

| Series V 5-Axis   |   | High Precision 3D CNC Routing |                           |                     |            |
|---|---|-------------------------------|---------------------------|---------------------|------------|
| <b>Design Background</b>  | <ul style="list-style-type: none"> <li>Primarily high precision aerospace, automotive, &amp; plastics / composite fabrication</li> <li>Justifiable in some cases for woodworking (furniture, boating)</li> </ul>  |                               |                           |                     |            |
| <b>Industries Served</b>  | Furniture   | Boating                       | Plywood                   | Aerospace           | Automotive |
|   | Yes   | Yes                           | Yes                       | Yes                 | Yes        |
| <b>CNC Control</b>  | Fanuc 31i   |                               |                           |                     |            |
| <b>Memory &amp; Datacom</b>   | 8MB, flash port & Ethernet  |                               |                           |                     |            |
| <b>Display</b>  | 10.4" color LCD   |                               |                           |                     |            |
| <b>Core Technology<br/>(Many more options<br/>customizable to<br/>requirements)</b> | <ul style="list-style-type: none"> <li>1000-block lookahead for precise contour control</li> <li>block processing times of 0.4 mS</li> <li>Integrated PLC/PMC: execution speeds of 25 ns/step for ladder logic programs, up to three of which can be executed at the same time</li> <li>high resolution pulse coders with 16,000,000 pulses per revolution</li> <li>Tilted working plane allows the simple transformation of coordinates from the conventional machining plane to an orientation to suit the part</li> <li>Tool length compensation with tool centre point control and cutter radius compensation for five-axes simultaneous machining</li> </ul> |                               |                           |                     |            |
| <b>Routing Spindle</b>  | 16HP Columbo (Italy) HSK drawbar or equivalent, quick change or rack/carousel   |                               |                           |                     |            |
| <b>Technical Characteristics</b>  |   |                               |                           |                     |            |
| <b>HEAD</b>   | <b>C-AXIS</b>   |                               |                           | <b>A-AXIS</b>       |            |
| <b>AXIS ROTATION</b>  | ±225°   |                               |                           | ±100°               |            |
| <b>MAX SPEED (continuous)</b>   | 72°/sec (3000 rpm)  |                               |                           | 72°/sec (3000 rpm)  |            |
| <b>MAX SPEED (positioning)</b>  | 119°/sec (3000 rpm)   |                               |                           | 119°/sec (3000 rpm) |            |
| <b>MAX TORQUE (continuous)</b>  | 300 Nm  |                               |                           | 260 Nm              |            |
| <b>MAX TORQUE (non-continuous)</b>  | 370 Nm  |                               |                           | 370 Nm              |            |
| <b>ELECTRIC SPINDLE</b>   |   |                               |                           |                     |            |
| <b>SPEED (RPM)</b>  | 9,000   | 12,000                        | 18,000                    | 24,000              |            |
| <b>POWER (HP)</b>   | 16  | 16                            | 10                        | 5                   |            |
| <b>SERVICE TYPE</b>   | S1  |                               |                           |                     |            |
| <b>TOOL UNCLAMP</b>   | Pneumatic - 87 PSI  |                               |                           |                     |            |
| <b>COOLING</b>  | Chilled Liquid  |                               |                           |                     |            |
| <b>TOTAL WEIGHT</b>   | ~ 220 LBS   |                               |                           |                     |            |
| <b>Material Holddown</b>  | Typically custom work-holding fixtures indexed & mounted to machine table, sometimes with aid of vacuum   |                               |                           |                     |            |
| <b>Ballscrew Technology</b>   | High-speed precision screws, often including auto-lubricated "spin-the-nut" models on XY axis to minimize backlash  |                               |                           |                     |            |
| <b>Linear Motion / Rails</b>  | THK precision linear ways   |                               |                           |                     |            |
| <b>Perimeter Guarding</b>   | Optional: ANSI-compliant, cyclone fencing & unitized safety mats interlocked to host Fanuc control  |                               |                           |                     |            |
| <b>Rapid Rates (X &amp; Y)</b>  | Up to 1,500 in/min XY, 600 in/min Z   |                               |                           |                     |            |
| <b>Table Sizes (Popular shown)</b>  | <b>48" x 96" (4x8')</b>   | <b>60" x 120" (5x10')</b>     | <b>60" x 144" (5x12')</b> |                     |            |
| <b>Programmable Travel: X</b>   | 96"   | 120"                          | 144"                      |                     |            |
| <b>Y (gantry)</b>   | 72"   | 72"                           | 72"                       |                     |            |
| <b>Z (vertical)</b>   | 24" or more   | 24" or more                   | 24" or more               |                     |            |
| <b>Electrical Requirements</b>  | 480V / 3-Phase / 60Hz   |                               |                           |                     |            |

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| <b>Series V 5-Axis</b>                   | <b>High Precision 3D CNC Routing</b>   |
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| <b>Shipping Weight</b>                   | 17,000 #   |
| <b>Warranty</b>                          | Full one-year warranty, two years on Fanuc electronics   |
| <b>Renewability (Green CNC)</b>          | <ul style="list-style-type: none"><li>▪ Can be retrofitted as new technology becomes available, and/or modernized or exchanged at end of life cycle</li><li>▪ Competitive fixed-gantry, ballscrew-drive routers also eligible (CALL)</li></ul> |
| <b>Financing</b>                         | Competitive 36-60 month financing available based on credit  |
| <b>Training &amp; 24/7 Phone Support</b> | <b>FREE FOR LIFE OF MACHINE</b>  |