D-24M

D-24M 2x4' CNC Router



The D Series CNC routers are robustly engineered and built for light to medium duty production applications, prototyping,wood and plastic engraving and cutting, non ferrous metal engraving and cutting… at an impressive price point. With the D-24M light assembly is required for the legs. This machine is unique because gantry is made of solid cast aluminum and the frame is made of solid cast iron vs the traditional lesser quality models which use steel tubes for these components. A one piece design for two major components makes this machine extremely ridgid and built to last. All of the D series cnc routers are outfitted with a 3HP spindle, smart servo motors, quality electrical components, TBI ballscrews. You can expect a long service life with low maintenance from the D series.

Description

The spindle speeds can be used up to 24000 RPM and IPM feed rate up to 192IPM. This ensures the finishing on the material of your choice will be ideal, with minimized cutting time. Minimized cutting time allows you to complete jobs faster thus maximizing your output.

The D-23M 2×4’ cnc router is equipped with an ER 20 collet spindle which will allow you use up ½ wide tool shanks. Yako stepper motors, linear rail guides,tool calibrator precision ballscrews on all axis making this machine a very robustly built compact machine that will deliver great cutting and engraving results.

Product Feature



Cast aluminum gantry
This machine is unique because gantry is made of solid cast aluminum and the frame is made of tubular steel. The cast aluminum gantry reduces vibration.



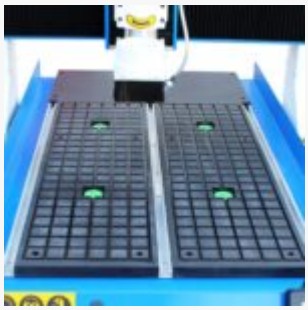
3HP air cooled spindle
Definetly oversized for this little machine. We are proud to offer a very robust and reliable compact solution for this model.



Delta VFD
A staple namebrand in the mechatronics industry. We choose Delta VFD for the reliability of their spindle drive.



LED light
Light it up! If you need to... we have seen some dark garages :).



T-slot/Vacuum combination table
Durable extruded aluminum T-slot table to assist in your workholding requirements.



Yako smart servo motors
A popular and reliable hybrid servo motor solution that generates reproducible results.



Detachable electrical cabinet
Plug and play or move away if you need to. The cabinet and machine are two separate items and can bea unplugged for ease of mobility.



Tool calibrator
A manual tool calibrator is included to assist with fine tool calibration.



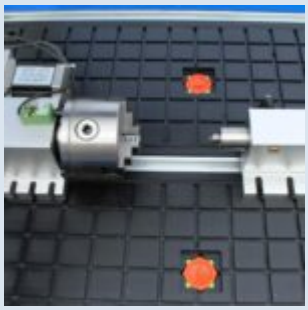
Centralized lubrication
All linear blocks and ballnuts are connected to a lubrication system making it easy to transfer oil to the various components.



Easy clip dust boot
A dust boot that does not interfere with tool changes making it quicker to swap tools.



Vacuum pump control
Turn your vacuum pump On/Off with a switch on the cabinet



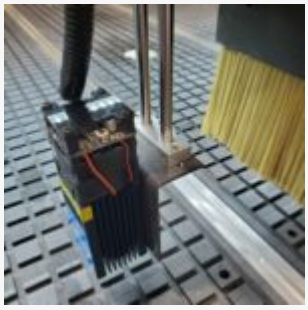
Add a rotary lathe
This model is built to accommodate one and two piece rotary lathes.



TBI ballscrews
Quality ballscrews on all axis to maintain accuracy.



Coolubricator JR™
lubrication system's durable, 16 oz. (0.5 L) vented reservoir.
The Coolubricator JR™ combines lubricant and air in a co-axial nozzle tip. The oil mist lubrication system keeps atomization and distribution of the liquid consistent regardless of the hose length. Plastic 12 in. nozzle is coupled with 5 ft. Co-Axial hose. A heavy-duty magnetic base at the hose/nozzle connection of the oil mist lubrication system makes it easier to relocate and position the nozzle at the friction points. Typically used for the maching non ferrous metals to prevent welding and increase tool longevity.



The 9 watt laser diode is 445 nm
An accessorial add on of a diode laser is useful for a variety of cuts or engravings. Fast and easy engraving on polished and anodized aluminum, steel, stainless steel without engraving paste, copper & brass.
Laser engraving on plywood or balsamic birch, leather, glass,acrylic, stone,plastics.



Donek Tools D1 Drag Knife
The Donek Tools Drag Knife for CNC routerss can be used to cut almost anything you would cut with a utility knife, but with the speed and precision of a CNC router. The Donek Drag Knife fits into your CNC router or spindle collet, making it a universal fit for almost any CNC router available. The tools were designed to use a utility knife blade (which can be purchased at just about any hardware store) which dramatically reduces the cost of consumable blades. Fits in 1/2in Collet.
Common materials that are used with this tool are wood veneer for inlay/marquetry artwork, leather, carbon fiber pre-preg laminates for aerospace, military, and automotive components, cardboard for custom packaging, and much more.



Donek Creasing Attachment
Donek CNC router creasing attachment can be used to crease cardboard, foam and similar materials.
• Fits on all Donek Tools Drag Knives except the 1/2″ knife (D2 or D4 recommended)
• Can be used with a 28mm Olfa (TM) or Fiskars (TM) rotary cutting wheel
• Tool Offset 0.800in (20.3mm)
• Minimum cut radius: dependent on software



Mill Foam Matt
Mill foam mat is ideal for wood, plastics or aluminum that is uneven or wavey. The purpose of this product is to assist in creating a vacuum seal between your spoilboard and the workpiece.
This product is made in Germany and can be used for a long period of time if you do not cut all the way through it. Please note the milling foam matt is sold in 60×12” width x length at a 3mm thickness.



Single Phase Vacuum Pump
Single phase vacuum pumps work for majority of our clients end use application.
They are more accessible when comparing to three phase powr as all residential and most commercial locations have 220v single phase (eg. Your oven, dryer run on this).
The main benefit from the use of a single phase vacuum pump such as Blackbox vacuum pump system is the sufficient holding pressure for most applications which is measured in Hg sealed vacuum, which means millimeters of mercury. It is also important to note that this particular single phase solution has a much higher CFM rating, “cubic feet per minute” air flow.



Vortec Mini Cold Air Gun
Cold Air Guns use vortex tube technology and filtered compressed air to produce sub-freezing air as low as -30 deg F for numerous industrial spot cooling applications. With no moving parts to wear out, Cold Air Guns require no electricity at the target, just a compressed air source.
Cold Air Guns are most often used for cooling of metal parts such as your cutting tool when machining to prevent welding and tool wear.



Rotary Lathe 1 Piece
The one piece CNC router rotary lathe is extremely robust and heavy duty.
This rotary lathe is typically use with a masso controller to utlize the interpolating 4 axis feature. You can use a lathe to shape, engrave or mill wood, plastics and the like.



Two piece rotary lathe
The two piece CNC router rotary lathe is meant for a light for medium duty workload.
This rotary lathe is typically use with a masso controller to utlize the interpolating 4 axis feature.
You can use a lathe to shape, engrave or mill wood, plastics and the like.



Masso Controller
Our highly recommended robust CNC controller solution that is guaranteed to deliver a fun and productive experience. This controller is astand alone solution and does not require a computer to run. The Masso controller features Wifi, interpolating axis, touch screen, dual screen positioning and ease of control.

Physical Features

Specification	MM	INCH
Machining Bed Width/Length	610mm x 1220mm	24in x 48in
Z Travel	175mm	6.9in
Gantry Height Clearance Standard	203mm	8.0in
Gantry Height Clearance Option	304mm	12.0in

Specification	MM	INCH
Table Top	T-Slot/Vacuum Combo Table	T-Slot/Vacuum Combo Table
Location Pins	N/A	N/A
Centralized Lubrication	Included	Included
Leveleing Castors	N/A	N/A
Auto Tool Touch off-Mobile	Included	Included
Auto Tool Touch off-Fixed Position	Yes/With Masso	Yes/With Masso
Machine Footprint	1613*1120*701mm 615mm	63.5in x 44.0in x 27.6in 24.2in
Electrical Cabinet Size	677 mm x 500 mm x 250 mm	26.5in x 19.7in x 9.85in
Net Weight	400 lbs/181 kg	400 lbs/181 kg
Gross Weight	500 lbs/226 kg	500 lbs/226 kg

Power

Specification	MM	INCH
Voltage	220V Single phase 60Hz	220V Single phase 60Hz
Optional Voltage	208V three phase	208V three phase
Rated Power Requirement with vacuum pump	25 AMP	25 AMP
Power Requirement without vacuum pump	16 AMP	16 AMP

Controller

Specification	MM	INCH
Interface	NK105 G3	NK105 G3
Type	Handheld DSP	Handheld DSP
Screen Size	4 in/10.16cm	4 in/10.16cm
Touch Screen	No	No

Specification	MM	INCH
Operating System	Dedicated	Dedicated
Inputs	USB	USB
MPG Handwheel	N/A	N/A
Wifi	Available	Available
Controller Upgrade Option	MASSO	MASSO

Standard Spindle

Specification	MM	INCH
Model	Generic	Generic
Power	2.2 KW / 3 HP	2.2 KW / 3 HP
Max Speed	24000 RPM	24000 RPM
Collet Size	ER 20 ISO 20	ER 20 ISO 20
Spindle Upgrades	N/A	N/A
Variable Frequency Drive	Delta VFD B - 22E21VFD022E21A	Delta VFD B - 22E21VFD022E21A
Cooling System	Air Cooled	Air Cooled
Tool Change Type	Manual	Manual
Tool Holder Positions	N/A	N/A

Drive System

Specification	MM	INCH
Motor	Yako YKC2405M on XY and YKC2405MS on Z	Yako YKC2405M on XY and YKC2405MS on Z
Type	Micro Stepper NEMA 34	Micro Stepper NEMA 34
Transmission	X and Y axis - TBI Ball Scew Drive/Z axis - TBI Ball Screw Drive/Hiwin Linear Guid rails for all axes	X and Y axis - TBI Ball Scew Drive/Z axis - TBI Ball Screw Drive/Hiwin Linear Guid rails for all axes

Speed

Specification	MM	INCH
Rapid Speed XY	300 IPM	300 IPM
Rapid Speed Z	120 IPM	120 IPM
Max Cutting Speed	300 IPM	300 IPM

Tool Calibrator

Specification	MM	INCH
Fixed Position	Available	Available
Portable	Included	Included

Accuracy

Specification	MM	INCH
Positioning	0.2 mm	0.0079 in
Repositioning	0.05 mm	0.0020 in