻¹ [1181" min ⁻¹]
Acceleration	max. 40 m/s ² ≅ 4.1 g
Drive	water cooled linear motor and digital servo control.

Air consumption	per LZ unit: 12 NI min ⁻¹
Spindles	
Rotation speed	kr min ⁻¹
MF40 (UZ unit)	3 - 40
HF80	15 - 80
HF125	15 - 125
HF180 (LZ unit)	30 - 180
Drilling capacity	
MF40 (UZ unit)	0.3 mm - 6.35 mm [0.12" - .25"]
HF80	0.1 mm - 6.35 mm [0.04" - .25"]
HF125	0.1 mm - 6.35 mm [0.04" - .25"]
HF180 (LZ unit)	0.1 mm - 3.17 mm [0.04" - .125"]
Routing capacity	
MF40 (UZ unit)	0.8 mm - 3.17 mm [0.31" - .125"]
HF80	0.8 mm - 2.40 mm [0.31" - .94"]
HF125	0.8 mm - 2.40 mm [0.31" - .94"]

Air consumption per spindle	
MF40 (UZ unit)	approx. 30 NI min ⁻¹
HF80	approx. 100 NI min ⁻¹
HF125	approx. 70 NI min ⁻¹
HF180 (LZ unit)	approx. 122 NI min ⁻¹

Tools management for UltraSpeed 3600	
Capacity	3'600 tools per machine
Tool supply	in EUROMAGAZINES, no dwell time, (no production interruption).
Tool change	double tool changers for each spindle with or without distance ring on tools.
Time of the tool change	including the measurement of the diameter and the length approx. 25 seconds, to 80 kr min ⁻¹

Tools management for UltraSpeed 3600 C	
Capacity	1 x or 2 x 110 tools per spindle
Tool supply	by removable cassettes (preparation out of machine): - grooved plate for EUROMAGAZINE. - or plate with tools rows.
Tool change	by single changer system 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 laser reflector (UZ unit) - by CONTACT DRILL device.
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Quality assurance	
X / Y positioning accuracy	±0,005 mm [±.00020"]
repetition accuracy	±0,002 mm [±.00008"]
machining accuracy	
in drilling	±0,020 mm [±.00078"]
in routing	±0,050 mm [±.00197"]
Z accuracy in depth	
in drilling	±0,15 mm [±.006"]
drilling of blind hole	±0,01 mm [±.0004"]
in routing	±0,05 mm [±.002"]

POSALUX CNC 3000 control	
industrial PC equipped with a machine controller to supervising:	
- 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~ + Neutral + GND
Frequency	50 or 60 Hz
Installing power	20 kVA
Air pressure	min. 6.5 bar max. 10 bar
Air consumption	machine: general: 50 NI min ⁻¹ per spindle: 15 NI min ⁻¹
additional flow:	
per LZ unit:	see Z axis, LZ unit.
per spindle:	see Spindles.

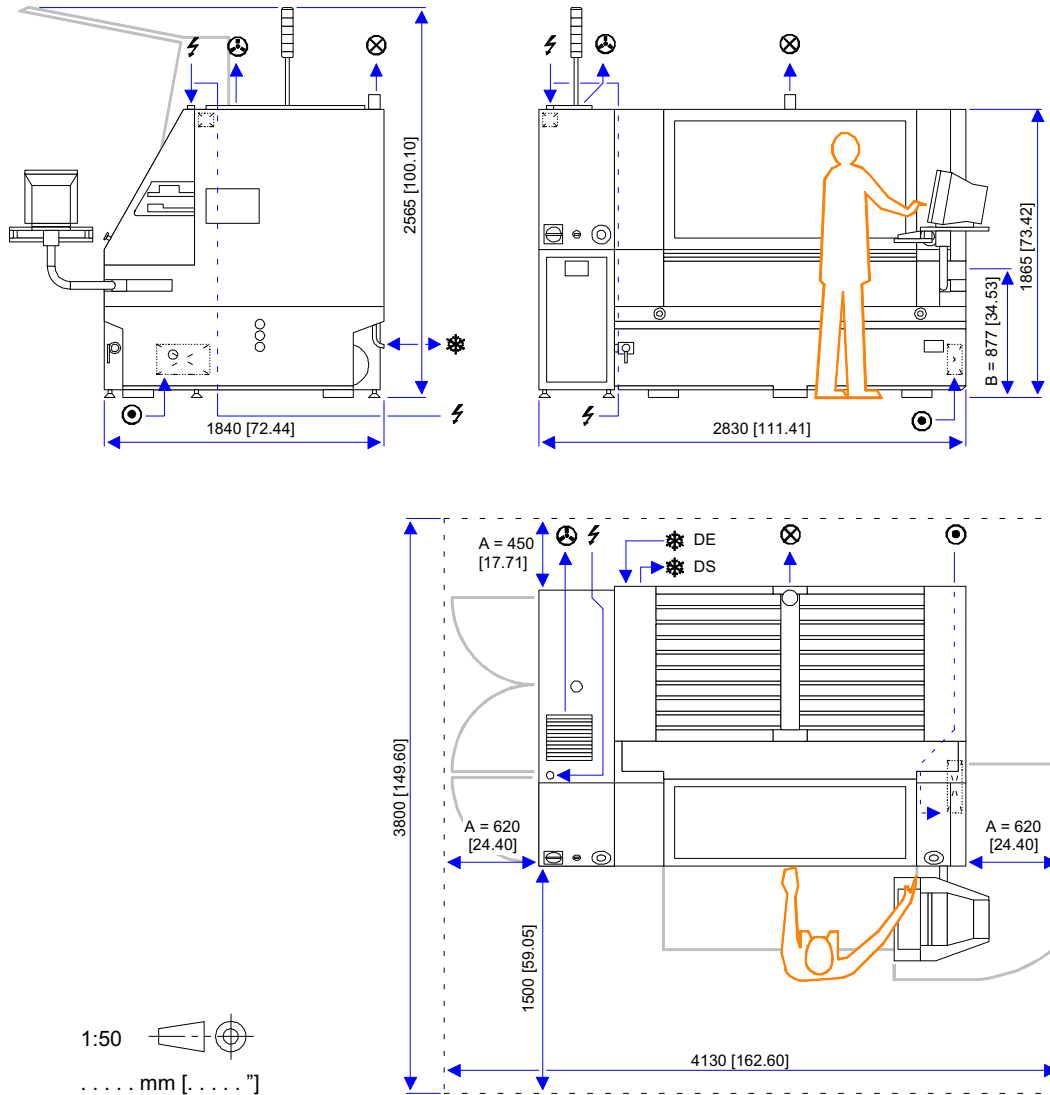
Environment	
Mass	approx. 6'000 kg [13'243 lb]
Distributed load on the floor	approx. 11'300 N/m ² [230 lb/sq ft]
Localized load (3 support points on the floor)	max. 1'510'000 N/m ² [31'530 lb/sq ft]
Machines dimension	
height, closed door	1865 mm [73.42"]
height, opened door	2565 mm [100.10"]
width	2830 mm [111.41"]
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 3600 machine

A = Minimum distances for maintenance work

B = Level of machine table from floor



Subject to alterations.
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