OMNITECH

Not sure what configuration to choose? Let us help you!

You can find us at:
www.omni-cnc.com
“It is not easy for us to choose machine configuration as a cnc router user. If you could organize file for introduction, which is more helpful.”

Ethan Phillips from USA
**SPINDLE**

**RPM 18000-24000**

Most small engraving bits and mill ends are designed to run at 18,000 rpm or higher. If your spindle can handle this speed then you have the opportunity to maximize travel speeds and reduce working time, very relevant if you’re working in an industrial environment, less so if this is a hobby CNC application.

**POWER**

If you are doing almost all engraving and carving with small diameter cutters then very little hp is required (<5 hp, even 2 hp). If you are looking to build cabinets and will be using large panel cutter and larger endmills (>3/4”) then a high hp machine (>5 hp) will be required, in order to remain productive anyway’s and not have to move at the speed of a turtle. If you wish to cut metal you need all the horsepower you can afford. Greater torque + greater power = greater speed in hard materials with heavier passes!

**TORQUE**

Buying a CNC spindle with enough torque will be one of the keys to maximizing what you can do with your router. The general rule is the larger the diameter of cutter and the harder the material is, and, the more material you wish to remove per cut (productivity), the greater the amount of torque you’re going to need.
CONTROLLER

OMNI mainly offer:

➜ Hand Held Controller
- DSP A11, used for 3 axis control
- DSP A15 for multi spindle and Pneumatic tool change cnc router
- DSP A18 for 4 axis rotary 4 linkage moving
- NK105 for 3 axis, and Pneumatic tool change cnc router

➜ PCI/MC & MOTION CONTROL BOARD
- MACH3
- NC STUDIO

➜ PC PLATFORM
- Syntec
- LNC
- Siemens
HAND HELD CONTROLLER

DSP Controller

NK105
PCI/MC & MOTION CONTROL BOARD

MACH3

NC STUDIO
PC PLATFORM

SYNTEC

LNC
MOTOR

Delivery Quality, Safety & Value
www.omni-cnc.com
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<th>MOTOR</th>
<th>Cost</th>
<th>Speed &amp; Torque</th>
<th>Repeatability</th>
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<td>Stepper motor cost is lower than servo motor that has same power rating.</td>
<td>Servos are excellent in applications requiring speeds greater than 2,000 RPM and for high torque at high speeds or requiring high dynamic response. Steppers are excellent at speeds less than 2,000 RPM and for low to medium acceleration rates and for high holding torque.</td>
<td>Because of the way stepper motors are constructed and operate they have very good repeatability with little or no tuning required. Servo motors can have very good repeatability if setup correctly. The encoder quality can also play into repeatability.</td>
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## MOTOR

### Least Heat production

Because the current draw of a servo motor is proportional to the load applied, heat production is very low comparing stepper motor. Stepper motors draw excess current regardless of load. The excess power is dissipated as heat.

### Efficiency

Servo motors are very efficient. Yielding 80-90% efficiency given light loads. Stepper motors consume a lot of power for outputting, much of that is converted to heat. Stepper motors are usually about 70% efficient.

### NOISE

Servo motors produce very little noise. Stepper motors produce a slight hum due to the control process. However, OMNI offer high quality driver, and it will decrease the noise level.
Material

Holding Down

Delivery Quality, Safety & Value

www.omni-cnc.com
MATERIAL HOLDING DOWN

BY CLAMPS

BY VACUUM PUMP
2000+
Happy Customers

50+
Countries

100%
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Any Question?

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