

Title: New Generation high-precision Vertical Machining Center NV4000 DCG

1. Model	NV4000 DCG
2. Development Concept	<ul style="list-style-type: none"> <li>•After reviewing the design characteristics of the conventional vertical machining center structures, the NV4000 DCG was designed from scratch, adopting the unique arch-shaped column and twin drive system. This unparalleled approach for vertical machining centers eliminates overhang and creates the ideal motion system that is <u>Driven at the Center of Gravity</u> (DCG). The high-rigidity structure was designed using methodology founded on digital design techniques. The benefits of DCG are true high-speed and reduced non-cutting times; results of dramatically reducing vibration during acceralation/decerelation. The symmetrical structure also assures machining accuracy by improving thermal displacement characteristics. As with the NV5000, it is designed as an environmentally friendly machine.</li> </ul>
3. Customers and Markets	Die and mold parts, electrical appliance parts, auto parts, aircraft parts, and other general parts machining
4. Features	<ul style="list-style-type: none"> <li>•No overhang. By adopting DCG, the vibration when accerelating and decelerating is reduced, allowing true high-speed, high accuracy, and high surface finishes to be realized.</li> <li>•By adopting high-speed servomotors and ideal ball screws, maximum acceleration rate of each axis is obtained. (option: X,Y axis 0.8G, Z axis 1.1G)</li> <li>•The inverter control motor is adopted for the ATC drive mechanism. The tool changing time (chip to chip) is 2.8 sec.</li> <li>•Center through structure and a steep slant cover inside the machine provide great chip discharge.</li> <li>•As an option, a revolutionary 2-station turn type APC is available that does not require any additional floor space.</li> <li>•Down time is reduced by using a spindle unit that can be changed within 60 minutes, thereby maximizing machine availability.</li> </ul>
5. Main Specifications	Travel : X-axis600 mm, Y-axis400 mm, Z-axis400 mm Table working surface : 700×450 mm Max. spindle speed : 12,000 [20,000 30,000] min <sup>-1</sup> Rapid traverse rate (X, Y, Z) : 42,000 mm/min Feedrate : 42,000 mm/min Tool storage capacity : 20 [40] tool Tool changing time(tool to tool) : 1.0 sec Tool changing time(chip to chip) : 2.8 sec Type of tool shank : MAS BT-40 Max. tool mass : 8 kg/tool Spindle motor(10/30min/continuous) : 18.5/15/11 kW Machine size : W2,165 mm × L2,453 mm × H2,845 mm Machine mass : 6,500 kg *[ ] shows option
6. Option	Refer to the catalog
7. Production	50 units per a month
8. Selling start time	1 <sup>st</sup> October 2003