

CNC ROUTER SERIES

ATC CNC Router Nesting Machining Centre

Gantry machining centre with 9 kW automatic tool change spindle, 12-position linear magazine and 7-zone vacuum table, for nesting, grooving, drilling and shaping of panel material up to 2100 x 2800 mm.

MODEL HE 2100 C



/ Application & Use

The HE 2100 C is an automatic tool change CNC machining centre for panel furniture production. A full board is placed on the vacuum table and the machine cuts every part of the batch in one nesting programme: outline cutting, grooves for backs and drawer bottoms, dowel and hinge holes, pockets, shaped fronts and curved components.

Typical work: kitchen and wardrobe carcasses, office and shop furniture, doors and door components, stair parts, upholstery frames, MDF machining and light three-dimensional milling. With a working area of 2100 x 2800 mm the machine takes oversize boards, and the 12-position magazine changes between saw, router and drill tooling without operator intervention, so a mixed batch runs unattended.

/ Key Features

- 9 kW air-cooled ATC spindle, 24000 rpm, ISO30 tooling
- 12-position linear tool magazine carried on the gantry
- Working area 2100 x 2800 mm, panel thickness up to 50 mm
- Rapid travel 70 / 70 / 20 m/min (X / Y / Z), working speed up to 20 m/min
- Repeatability ± 0.05 mm
- Vacuum table divided into 7 independently switched zones
- Pop-up pins for repeatable panel referencing
- Press roller holds the board flat and prevents deformation
- Automatic tool length sensor
- Heavy welded bed, stress relieved and shot blasted

/ Raw Materials

- Particleboard and melamine-faced chipboard
- MDF and HDF, raw, lacquered or foiled
- Plywood and blockboard
- Solid wood panels and glued stock
- Acrylic, PVC and composite panels
- Panel thickness up to 50 mm

Supplied complete with 11 kW water-ring vacuum pump, 5.5 kW double-bag dust collector with hood, piping and bracket, ISO30 tool holders, drill bits and collets.



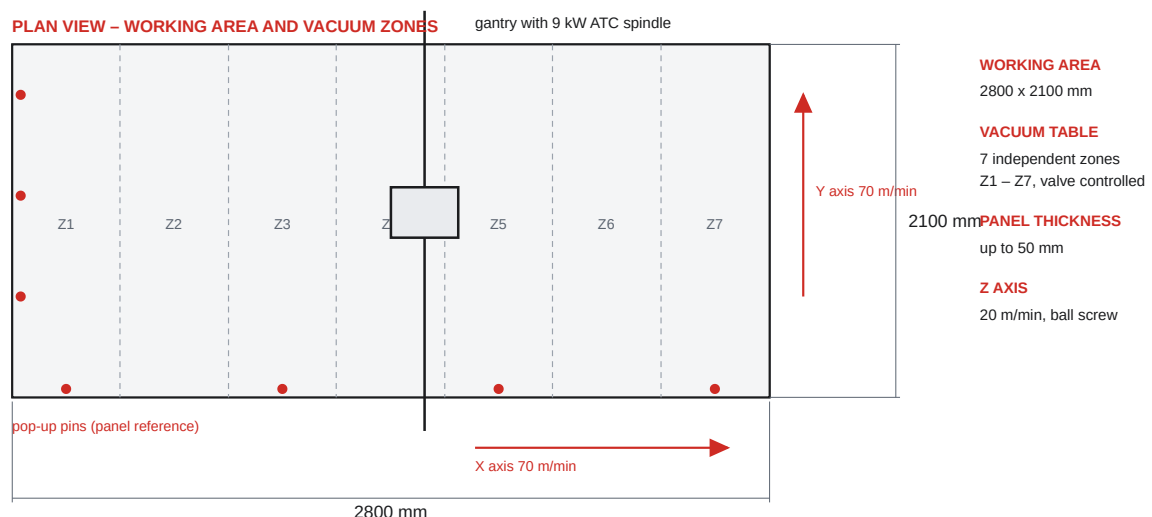
GANTRY STRUCTURE, VACUUM TABLE AND LINEAR TOOL MAGAZINE

/ Structure and Configuration

The machine is built on a robot-welded steel bed that is stress relieved and machined on CNC five-face milling centres, so the guide rail and rack seatings stay true over the full 2800 mm of travel.

- 1 Machine body**
Heavy-duty bed welded from 8 mm steel tubing, heat treated and sandblasted; levelling feet.
- 2 Gantry and guides**
Welded gantry on Taiwan T-win 25H linear guide rails, mounting surfaces precision milled.
- 3 Transmission**
X and Y axes on Taiwan T-win 1.5M helical rack and pinion, Z axis on ball screw.
- 4 Servo drives**
1000 W servo motors with bus-board drivers and Japan Shimpo planetary reducers on all axes.
- 5 Spindle**
9 kW air-cooled automatic tool change spindle, 24000 rpm, ISO30 holders, 11 kW inverter.
- 6 Tool magazine**
12-position linear magazine mounted on the gantry, tool change without leaving the panel.
- 7 Work table**
Vacuum table divided into 7 zones with individual valves, served by an 11 kW water-ring pump.
- 8 Panel positioning**
Pneumatic pop-up pins for panel referencing and a press roller that keeps the board flat.
- 9 Control system**
Industrial CNC control on a mobile console with screen, mouse, keyboard and hand-wheel.
- 10 Software**
Licensed nesting and machining software, English version, lifetime licence.
- 11 Tool measurement**
Automatic tool sensor measures tool length after each change, no manual zeroing.
- 12 Extraction, lubrication, safety**
5.5 kW double-bag dust collector; timed metered lubrication pump; Airtac pneumatics, Siemens safety switch, Schneider electrical components.

Power supply 380 V / 3 phase / 50 Hz. Air supply minimum 6.5 kgf/cm². Repeatability ± 0.05 mm over the whole working area. Highly flexible shielded cabling throughout.



LAYOUT DIAGRAM — WORKING AREA, VACUUM ZONES AND AXIS TRAVELS; VALUES IN MM, ZONE DIVISION INDICATIVE

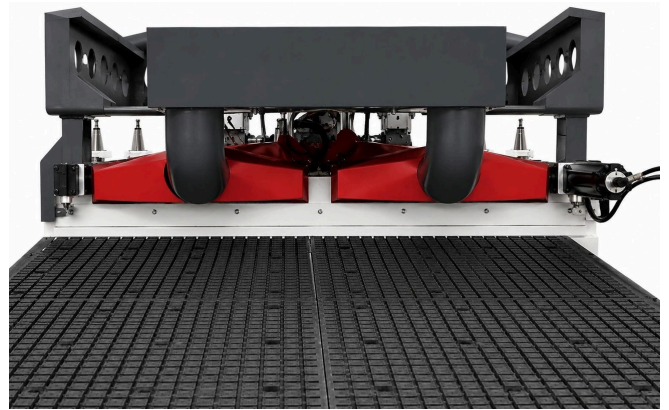
/ Manufacturing Quality

- Bed and beams are robot welded in segments, which gives uniform weld seams and minimal distortion
- Welded structures are stress relieved in a bogie-type resistance furnace before machining
- Shot blasting removes the oxide layer and prepares the surfaces for coating
- Guide rail and rack seatings are milled on CNC five-face milling machines

/ Machine Details



GANTRY WITH 12-POSITION LINEAR TOOL MAGAZINE



EXTRACTION HOODS AND SPINDLE UNIT SEEN FROM THE TABLE



ISO30 TOOL HOLDERS IN THE MAGAZINE, READY FOR AUTOMATIC CHANGE



SERVO DRIVE, REDUCER AND HELICAL RACK ON THE X AXIS



OPERATOR CONSOLE — CNC CONTROL WITH SCREEN, KEYBOARD, MOUSE AND HAND-WHEEL

/ Technical Data

MODEL	HE 2100 C
Type	ATC CNC router, nesting machining centre
Working area	2100 x 2800 mm
Machinable material thickness	up to 50 mm
Travel speed X / Y / Z	70 / 70 / 20 m/min
Working speed	0 – 20 m/min
Repeatability precision	±0.05 mm
Machine body	heavy-duty bed, welded 8 mm steel tubing, heat treated and sandblasted
Spindle	9 kW ATC air-cooled, 24000 rpm
Tool magazine	12-position linear magazine
Variable frequency drive	11 kW
Control system	industrial CNC control with mouse, keyboard and hand-wheel
Software	licensed nesting software, English version, lifetime licence
Servo motors	1000 W servo motors with bus-board drivers
Reducer	Shimpo, Japan
Transmission	X and Y helical rack, Z ball screw
Helical rack	T-win 1.5M, Taiwan
Linear guide rail	T-win 25H, Taiwan
Work table	vacuum table divided into 7 zones
Vacuum pump	11 kW water ring
Press roller	prevents material deformation
Dust collector	5.5 kW double bag, with hood, vacuum pipe and bracket
Lubrication pump	timed and metered lubrication
Automatic tool sensor	measures tool length
Pop-up pins	for material positioning
Electrical components	Schneider
Pneumatic components	Airtac, Taiwan
Safety switch	Siemens
Electric cable	highly flexible shielded cable
Levelling feet	included
Voltage	380 V / 3 phase / 50 Hz
Air pressure	min. 6.5 kgf/cm ²
Accessories	ISO30 tool holders, drill bits, collets

SUPPLIER

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