



SMART
WOODWORKING
A BRIGHTER
TOMORROW

AUTOMATIC CNC NESTING LINE

VG-49A-TB

HIGHER EFFICIENCY
FOR A SMARTER
PRODUCTION

WOOD
PANELS
FURNITURE
CUSTOMIZATION
INDUSTRIAL
SOLUTIONS



2000 × 3000 MM
WORKING AREA



9KW
ATC SPINDLE



12-TOOL
MAGAZINE



AUTO
LABELLING



AUTO
LOADING & UNLOADING

PRECISION. SPEED. AUTOMATION.

vorgenworld.com

MACHINE AT A GLANCE

Integrated CNC nesting for panel production

The VORGEN VG-49A-TB combines separate automatic labelling, hydraulic loading, CNC nesting and automatic unloading into one coordinated line. It is designed for cabinet bodies, door panels and high-mix panel furniture production.

WORKING AREA

2000 x 3000 mm

4 x 9 ft class

ATC SPINDLE

9 kW

6,000-24,000 r/min

TOOL CAPACITY

12 tools

Inline magazine

RUNNING SPEED

60 m/min

Maximum travel

WORK SPEED

25 m/min

Maximum processing

POSITIONING

+/-0.02 mm

Per 2000 mm

WHY THIS CONFIGURATION

Built to reduce handling between production steps

01

LESS MANUAL LIFTING

Automatic loading and unloading reduce repeated board handling.

02

FEWER MIX-UPS

Automatic labels keep panels linked to the correct job.

03

MORE MACHINE UPTIME

Twelve tools cover more operations without frequent manual changes.

04

CLEANER WORKFLOW

Integrated dust extraction and path-following air assist control debris.

FROM PANEL STACK TO CUT PARTS

A connected four-stage process

Each stage supports the next: job information is labelled, material is transferred into the router, the panel is nested and machined, then completed parts are pushed to the unloading area.



01

LOAD

A 2000 x 3000 mm hydraulic lifting platform carries panel stacks up to 4 tonnes.

02

LABEL

A separate Honeywell industrial printer produces job identification labels.

03

NEST

The 9 kW ATC spindle cuts, drills, grooves and profiles on the partitioned vacuum table.

04

UNLOAD

The automatic pushing system transfers parts while integrated extraction removes debris.

CONTROL, LABELLING & SPINDLE

Stable control and traceable production

The control platform, industrial labelling system and high-power spindle form the centre of the machine workflow.



Taiwan LNC control

Fast system response and a user-friendly interface simplify machine operation and job control.



Honeywell printer

Industrial-grade printing supports reliable panel labels for sorting and assembly identification.



9 kW ATC spindle

CC high-power tool-changing spindle delivers strong cutting torque across 18,000-24,000 r/min.

Operational benefit

Clearer machine control reduces operator learning time and supports repeatable job execution.

Production benefit

Panel labels help downstream teams identify cabinet parts and reduce manual marking.

Machining benefit

Wide spindle speed range supports cutting, drilling and routing across common panel materials.

Flexibility benefit

Automatic tool changes allow multiple machining operations in one program.

SERVO DRIVE & TRANSMISSION

Powerful movement with controlled accuracy

The X, Y and Z motion system is configured for high-speed travel, accurate positioning and dependable operation in a production environment.



1.5 kW servo motor

Each X/Y/Z drive motor is rated at 1.5 kW to provide stronger axis movement.



Matched servo drive

Servo drives are paired with the axis motors for responsive motion control.



SHIMPO reducer

Japanese bevel planetary reducer supports precision, rigidity and longer service life.

Taiwan linear guide

Precision linear guidance improves rigidity and repeatability under daily production loads.

1.5-module rack drive

High-precision helical rack transmission supports fast movement and wear resistance.

Z-axis ball screw

The vertical axis uses ball-screw transmission for controlled spindle movement.

Positioning target

Specified X/Y/Z positioning accuracy is ± 0.02 mm per 2000 mm travel.

TOOLING, HOLD-DOWN & SUCTION

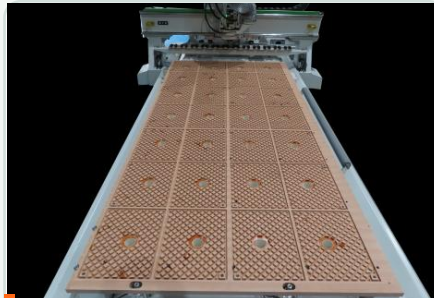
Secure workholding and faster tool changes

The tooling and vacuum systems are designed to keep panels stable while expanding the range of machining operations available in one cycle.



Vacuum zone control

Independent vacuum-zone control helps match suction coverage to different board sizes.



Partition vacuum table

Screw-fixed zoned tabletop improves suction and helps prevent small panels from moving.



12-tool magazine

Inline automatic tool storage supports cabinet-body and door-panel processing.

Automatic tool sensor

Measures tool length quickly to support repeatable Z-axis setup.

ISO30 / ER32 tooling

ISO30 tool holders with ER32 collets provide a practical production tooling platform.

11 kW vacuum pump

High-power water-ring vacuum suction improves small-panel positioning stability.

Business benefit

More reliable hold-down can reduce part movement, recutting and material waste.

DUST EXTRACTION & AIR MANAGEMENT

Designed to control debris at the cutting point

Dust extraction, path-following air assist and organised pneumatic components support a cleaner working area and easier servicing.



Vacuum hood

A high-capture hood removes debris from cutting grooves; square-blown hood configuration is also available.



Pressure regulation

Embedded regulator with a transparent cover allows pressure checks without opening the enclosure.



Path-following air assist

Air follows the machining path to move dust towards extraction and improve cutting-area visibility.

5.5 kW dust collector

Installation-ready industrial collector supports the integrated extraction system.

Pushing with extraction

The automatic pushing system collects debris while moving finished parts.

Centralised solenoids

Cylinder-control valves are grouped behind the crossbeam for easier troubleshooting.

Workplace benefit

Better dust control supports housekeeping, operator visibility and consistent vacuum performance.

ELECTRICAL & MAINTENANCE SYSTEMS

Components arranged for production serviceability

Cable management, electrical control and automatic lubrication are selected to improve reliability and simplify routine maintenance.



Shielded flexible cable

Hengtong drag-chain cable is selected for repeated movement and changing ambient temperatures.



Folinn inverter

Frequency conversion supports quick spindle response and stable speed control.



Layered cable chain

Separated wiring channels make individual cables easier to trace during troubleshooting.

Delixi electrical components

Main electrical components are sourced from an established industrial supplier.

Automatic lubrication

Timed and metered lubrication supplies oil to guide and transmission points.

Service benefit

Organised wiring and centralised components reduce time spent locating faults.

Lifecycle benefit

Consistent lubrication helps protect guides, sliders, racks and transmission components.

POSITIONING & MATERIAL HANDLING

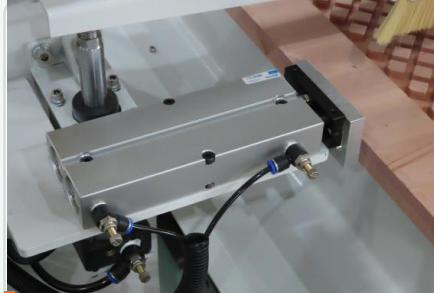
Repeatable board placement with fewer operator steps

Loading references, positioning pins, panel gripping and rear controls help move boards through production with less manual intervention.



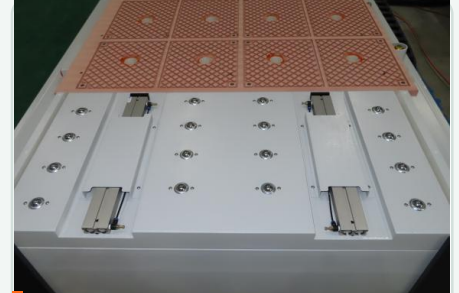
Rear quick controls

Local positioning lift, vacuum, start and emergency-stop controls reduce walking back to the main console.



Material gripping

Gripping mechanism works with the feeder to reduce manual loading steps.



Pre-positioning reference

Reference structure guides panel placement before automatic loading begins.

High-precision pins

Positioning pins support accurate alignment and repeatable board reference.

Side and rear positioning

Multiple references keep panels correctly located during automatic loading.

Automatic feeding conveyor

Belt transfer moves sheets from the loading stage into the machining area.

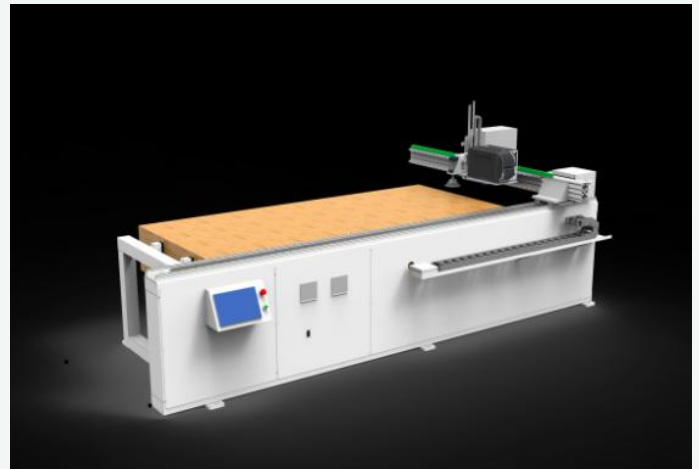
Labour benefit

Less lifting and less walking allow operators to focus on monitoring quality and material flow.

AUTOMATIC LOAD & UNLOAD

Material movement sized for full production sheets

The loading, labelling and unloading modules extend the router into a connected nesting line rather than a standalone cutting machine.



LIFTING PLATFORM

2000 x 3000 mm

Automatic hydraulic lift

LOAD CAPACITY

4 tonnes

Panel stack capacity

LABELLING MODULE

2200 x 3800 mm

Machine footprint

Automatic feeding

The belt conveyor transfers panels into the CNC processing zone.

Automatic pushing

Completed nested parts are pushed to the unloading conveyor.

Integrated extraction

Dust collection operates with the pushing system to clear the work surface.

Throughput benefit

Connected handling can reduce gaps between sheets and operator-dependent transfer time.

MACHINE PARAMETERS I

Brand	VORGEN
Model	VG-49A-TB (4 x 9 ft class)
Machining work size	2000 x 3000 mm
Spindle power	9 kW automatic tool-changing spindle
Labelling printer	Honeywell industrial printer
Tool interface	ISO30 tool holder with ER32 collet
Main shaft speed	6,000-24,000 r/min
Transmission	X/Y Taiwan helical rack; Z Taiwan ball screw
Countertop structure	Partitioned vacuum adsorption table
Guide rail	Taiwan HIWIN, 30 mm
Inverter	Folinn
Vacuum pump	11 kW water-ring vacuum pump
Dust collector	5.5 kW industrial dust collector

MACHINE PARAMETERS II

Maximum running speed	60 m/min
Maximum work speed	25 m/min
X/Y/Z positioning accuracy	+/-0.02 mm per 2000 mm
Command language	G-code
Working voltage	AC 380 V / 3 PH / 50-60 Hz
Overall dimensions	11,500 x 2,200 x 2,100 mm
Total weight	Approx. 5,000 kg
Loading platform	2000 x 3000 mm hydraulic lift
Loading capacity	4 tonnes
Labelling machine size	2200 x 3800 mm
Axis drive motors	1.5 kW servo motors on X, Y and Z
Tool magazine	Inline 12-position automatic magazine
Supported applications	Cabinet bodies and routed door panels

CONFIGURATION NOTE

Technical details are based on the supplied source specification. Final dimensions, electrical matching, fitted component brands and accessories must be confirmed in the signed sales quotation before production.

FEATURES & BUSINESS BENEFITS

Technology translated into practical outcomes

The value of an automated nesting line is created by how its systems work together. Actual results depend on product mix, programming, operator discipline, material condition and factory workflow.

01

Rapid cutting

Fast drilling and routing cycles can increase completed sheets per shift when programs and material flow are prepared.

02

Automatic form sorting

Sequential job arrangement reduces repeated manual file imports and helps organise mixed production.

03

Rear-bed activation

Operators can position a sheet and start locally, reducing unnecessary movement to the front console.

04

Automatic labelling

Every panel can carry job, cabinet and part information for easier sorting and assembly.

05

Automatic handling

Loading, feeding, pushing and unloading reduce repetitive lifting and dependence on extra handling labour.

06

12-tool flexibility

More tools remain available for cabinet bodies and door-panel profiles without frequent manual setup.

07

Stable small-panel hold-down

Partitioned vacuum zones help prevent smaller nested pieces from shifting during machining.

08

Cleaner production

Extraction hoods, air assist and integrated collection reduce debris on the cutting table.

09

Repeatable positioning

Pins and side/rear references improve alignment and support consistent downstream assembly.

10

Simpler maintenance

Central lubrication, separated cables and grouped solenoids make routine service more systematic.

PRODUCTION & INSPECTION PROCESS

Accuracy begins before final assembly

The machine structure and precision references are processed and checked through a controlled manufacturing sequence.

01

Welded structure

Integrated steel plate and gantry components are welded into the main machine body.

02

Stress relief

Gantry crossbeam and side arms receive tempering; the bed undergoes vibration ageing.

03

Precision machining

A five-axis machining centre clamps the body once and machines critical X/Y/Z reference surfaces.

04

Datum drilling

Locating-pin holes, fixing holes and screw holes are machined under the same positioning reference.

05

Assembly

Prepared structures and verified components move into controlled mechanical and electrical assembly.

06

Axis inspection

Straightness, parallelism and perpendicularity are measured using precision gauges and laser instruments.

07

Spindle inspection

Spindle verticality and rack/screw alignment are checked with dedicated inspection tools.

08

Finish & dispatch

The machine is painted, protected, packed and released after final quality inspection.

INSTALLATION, TRAINING & WARRANTY

Structured support from delivery to production

Preparation before technician arrival helps installation, commissioning and training proceed efficiently.

Before arrival

Prepare unloading equipment, machine access, floor space, electrical supply, compressed air, extraction route and operating computer.

Installation

Technical personnel position the modules, connect systems and verify safe mechanical and electrical operation.

Commissioning

Axis movement, vacuum, spindle, tool change, labelling, loading and unloading functions are tested.

Training

Operators learn basic control, program loading, job setup, routine maintenance and fault reporting.

Standard warranty

One-year parts warranty and three-year machine-bed structural warranty, subject to final contract terms.

Lifetime assistance

Technical guidance remains available after the standard warranty period.

24/7 ONLINE TECHNICAL SUPPORT

URGENT

Immediate response for issues stopping machine operation.

GENERAL

Target solution or guidance within 1 hour.

COMPLEX

Target corrective plan within 4 hours.

Support channels: WhatsApp, WeChat, email, video call, remote-control software and on-site service when required. Response targets and warranty coverage are governed by the final VORGEN sales agreement.

SMART
WOODWORKING
A BRIGHTER
TOMORROW

AUTOMATIC CNC NESTING LINE

VG-49A-TB

Detailed Technical Specification

HIGHER EFFICIENCY
FOR A SMARTER
PRODUCTION

MANUFACTURER'S ADDRESS

Taishan Intelligent Manufacturing Technology Park, No. 3366 Longteng Road,
High-tech Zone, Tai'an City, Shandong Province, China

SOUTHEAST ASIA OFFICE

Lot 1-29, Sunway Wangsa Mall
Wangsa Avenue, No. 9, Jalan Wangsa Perdana 1
Bandar Wangsa Maju
53300 Kuala Lumpur, Malaysia

EXPERIENCE CENTRE

No. 3, Jalan Hi-Tech 6/2
Kawasan Perindustrian Hi Tech 6
43500 Semenyih, Selangor Darul Ehsan

WEBSITE

vorgenworld.com

EMAIL

sales@vorgenworld.com

PHONE / WHATSAPP

+60 13-757 1558

FACEBOOK & INSTAGRAM

[@vorgenworld](https://www.facebook.com/vorgenworld)

Final machine configuration is subject to the signed sales quotation.

vorgenworld.com