SKT200/250TT Series

CNC Multi Axis Turning Center

With equal capacity of twin Spindle and upper & lower turret, Provides a compressed processor by full part production in single setup

- Adopting High power Built-in spindle motor
- Achieving High Productivity by upper and lower turret
- Y-axis of upper turret allowing complex turning and milling
- Synchronizing of twin spindle which stand face to face helps reducing idle time
- BMT type turret makes accuracy and power a guarantee

### ITEM

<table>
<thead>
<tr>
<th>SKT200TTSY</th>
<th>SKT250TTSY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swing Over Cross Slide</td>
<td>700mm (27.6&quot;)</td>
</tr>
<tr>
<td>Max. Turning Dia(Upper/Lower)</td>
<td>390/300mm (15.4&quot;/11.8&quot;)</td>
</tr>
<tr>
<td>Max. Turning Length</td>
<td>920mm (36.2&quot;)</td>
</tr>
<tr>
<td>Chuck Size(1st Sp.+2nd Sp.)</td>
<td>8+8</td>
</tr>
<tr>
<td>Bar Capacity</td>
<td>65mm (2.6&quot;)</td>
</tr>
</tbody>
</table>
8 Axes Structure with Accurate Control Mechanism

- Continuous Cutting of 1st & 2nd Operation in Single Setup
- Both Spindle can Cover Separate Operation at the Same Time
- Availability of Complex Cutting (Turning, Milling with Y-Axis)
- Built-in Spindle Motor (1st & 2nd Spindle)
- BMT Type Milling Turret (Heavy Duty Cutting)
- Easy to Configure a Series

### Table: SKT200/250TT Series

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Upper Turret</th>
<th>Lower Turret</th>
<th>1st Sp.</th>
<th>2nd Sp.</th>
<th>Control Axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKT200/250TT</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>4</td>
</tr>
<tr>
<td>SKT200/250TTM</td>
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<td>●</td>
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<tr>
<td>SKT200/250TTS</td>
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<td>5</td>
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<tr>
<td>SKT200/250TTSY</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<tr>
<td>SKT200/250TTMS</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>8</td>
</tr>
</tbody>
</table>

- **Upper Turret with Y-Axis**
  - Servo Control System
  - BMT65 Milling Tool Holder
  - Fastest Indexing Time: 0.2sec/face

- **2nd Spindle with C2-Axis Control**
  - Built-in Spindle Motor: 25/15kW (33.5/20HP) - 8, 26/15kW (35/20HP) - 10
  - Available: 0.001 C1-axis Control
  - Bar Capacity: 65mm (2.6) - 8, 76mm (3) - 10
  - Max. Speed: 5,000rpm - 8, 4,000rpm - 10

- **Tail Stock (TT, TTM)**
  - Programmable (Built-In Type): MT No 4, Dead Center

- **High Precision, Robust Monolithic Bed**
  The servo motor that directly drives the high-accuracy ball-screws of each axis achieves high-accuracy inverse, and an axis motor that has the highest output and torque in its class is suitably designed for high rigidity.
Y-axis Capable Precision Control Mechanism

- High Precision Built-in Spindle Motor
- C-axis capable left & right spindles are capable of turning both powerful heavy duty cutting and high speed finish cutting, and minimize heat distortion even after long hour’s operation.
- 2nd spindle among identical twin (opposite) spindles allows cutting back of work-piece simultaneously by only one chucking, which gives productivity of more than 2 machines.

Spindle Output/Torque Diagram (1st Spindle, 2nd Spindle) & Rotary Tool Spindle Output/Torque Diagram

Rapid Traverse: **24m/min**
Y-axis capable integrated process the next generation multi-tasking turning center

- High Performance Turret (Upper Turret with Y-Axis)
  - 24 tools can be installed for upper and lower turret to cut multi-tasking work-piece by only one set-up with high speed and accuracy.
  - Each turret is equipped with built-in motor to achieve high productivity and high accuracy.

- 2nd spindle among identical twin (opposite) spindles allows cutting back of work-piece simultaneously by only one chucking, which gives productivity of more than 2 machines.

- Pretension and Double Anchored Ballscrew
  - All axes with pretension heat treated large diameter ball-screws, fixed by double anchors on both ends, to provide rigidity and minimum thermal growth.
Accomplishment of **High Accuracy, Productivity Improvement by Multi-tasking Process**

### High Performance Y-Axis Function
- Wedge style Y-axis with BMT85 Turret offers all kinds of complex machining to be done in single setting. Also, compact design reduced a floor space even having a same cutting area compare with others in its class.
- Easy operation, which does not require polar interpolation or C-axis contouring reduces non-cutting time, and able to milling even at the non-centered position.
  - Y-axis stroke: 120( 60)mm ( 2.4 )
  - Y-axis rapid traverse: 12m/min (472ipm)

### Programmable Tail Stock (Built-In Type)
- Tail Spindle Type: MT No 4
- Tail Spindle: 100mm ( 3.9 )
- Tail Spindle Traverse Amount: 132mm (5.2 )

### Auto Q-setter
Q-setter can obtain tool offset automatically by touching tool, this eliminates the trial cutting, measurements, and tool offset inputs. Even a beginner can finish tool compensation within 40 seconds.

### NC Torque Limiter
NC torque limiters on X and Z axes stop and back machine immediately if the turret or tool interferes with other components. (This is not collision prevent function)

### Various Application Cycle
- Complex and special features to allow interactive operation was easy
- High frequency for use of certain procedures provided to have formal programs to create and modify the program to minimize

### Extensive Fix Form (About 60EA fix form)
- To allow easier maintenance ans operation to provide guidance functions

### Machine Guidance
- Check of tool breakage, wear by monitoring tool load
- Prevent mechanical damage and bad workpiece

### Controller
- Manual Guide
  - Among its features are machining cycle creation (Converse function) for easy Pro-gramming
- Various Application Cycle
  - Complex and special features to allow interactive operation was easy
- Extensive Fix Form (About 60EA fix form)
  - High frequency for use of certain procedures provided to have formal programs to create and modify the program to minimize

### HYUNDAI WIA Tool Monitoring
- HYUNDAI WIA Tool Monitoring
  - Check of tool breakage, wear by monitoring tool load
  - Prevent mechanical damage and bad workpiece
CNC Multi Axis Turning Center SKT200/250TT Series

### Specification

#### Working Range

**SKT200TTSY / SKT250TTSY**

| Unit:mm(in) |
|---|---|
| 11 | 10

#### Machining Examples

<table>
<thead>
<tr>
<th>Simultaneous Turning at Both Spindle</th>
<th>Synchronization for Simultaneous Truning</th>
<th>Simultaneous OD/ID Machining</th>
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<tr>
<td><img src="image1.png" alt="Simultaneous Turning at Both Spindle" /></td>
<td><img src="image2.png" alt="Synchronization for Simultaneous Truning" /></td>
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<tr>
<th>Simultaneous Milling at the Both Spindle</th>
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<th>Multi-Axis Control</th>
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<td><img src="image4.png" alt="Simultaneous Milling at the Both Spindle" /></td>
<td><img src="image5.png" alt="Simultaneous Balancing Turning" /></td>
<td><img src="image6.png" alt="Multi-Axis Control" /></td>
</tr>
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</table>

#### External Dimensions

| Unit:mm(in) |
|---|---|
| 5,390 (210.6) | 2,170 (85.4) | 3,870 (148.5) | 1,428 (56.1) | 1,072 (42.1) | 1,939 (76.4) | 1,900 (74.8) | 44.9 (1.8) | 916 (36.0) | 1,304 (51.5) | 2,290 (90.2) | 2,450 (96.5) | 1,940 (76.4) | 2,000 (78.7) | 0.5 (0.02) | 1.3 (0.05) | 740 (29.1) | 3,000 (118.1) |

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*HYUNDAI WIA*
### Tool Interference Diagram

#### Tooling System

- M type
- MS, SY type

#### TURNING TOOL
- 30° HOLE KIT
- 45° HOLE KIT
- 30° CAT 50 KIT
- 30° CAT 40 KIT

#### MILLING TOOL
- 90° CAT 50 KIT
- 90° CAT 40 KIT

#### Standard
- Taper Holder (C-Clamp) 12
- Standard Self Jaws (3"
- Tail Stock (Built-in Type) M41
- G-Clamp
- Coolant Jet (Honeycomb
- Tool Guard
- Hand Tool Kit

#### Option
- Chip Conveyor (Side)
- Chip Bucket
- Oil/Water Separator
- Bar Feeder Interface
- 2 Step Chuck Pressure Devices
- Chuck Open/Closed
- Condensation Device
- Auto Door

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### CNC Multi Axis Turning Center SKT200/250TT Series

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<td>(22,267)</td>
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<td>10,600</td>
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<td></td>
<td></td>
<td>11,000</td>
</tr>
<tr>
<td><strong>B-Axis (MT4)</strong></td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Milling Tool Speed (m/min)</strong></td>
<td>BMT65P</td>
<td>4,000</td>
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<tr>
<td><strong>Desired Pressure (kgf/cm²)</strong></td>
<td>920 (36.2)</td>
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**Controller FANUC 18i-TB**

### Specification

**Controller**

**Function**
- Axis control / Display unit: 4 axes (A-B-C-D) series
- Option: 4 axes (A-B-C-D) series
- Total number of axes: 6
- Number of axes: 6
- Control method: MP (Multi-path) control
- Maximum control: 6 axes
- Optional block skip: 2nd reference point

**Function**
- Data input/output & editing functions
- Part program storage length: 200,000 blocks (200GB)
- Part program length: 500 programs
- Memory card: 320MB (170,000 blocks)
- Part program storage: 320MB (170,000 blocks)

**Functions**
- Program input & interpolation functions
- Multi-path function
- Positioning / Linear / Circular (G00/G01/G02/G03)
- Positioning function
- Speed compensation
- Torque limit skip
- Thread cutting retract
- Thread retract
- Cylindrical interpolation
- Polar coordinate interpolation
- Dwell

**Options**
- Screen saver
- Easy operation & maintenance guide, etc.

### Notes

- Figures in inch are converted from metric values.
- Design and specifications subject to change without notice.

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**Controller FANUC 31i-A**

### Specification

**Controller**

**Function**
- Axis control / Display unit: 4 axes (A-B-C-D) series
- Option: 4 axes (A-B-C-D) series
- Total number of axes: 6
- Number of axes: 6
- Control method: MP (Multi-path) control
- Maximum control: 6 axes
- Optional block skip: 2nd reference point

**Function**
- Data input/output & editing functions
- Part program storage length: 200,000 blocks (200GB)
- Part program length: 500 programs
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