CNC ROTARY TABLE OPTIONS TO SUIT MAZAK VCS & VTC SERIES MACHINE TOOLS
Worldwide Field-proven, NIKKEN CNC Rotary Table  
NIKKEN Carbide Worm Screw System

**WORM WHEEL**

NIKKEN produce all worm wheels in their CNC Rotary Tables from custom specified steel. During the production process the material is further hardened and ion-nitrided, giving unbeatable performance in service due to exceptional friction-resistance. The tooth surface and core material hardness is shown below.

**CARBIDE WORM SCREW**

A unique Carbide Worm Screw, hard and resistant against high speed rotation, is used in NIKKEN CNC Rotary Tables (Photo on right). The Material specification is V grade Carbide with unbeatable anti-wearing and robust qualities. This produces an Ultra heavy duty assembly, maintaining a high degree of accuracy over an extended period of time.

Comparing the NIKKEN system with the traditional combination of worm gear & worm screw used by competitors (phosphor bronze / aluminium bronze worm wheel and steel worm screw), wearing is massively reduced, leading to a far greater effective working life and huge cost reduction.

**NIKKEN NC TOOLING**

To complement the addition of a NIKKEN CNC Rotary table to your MAZAK Machine tool there are a range of NIKKEN NC Tooling Packages available to ensure you attain the optimum performance from your investment. No matter what materials are being machined, NIKKEN NC Tooling delivers unbeatable performance in terms of speed of manufacture, reliability, accuracy and surface finish with the additional benefit of demonstrable increase in tool life. MAZAK and NIKKEN are partners in precision engineering and work together to ensure that every machine tool specified is ideally suited to its ultimate application in the most cost-effective manner.
CNC202MA Specifications
- Diameter of Table Ømm: Ø200
- Max Work Load (kg): 200(H) 100(V)
- Rotation Speed: 22.2(min⁻¹), 44.4(min⁻¹)
- Indexing Accuracy (sec): ±20
- Clamping Torque (Nm): 303
- Net Weight (kg): 55
- Motor Type: HF-H104T-A48
- Diameter of Spindle Hole: Ø60H7 Ø40

CNC260MA Specifications
- Diameter of Table Ømm: Ø260
- Max Work Load (kg): 350(H) 175(V)
- Rotation Speed: 16.6(min⁻¹), 33.3(min⁻¹)
- Indexing Accuracy (sec): 20
- Clamping Torque (Nm): 588
- Net Weight (kg): 120
- Motor Type: HF-H104T-A48
- Diameter of Spindle Hole: Ø80H7
**VCS-430A CNC ROTARY TABLE OPTIONS**

### 5AX-130MA Specifications
- Diameter of Table Ømm: Ø130
- Max Work Load (kg): 60 (0 to 30°), 40 (30° to 90°)
- Rotation Speed: 22.2 min⁻¹ (Rotary), 11.1 min⁻¹ (Tilting)
- Indexing Accuracy (sec): ±30 (Rotary), 60 (Tilting)
- Clamping Torque (Nm): 588 (Rotary), 303 (Tilting)
- Net Weight (kg): 115
- Motor Type: HF-H105T-A48 (Rotary), HF-H105T-A48 (Tilting)
- Diameter of Spindle Hole: Ø60x830
- Tilting Travel Angle: 0° – 105°

### 5AX-201MA Specifications
- Diameter of Table Ømm: Ø201
- Max Work Load (kg): 60 (0 to 30°), 40 (30° to 90°)
- Rotation Speed: 22.2 min⁻¹ (Rotary), 16.6 min⁻¹ (Tilting)
- Indexing Accuracy (sec): 20 (Rotary), 60 (Tilting)
- Clamping Torque (Nm): 160 (Rotary), 180 (Tilting)
- Net Weight (kg): 160
- Motor Type: HF-H105T-A48 (Rotary), HF-H105T-A48 (Tilting)
- Diameter of Spindle Hole: Ø60x850
- Tilting Travel Angle: 0° – 105°
**CNC202MA Specifications**
- Diameter of Table Ømm : Ø200
- Max Work Load (kg) : 200(H) 100(V)
- Rotation Speed : 22.2(min⁻¹), 44.4(min⁻¹)
- Indexing Accuracy (sec) : ±20
- Clamping Torque (Nm) : 303
- Net Weight (kg) : 55
- Motor Type : HF-H104T-A48
- Diameter of Spindle Hole : Ø60H7 Ø40

**CNC260MA Specifications**
- Diameter of Table Ømm : Ø260
- Max Work Load (kg) : 350(H) 175(V)
- Rotation Speed : 16.6(min⁻¹), 33.3(min⁻¹)
- Indexing Accuracy (sec) : 20
- Clamping Torque (Nm) : 588
- Net Weight (kg) : 120
- Motor Type : HF-H104T-A48
- Diameter of Spindle Hole : Ø80H7
**CNC260LMA Specifications**

- Diameter of Table Ømm: Ø260
- Max Work Load (kg): 350(H) 175(V)
- Rotation Speed: 16.6(min⁻¹), 33.3(min⁻¹)
- Indexing Accuracy (sec): 20
- Clamping Torque (Nm): 588
- Net Weight (kg): 120
- Motor Type: HF-H104T-A48
- Diameter of Spindle Hole: Ø80H7

**CNC321MA Specifications**

- Diameter of Table Ømm: Ø320
- Max Work Load (kg): 500(H) 250(V)
- Rotation Speed: 22.2(min⁻¹), 44.4(min⁻¹)
- Indexing Accuracy (sec): 15
- Clamping Torque (Nm): 1760
- Net Weight (kg): 200
- Motor Type: HF-H204S-A48
- Diameter of Spindle Hole: Ø105H7
5AX-130MA Specifications
- Diameter of Table Ømm: Ø130
- Max Work Load (kg): 50(0 to 30°) 25(30° to 90°)
- Rotation Speed: 22.2 min⁻¹ (Rotary), 11.1 min⁻¹ (Tilting)
- Indexing Accuracy (sec): ±30 (Rotary), 60 (Tilting)
- Clamping Torque (Nm): 205 (Rotary), 303 (Tilting)
- Net Weight (kg): 115
- Motor Type: HF-H105T-A48 (Rotary), HF-H105T-A48 (Tilting)
- Diameter of Spindle Hole: Ø68x Ø50
- Tiltin Travel Angle: 0° – 105°

5AX-201MA Specifications
- Diameter of Table Ømm: Ø200
- Max Work Load (kg): 60(0 to 30°) 40(30° to 90°)
- Rotation Speed: 22.2 min⁻¹ (Rotary), 16.6 min⁻¹ (Tilting)
- Indexing Accuracy (sec): ±30 (Rotary), 60 (Tilting)
- Clamping Torque (Nm): 205 (Rotary), 303 (Tilting)
- Net Weight (kg): 160
- Motor Type: HF-H105T-A48 (Rotary), HF-H105T-A48 (Tilting)
- Diameter of Spindle Hole: Ø68x Ø50
- Tiltin Travel Angle: 0° – 105°
CNC202MA Specifications
- Diameter of Table Ømm: Ø200
- Max Work Load (kg): 200(H) 100(V)
- Rotation Speed: 22.2(min⁻¹), 44.4(min⁻¹)
- Indexing Accuracy (sec): ±20
- Clamping Torque (Nm): 303
- Net Weight (kg): 55
- Motor Type: HF-H104T-A48
- Diameter of Spindle Hole: Ø60H7 Ø40

CNC202MA are dimensionally identical but not interchangeable due to differences in electrical specification.

CNC260MA Specifications
- Diameter of Table Ømm: Ø260
- Max Work Load (kg): 350(H) 175(V)
- Rotation Speed: 16.6(min⁻¹), 33.3(min⁻¹)
- Indexing Accuracy (sec): ±20
- Clamping Torque (Nm): 588
- Net Weight (kg): 120
- Motor Type: HF-H104T-A48
- Diameter of Spindle Hole: Ø80H7

CNC260MA are dimensionally identical but not interchangeable due to differences in electrical specification.
CNC ROTARY TABLE OPTIONS
VTC-300C-II & VTC-760C

CNC202MA Specifications
- Diameter of Table Ømm : Ø200
- Max Work Load (kg) : 200(H) 100(V)
- Rotation Speed : 22.2(min⁻¹), 44.4(min⁻¹)
- Indexing Accuracy (sec) : ±20
- Clamping Torque (Nm) : 303
- Net Weight (kg) : 55
- Motor Type : HF-H104T-A48
- Diameter of Spindle Hole : Ø60H7 Ø40
- CNC Rotary Tables for VTC-300C-II and VTC-760C are dimensionally identical but not interchangeable due to differences in electrical specification.

CNC260MA Specifications
- Diameter of Table Ømm : Ø260
- Max Work Load (kg) : 350(H) 175(V)
- Rotation Speed : 16.6(min⁻¹), 33.3(min⁻¹)
- Indexing Accuracy (sec) : 20
- Clamping Torque (Nm) : 588
- Net Weight (kg) : 120
- Motor Type : HF-H104T-A48
- Diameter of Spindle Hole : Ø80H7
- CNC Rotary Tables for VTC-300C-II and VTC-760C are dimensionally identical but not interchangeable due to differences in electrical specification.
5AX-201MA Specifications
• Diameter of Table Ømm : Ø200
• Max Work Load (kg) : 60(0 to 30°) 40(30° to 90°)
• Rotation Speed : 22.2 min⁻¹ (Rotary)
• Indexing Accuracy (sec) : 20 (Rotary), 60 (Tilting)
• Clamping Torque (Nm) : 588 (Rotary), 612 (Tilting)
• Net Weight (kg) : 160
• Motor Type : HF-H105T-A48 (Rotary)
• Diameter of Spindle Hole : Ø60H7 Ø50
• Tilting Travel Angle : 0° – 105°
• CNC Rotary Tables for VTC-300C-II and VTC-760C are dimensionally identical but not interchangeable due to differences in electrical specification.

MAZAK VTC-300C-II
CNC401MA Specifications
• Diameter of Table Ømm : Ø400
• Max Work Load (kg) : 500(H) 250(V)
• Rotation Speed : 22.2(min⁻¹), 44.4(min⁻¹)
• Indexing Accuracy (sec) : 15
• Clamping Torque (Nm) : 1760
• Net Weight (kg) : 230
• Motor Type : HF-H204S-A48
• Diameter of Spindle Hole : Ø130H7

CNC501MA Specifications
• Diameter of Table Ømm : Ø500
• Max Work Load (kg) : 800(H) 400(V)
• Rotation Speed : 16.6(min⁻¹), 33.3(min⁻¹)
• Indexing Accuracy (sec) : 15
• Clamping Torque (Nm) : 4,655
• Net Weight (kg) : 470
• Motor Type : HF-H354S-A48
• Diameter of Spindle Hole : Ø130H7
CNC601MA Specifications
- Diameter of Table Ømm: Ø600
- Max Work Load (kg): 800(H) 400(V)
- Rotation Speed: 11.1(min⁻¹), 22.2(min⁻¹)
- Indexing Accuracy (sec): 15
- Clamping Torque (Nm): 4,655
- Net Weight (kg): 500
- Motor Type: HF-H354S-A48
- Diameter of Spindle Hole: Ø130H7

CNC802MA Specifications
- Diameter of Table Ømm: Ø800
- Max Work Load (kg): 3,000(H)
- Rotation Speed: 5.5(min⁻¹)
- Indexing Accuracy (sec): 15
- Clamping Torque (Nm): 7,000
- Net Weight (kg): 1,100
- Motor Type: HF-H354S-A48
- Diameter of Spindle Hole: Ø270H7
CNCB450MA Specifications
- Diameter of Table Ømm: Ø450
- Max Work Load (kg): 700(H) 350(V)
- Rotation Speed: 25(min⁻¹)
- Indexing Accuracy (sec): 15
- Clamping Torque (Nm): 3,870
- Net Weight (kg): 380
- Motor Type: HF-H204S-A48
- Diameter of Spindle Hole: Ø205H7

CNCB630MA Specifications
- Diameter of Table Ømm: Ø630
- Max Work Load (kg): 1600(H) 800(V)
- Rotation Speed: 11.1(min⁻¹), 22.2(min⁻¹)
- Indexing Accuracy (sec): 15
- Clamping Torque (Nm): 6,550
- Net Weight (kg): 750
- Motor Type: HF-H354S-A48
- Diameter of Spindle Hole: Ø345H7
SCROLL CHUCKS & CHUCK PLATES

Chuck Plate | Scroll Chuck
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- Scroll Chucks with chuck plate marked * are NIKKEN Scroll Chuck of Front Mounting (Fig.1)
- Chuck plate marked "2 are used for Ø400 table.
- The chuck plates for the scroll chucks without * can be used for the scroll chuck based on JIS B6151 SC/TC standard.

### Chucking Range

<table>
<thead>
<tr>
<th>Chuck Size</th>
<th>Range</th>
<th>Chuck Plate Code No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>Fig. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot;</td>
<td>2~49</td>
<td>31,75</td>
<td>80</td>
<td>13</td>
<td>60</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5&quot;</td>
<td>3~104</td>
<td>37,25</td>
<td>100</td>
<td>3.5</td>
<td>60</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6&quot;</td>
<td>3~153</td>
<td>44.25</td>
<td>150</td>
<td>4</td>
<td>60</td>
<td>2</td>
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<tr>
<td>7&quot;</td>
<td>3~153</td>
<td>46.25</td>
<td>155</td>
<td>4</td>
<td>60</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9&quot;</td>
<td>4~190</td>
<td>55.25</td>
<td>190</td>
<td>20</td>
<td>80, 105</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10&quot;</td>
<td>10~229</td>
<td>53.25</td>
<td>230</td>
<td>20</td>
<td>80, 105</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12&quot;</td>
<td>10~258</td>
<td>59.25</td>
<td>260</td>
<td>20</td>
<td>80, 105</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The dimension from the table surface to the jaw is: B+C* Others: E+B+C

TAT501 SUPPORT TABLE COMPLETE WITH HYDRAULIC BRAKE, TO WORK IN CONJUNCTION WITH CNC501, CNC601 & CNCB630
**TAILSTOCK (MANUAL, AIR, HYDRAULIC, SUPPORT TABLE)**

![Image of a tailstock]

**TAT401N SUPPORT TABLE COMPLETE WITH HYDRAULIC BRAKE, TO WORK IN CONJUNCTION WITH CNC321, CNC401 & CNCB450**

The centre height can be adjusted. Please refer Centre Height H on the table.

![Image of a manual tailstock]

**List of Tailstock and Support Table**

<table>
<thead>
<tr>
<th>Table Model</th>
<th>Manual Centre Height</th>
<th>Air/Hyd. Stroke: 15mm</th>
<th>Support Table Stroke: 60mm</th>
<th>Built-In Brake</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNC202</td>
<td>135</td>
<td>P-125S</td>
<td>PBA-135</td>
<td>TAT170</td>
</tr>
<tr>
<td>CNC260</td>
<td>170</td>
<td>P-170S</td>
<td>PBA-170</td>
<td>TAT250</td>
</tr>
<tr>
<td>CNC321, 401</td>
<td>230</td>
<td>P-230S</td>
<td>PBA-230</td>
<td>TAT321, 401</td>
</tr>
<tr>
<td>CNC301, 601</td>
<td>310</td>
<td>P-310S</td>
<td>PBA-310</td>
<td>TAT501, 600</td>
</tr>
<tr>
<td>5AX-150</td>
<td>150</td>
<td>P-150S</td>
<td>PBA-150</td>
<td></td>
</tr>
<tr>
<td>5AX-201</td>
<td>180</td>
<td>P-170S</td>
<td>PBA-180</td>
<td></td>
</tr>
</tbody>
</table>

**Dimension of Manual Tailstock**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Centre Height H</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-125S</td>
<td>130–140</td>
<td>27</td>
<td>150</td>
<td>76</td>
<td>74</td>
<td>120</td>
<td>210</td>
<td>14</td>
<td>11.5</td>
</tr>
<tr>
<td>P-150S</td>
<td>145–150</td>
<td>23</td>
<td>195</td>
<td>98</td>
<td>102</td>
<td>145</td>
<td>210</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>P-170S</td>
<td>160–180</td>
<td>25</td>
<td>195</td>
<td>98</td>
<td>102</td>
<td>145</td>
<td>210</td>
<td>18</td>
<td>22.5</td>
</tr>
<tr>
<td>P-301S</td>
<td>300–310</td>
<td>15</td>
<td>235</td>
<td>103</td>
<td>124</td>
<td>145</td>
<td>250</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>P-310S</td>
<td>300–310</td>
<td>15</td>
<td>235</td>
<td>103</td>
<td>124</td>
<td>145</td>
<td>250</td>
<td>20</td>
<td>41.5</td>
</tr>
</tbody>
</table>

- ✔️ Left-handed tailstocks are available in all sizes.
- ✔️ For P-150S or larger size tailstocks, 5 sets of changeable centres are included.

**Air/Hyd. both usable Small Size Tailstock**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Centre Height H</th>
<th>H1</th>
<th>G</th>
<th>Thrust (N)</th>
<th>Air 0.5MPa</th>
<th>Hyd. 2MPa</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBA-135</td>
<td>135</td>
<td>55</td>
<td>14</td>
<td>1176</td>
<td>4733</td>
<td>20</td>
<td></td>
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<tr>
<td>PBA-150</td>
<td>150</td>
<td>70</td>
<td>16</td>
<td>1176</td>
<td>4733</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>PBA-170</td>
<td>170</td>
<td>90</td>
<td>16</td>
<td>1176</td>
<td>4733</td>
<td>24.5</td>
<td></td>
</tr>
<tr>
<td>PBA-180</td>
<td>180</td>
<td>100</td>
<td>16</td>
<td>1176</td>
<td>4733</td>
<td>25.5</td>
<td></td>
</tr>
</tbody>
</table>

- ✔️ Rotary centre is built-in.
- ✔️ MT (Morse Taper) type quill is also available. Please contact us.
- ✔️ The different length of the stroke is available. Please contact us.

**Support Table TAT**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>Braking System</th>
<th>Brake Torque (Nm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAT401</td>
<td>400</td>
<td>230</td>
<td>430</td>
<td>400</td>
<td>250</td>
<td>Hyd.</td>
<td>1470</td>
<td>140</td>
</tr>
<tr>
<td>TAT501</td>
<td>480</td>
<td>310</td>
<td>560</td>
<td>500</td>
<td>250</td>
<td>Hyd.</td>
<td>1470</td>
<td>200</td>
</tr>
</tbody>
</table>

- ✔️ Hydraulic pressure is 3.5MPa.
- ✔️ Rotary joint is available for all models

Table without T slot (-N) is standard. Table with T slot is available as an option.

**TAT401-N**

Hydraulic ports are 2 x Rc3/8. Solenoid valve and clamp/unclamp confirmation switches are not included.
NIKKEN and Mazak have a long history of collaborating on complex engineering projects and share a common ethos and passion for excellence. In the NIKKEN Innovation Centre Europe there are a range of machine tools, including a Mazak INTEGREX i-300 where applications and processes are developed, pushing the boundaries of modern High Value Manufacture to the next level. Visit the NIKKEN website or contact your local NIKKEN branch to find out more.

NIKKEN has a network of locations in eight European countries. Each sales branch has stocks for tooling and CNC Rotary Tables, and service engineers take care of the maintenance and service operation of our products. There are also distributors in the other global regions, e.g. South-East Asia, Oceania, South America and Africa.