



ALU
Ranger

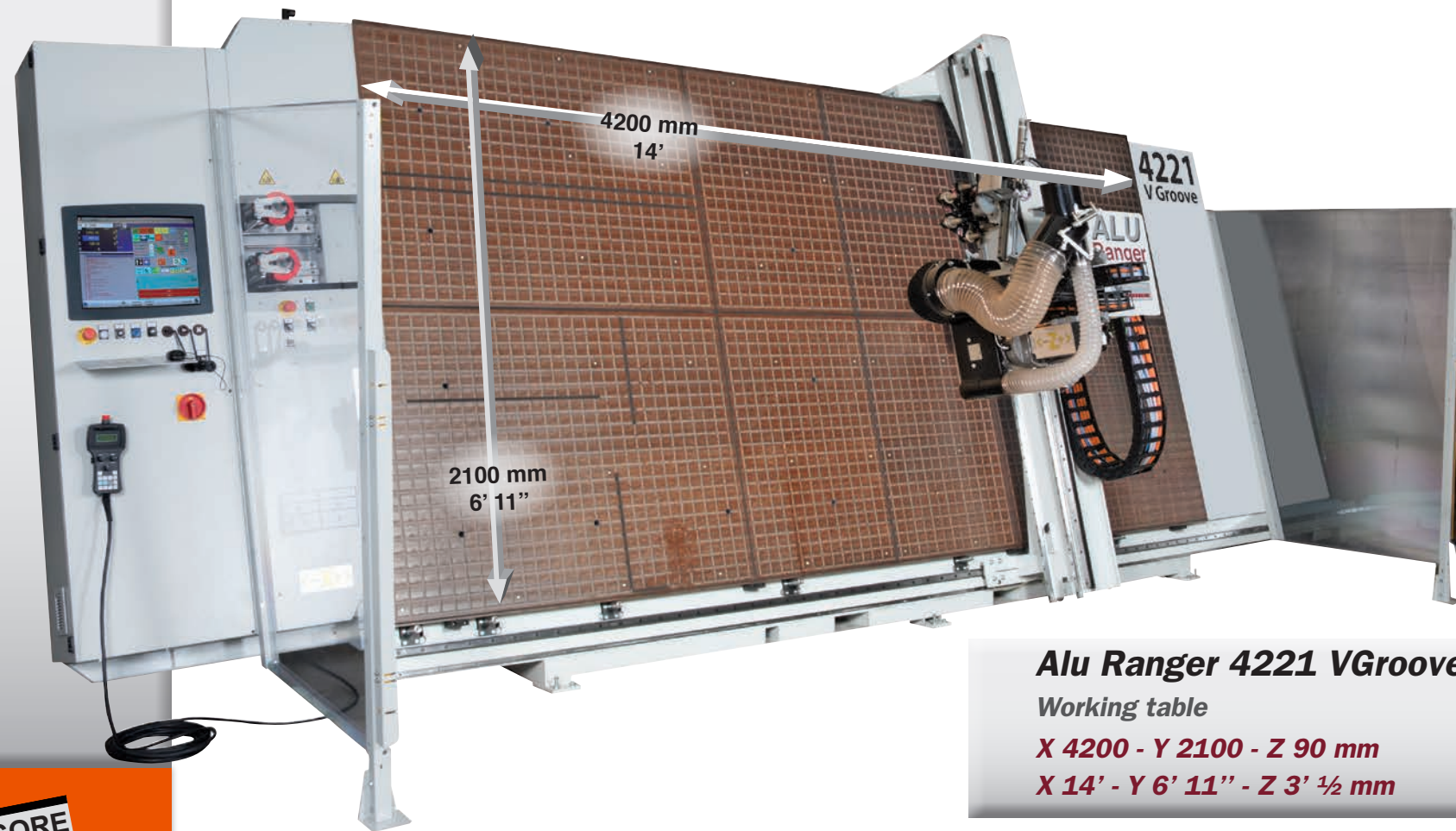
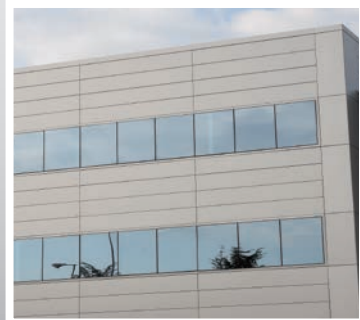
4221 vGroove
6321 vGroove
10121 vGroove

VERTICAL CNC MACHINING CENTRE

ALU 4221 vGroove Ranger 6321 vGroove 10121 vGroove

VERTICAL CNC MACHINING CENTRE WITH THREE CONTROLLED AXES

Panel processing for architectural facades:
alu composites panels, full alu panels, HPL ,
alu honeycomb panels, corrugated core panels etc



Alu Ranger 4221 vGroove

Working table

X 4200 - Y 2100 - Z 90 mm

X 14' - Y 6' 11" - Z 3' ½ mm

ADVANTAGES of Vertical Machining Centres

- Limited space occupied
- Maximum loading and unloading ergonomics for the operator
- Maximum safety for operator thanks to side protection barriers
- Panels and working table always kept clean by the advanced waste collection
- Automatic management of vacuum reduction for unloading of processed panels
- Possibility to load raw panels using our Patented ALU LOADER® and place in position with ALU FEEDER (opt)

ACM MINERAL CORE
READY

Max Speed 30 m/min - 50 m/min Opt.



Alu Ranger 6321 vGroove

Working table

X 6300 - Y 2100 - Z 90 mm

X 20' 8" - Y 6' 11" - Z 3' ½ mm

Alu Ranger 10121 vGroove

Working table

X 10100 - Y 2100 - Z 90 mm

X 33' 2" - Y 6' 11" - Z 3' ½ mm

ALU Ranger

4221 vGroove 6321 vGroove 10121 vGroove

TOP QUALITY COMPONENTS

Aggregates depot - Vacuum control



- Cone presence sensor
- PLC controlled
- Possibility to add a 3rd space for aggregates (Opt.)

- Digital Vacuometer
- Vacuum start button
- Reduced vacuum control button for panel downloading
- ON-OFF switch for vacuum pumps

Remote Control (Opt.)



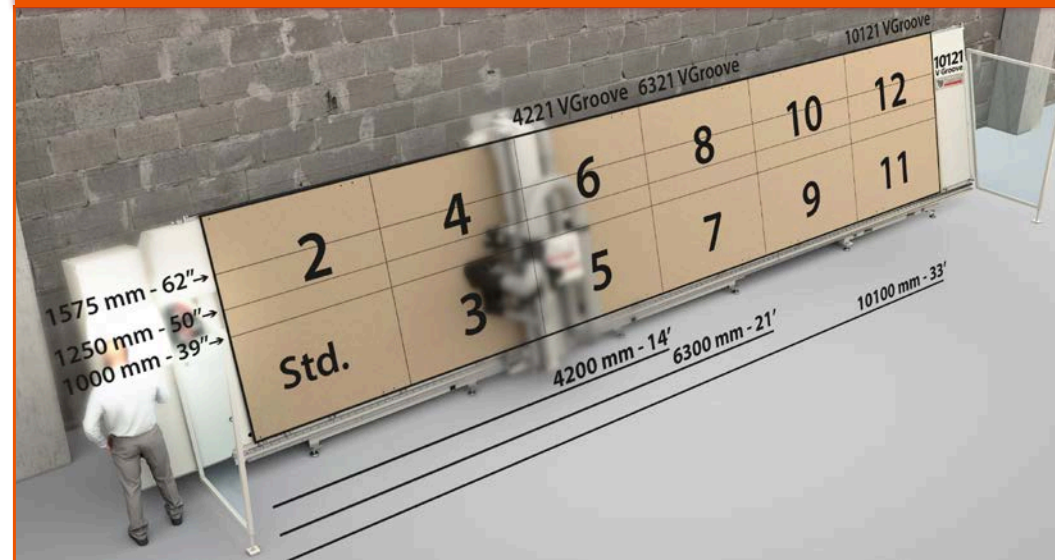
- Hand-held remote control with 4 lines and 16 characters
- Axis manual control "JOG"
- Speed control "Override"

Operator interface



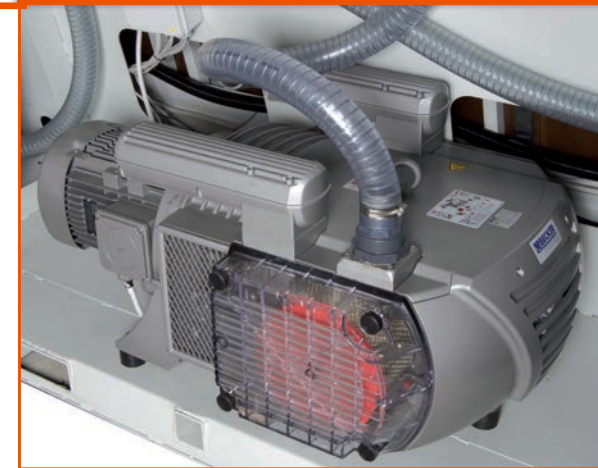
- Numerical control over 3 axes controlled and interpolated, 17" LCD colour monitor
- Ethernet connection, USB, mouse

Vacuum zone selection



- Vacuum panel holding with MDF sacrificial board
- divided in zones:
6 zones (4221 VGroove)
8 zones (6321 VGroove)
12 zones (10121 VGroove)
- Selection of vacuum areas from control panel
- Manual selection for ACM heights (1250-1575-2050 mm / 49"-62"-80")

Panel holding by vacuum pump



- Dry vacuum pumps (Made in Germany)
- (4221 VGroove) Pump 1 x 250 m³/h Std
- (6321 VGroove) Pumps 2 x 250 m³/h Std
- (10121 VGroove) Pumps 4 x 250 m³/h Std
- Automatic reduction of vacuum via PLC for easy release of worked pieces

Presetting



- Automatic presetter for tool length
- Fully automatic
- Measurement tolerance $\pm 0.02 \text{ mm} \pm 0.0007 \text{ In}$

Pop up pins



- Pop up pins with ball bearings for easy panel movement
- Safety sensor connected with PLC

Advanced Construction Technology



- Electrowelded frame with monolithic structure
- Gantry type beam with linear guides and high-quality sliders
- Axis movement with brushless motors and digital drivers
- Rack and pinion gear with tilted, tempered and machined teeth



ALU Ranger

4221 vGroove 6321 vGroove 10121 vGroove

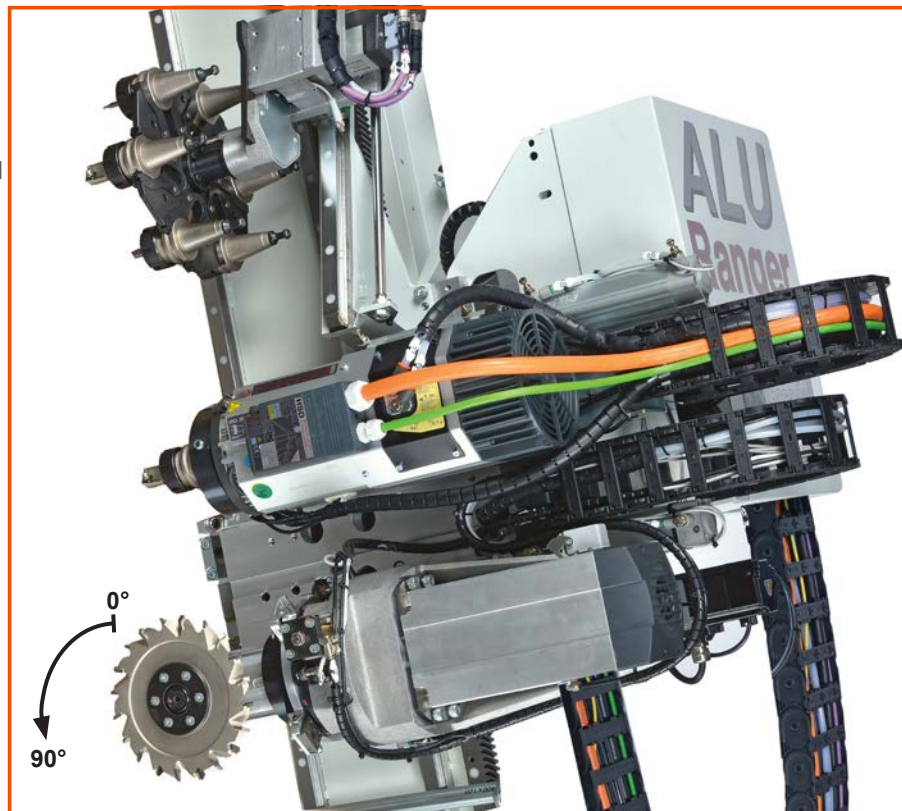
OPERATING HEAD - UNITS

R55A - TC6

- High-efficiency electrospindle for flute tools and blade aggregates (0° and 90°)
- High-resistance ceramic bearings
- Power 5.5 kW - up to 24000 RPM - Electroventilated
- Rotary tool changer (flute tools) 6 positions ISO 30 Cones - Collet ER32
- Integrated dust collection hood

V175

- V-GROOVING UNIT with V shaped tips cutterhead
- Power 5.5 kW - up to 8000 RPM
- VGROOVE milling up to 50 m/1' - 164 ft/1'
- Pneumatic rotation (0° or 90°)
- Integrated dust collection hood
- Sizing cuts on HPL with ø 250 mm - 10" saw blade (not supplied)

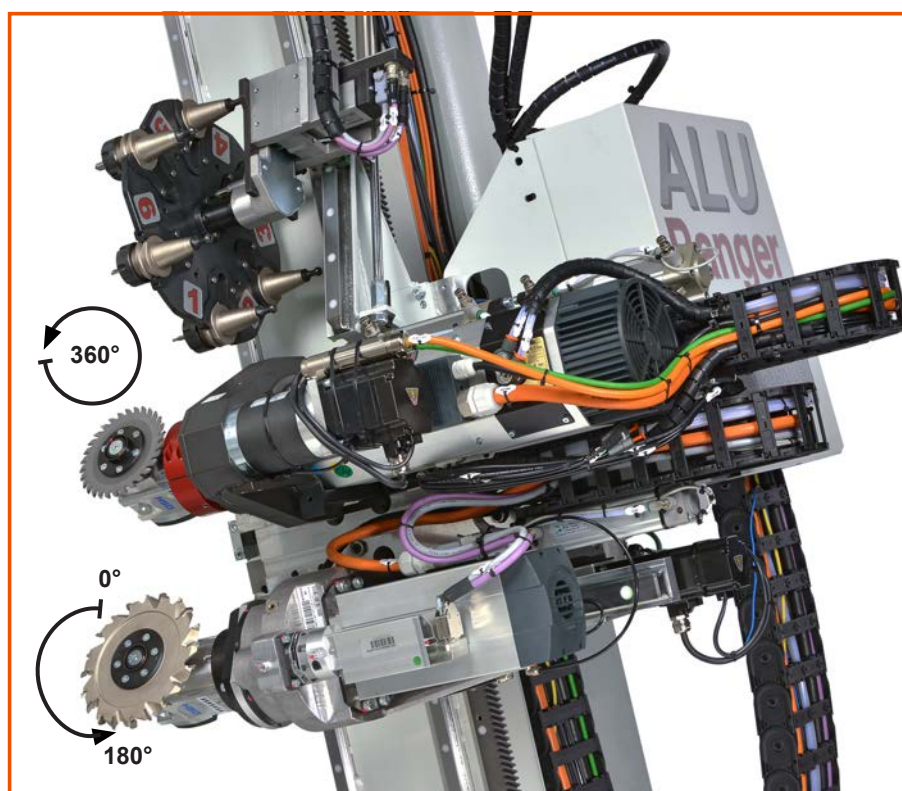


R75A - TC6L

- High-efficiency electrospindle for flute tools and blade aggregates (0° and 90°)
- High-resistance ceramic bearings
- Power 7.5 kW - up to 24000 RPM - Electroventilated
- Rotary tool changer (flute tools) 6 positions ISO 30 Cones - Collet ER32
- Integrated dust collection hood
- **ACR Option:** rotation control (Axis C) for the cutting direction (not interpolating) of saw blade aggregate in any direction from 0° to 360°
- Integrated dust collection hood

V175

- VGROOVING UNIT with V shaped tips cutterhead
- Power 5.5 kW - up to 8000 RPM
- VGROOVE milling up to 50 m/1' - 164 ft/1'
- Pneumatic rotation (0° or 90°)
- **ACS Option:** rotation control (Axis C) for the cutting direction (not interpolating) of VGROOVING disc in any direction from 0° to 180°
- Integrated dust collection hood
- Sizing cuts on HPL with ø 250 mm - 10" saw blade (not supplied)



ACM TOOLS - DIAMOND

Ø 4 mm
Ø 5/32 In
DIAMOND



Ø 6 mm
Ø 15/64 In
DIAMOND



Ø 10 mm
Ø 15/64 In
V-GROOVE
DIAMOND



Ø 175 mm Z 10+10
VGROOVE
DIAMOND
50 mt/1'
164 ft/1'



ACM TOOLS - WIDIA

Ø 4 mm
Ø 5/32 In
WIDIA



Ø 6 mm
Ø 15/64 In
WIDIA



Ø 10 mm
Ø 25/64 In
V-GROOVE
WIDIA



Ø 175 mm Z 10+10
VGROOVE
WIDIA
50 mt/1'
164 ft/1'



CORE

Aluminum 0,3/0,4 mm

12 mt/1'
39 ft/1'

50 mt/1'
164 ft/1'

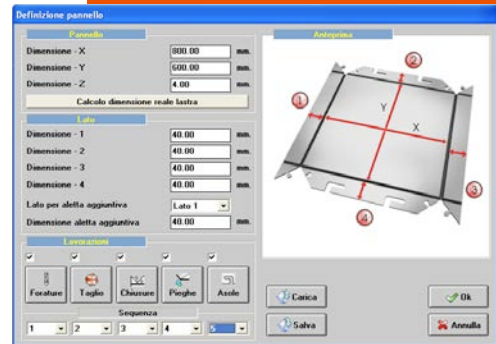


ALU Ranger 4221 vGroove 6321 vGroove 10121 vGroove



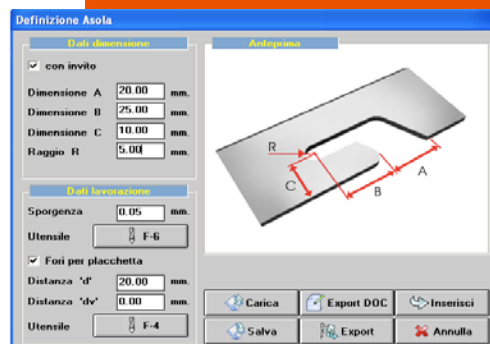
Friendly user programming interface with variable parametric macros

Panel dimensions



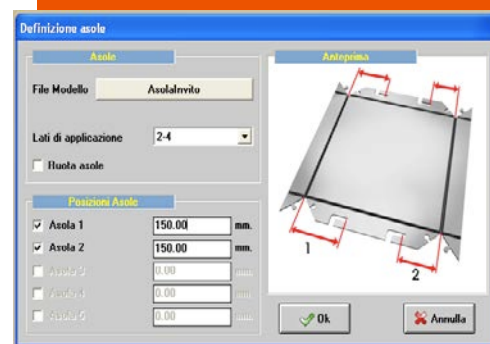
- Cassette dimensions
- Return fold height
- Selection of processing priority

Fixing slots - Creation



- Creation of holding slot file
- Definition of geometrical parameters
- DXF export for reinforcement plate

Fixing slots - Positioning



- Slot position on return fold
- Possibility of choosing number of slots
- Possibility of selecting slots created previously

“Jigsaw” corner closure



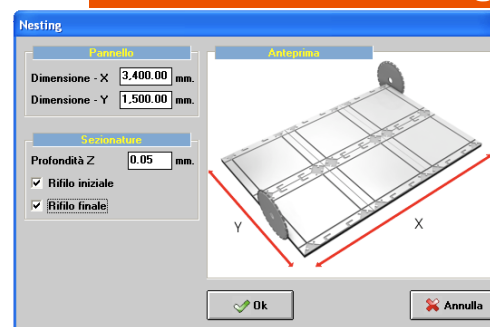
- “Jigsaw” box corner closure
- Automatic parameterization according to the return fold height

“Rivet” corner closure



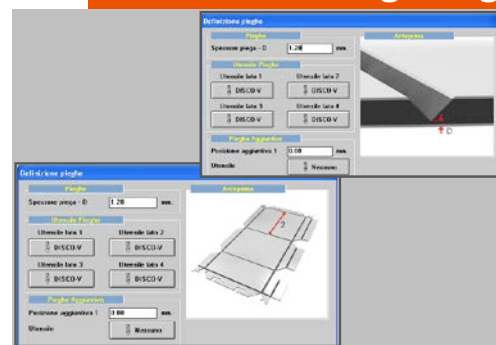
- “Rivet” box corner closure
- Automatic parameterization according to the returning fold height

Nesting

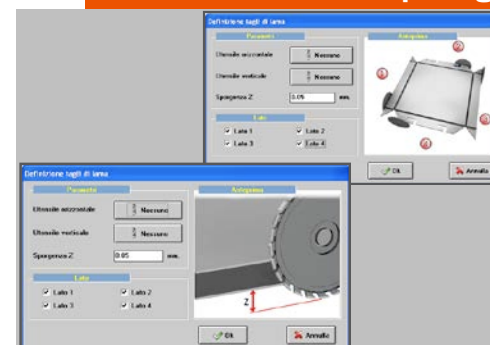


- Optimization of cutting operations, with less wastage
- Optimization of panel direction

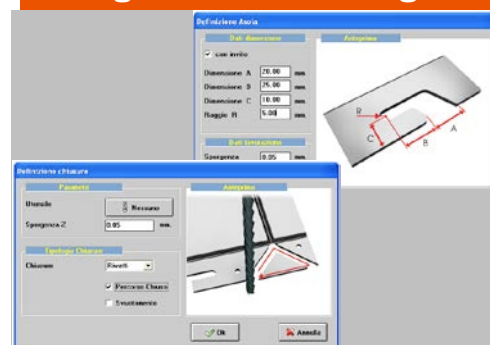
“V” grooving



Panel squaring



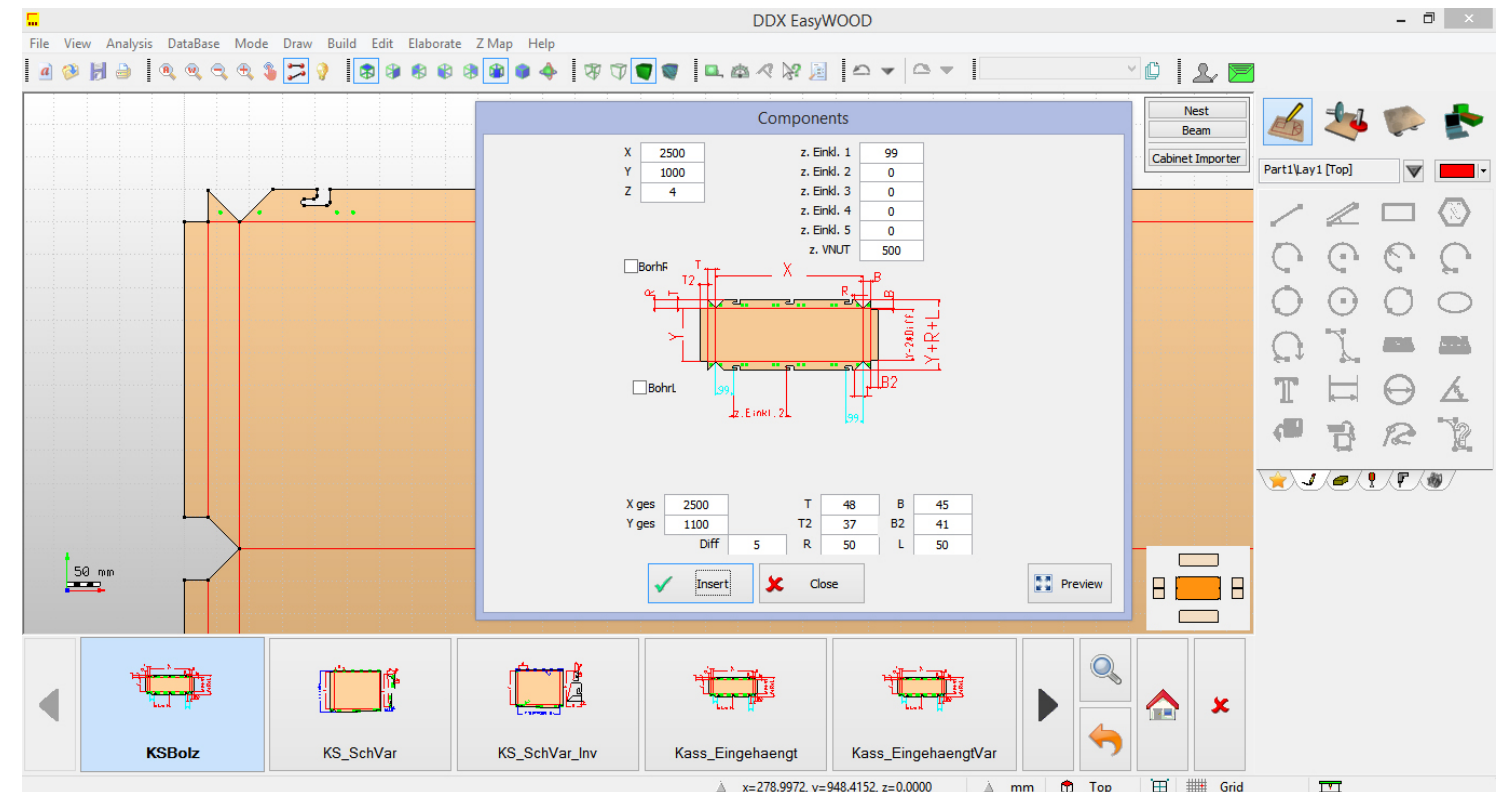
Milling of corners and fixing slots



Programming with CAD/CAM software

- Possibility of creating, modifying and implementing DXF drawings
- Import of DXF files from Autocad® or other CAD programs
- Export of CAM files to Vertical Machining Centre
- Automatic tool assignment from DXF layer import
- Integrated management of tools available
- Nesting option for optimizing processing operations
- Advanced nesting option for maximum reduction waste
- Module to calculate project costs:

- cost of panels used for the façade
- cost for processing time
- operator's cost for cassette folding time
- cost of rivet and operator's cost for riveting
- assignment of any other cost regarding panel processing



Technical characteristics

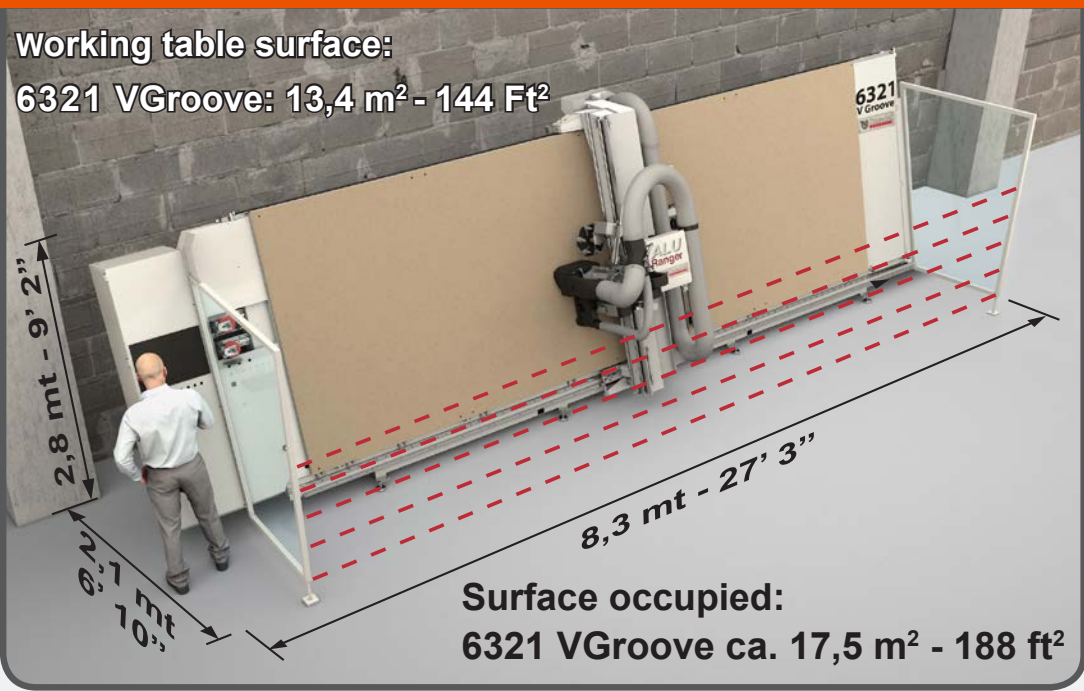
Working table 4221 VGroove	X 4200 - Y 2100 - Z 90 mm
Working table 6321 VGroove	X 6300 - Y 2100 - Z 90 mm
Working table 10121 VGroove	X 10100 - Y 2100 - Z 90 mm
Working table 4221 VGroove	X 14' - Y 6' 11" - Z 3' ½
Working table 6321 VGroove	X 20' 8" - Y 6' 11" - Z 3' ½
Working table 10121 VGroove	X 33' 2" - Y 6' 11" - Z 3' ½
Vacuum panel holding, working table with MDF sacrificial board	4221 VGroove 6 zones (selection from PLC)
	6321 VGroove 8 zones (selection from PLC)
	10121 VGroove - 12 zones (selection from PLC)
Vacuum pump	1 x 250 m³/h (4221 VGroove)
	2 x 250 m³/h (6321 VGroove)
	4 x 250 m³/h (10121 VGroove)
Axis speed (rapid)	X 30 - Y 30 - Z 10 mt/min
Axis speed (with Optional GTM) (rapid)	X 50 - Y 30 - Z 10 mt/min
Electrospindle Routing head R55A	5,5 Kw - collet ER32 up to 24000 RPM
Electrospindle Routing head R75A	7,5 Kw - collet ER32 up to 24000 RPM
Automatic tool changer - head side TC6 - TC6L	6 positions - Iso 30 cones - Cone presence sensor
Routing head V175	5 Kw up to 8000 RPM
Total power	ca. 14 KW (4221 VGroove)
	ca. 19 KW (6321 VGroove)
	ca. 35 KW (10121 VGroove)
Max weight of panel under process	ca. 250 Kg 550 Lb (4221-6321 VGroove)
	ca. 500 Kg 1102 Lb (10121 VGroove)
Total weight 4221 VGroove	ca. 2.700 Kg 5950 Lb
Total weight 6321 VGroove	ca. 3.600 Kg 7930 Lb
Total weight 10121 VGroove	ca. 5.000 Kg 11020 Lb

We reserve the right to make modifications. The machine can include equipment not shown in standard version.
For photographic reasons some units are without protections. The use of machine must be made with all protections installed.

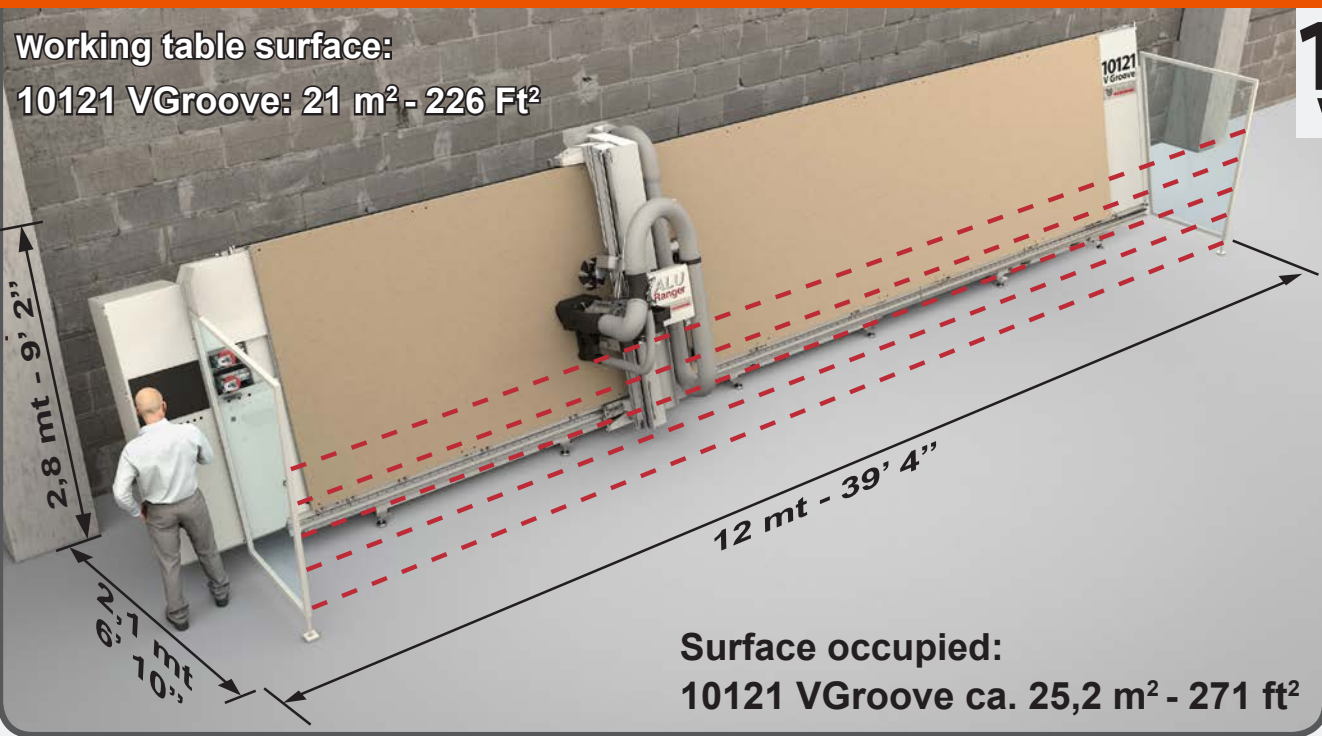
Overall dimensions



4221
VGroove



6321
VGroove



10121
VGroove



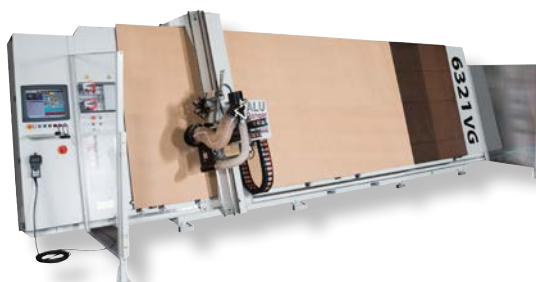
Casadei Industria Group
www.casadei-industria.com

TECHNOLOGY FOR

■ WOODWORKING



■ BUILDING/ARCHITECTURE
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