CUTEX-160
6”-8” Chucker Horizontal Turning Center
6”–8” CHUCKER HORIZONTAL TURNING CENTER

6”– 8" Horizontal Turning Center
The fast turret indexing time of 0.15sec/step and 36m/min feedrate minimize the time between each cut process, and the high-power chuck clamp guarantees precision turning every time—providing superb performance for any mass production applications.

1 Valve Body / Industrial Material / SM45C
2 Screw Shaft / Automobile / SAE11L17
3 Serration Shaft / Automobile / SM43C
4 Shaft / Industrial Material / SM45C
5 Spline Hub / Automobile / SCR420H
STANDARD IN 6”-8” HORIZONTAL TURNING CENTERS

The pinnacle of Hwacheon technology, CUTCX-160 quickly became the industry standard in small-size turning centers when it was introduced. With its compact design, rigid construction, and a wide range of options such as bar feeder and parts catcher, CUTCX-160 will be a perfect solution for all your production requirements. The machine incorporates L-HTLD, the Hwacheon Lathe Tool Load Detection system, which monitors the tool load in real time to protect your valuable assets and to provide consistent, quality results.
Extra Rigid LM Guide
CUTEX-160 incorporates highly rigid LM guides on all axes with fast feedrate of 36m/min, to cut down the time between processes, and to enhance machine precision.

High Speed, High Performance Spindle
Hwacheon’s high-performance spindle delivers predictable, quality results consistently at high speed machining.

Extra Rigid Single Frame Construction
The integrated 45-degrees torque rib frame bed is made of Meehanite cast iron to limit heat distortion; and it prevents thermal displacement during high-speed machining to guarantee accurate, consistent results.
Tough, Rapid Indexing Turret
The turret in CUTEX-160 offers an index time of 0.15sec/step and a clamping power of 4,300kgf (9,480lb).

Programmable Tailstock (Option)
The programmable tailstock in CUTEX-160 is automatically positioned by the Z-axis slide, and provides firm hold for extra-long workpieces.
USER FRIENDLY DESIGN, A WIDE RANGE OF OPTIONAL FEATURES

CUTEX-160 horizontal center is designed to be user friendly, so you can concentrate on what you do best: creating quality product—without losing your valuable time to the worries of machine failure and safety. A wide variety of performance upgrade options are available for faster, more precise machining.

Parts Catcher (Option)
The parts catcher dissipates the scrap materials left over after machining—to make your work safer and more time efficient.

Tool Presetter (Option)
The tool presetter employs a highly accurate sensor with the repeatability of 5µm or less to precisely compute for the coordinate settings in less than 15 seconds per tool. Different tool shapes and their tolerance values are entered automatically for the coordinate calculations.

Easy Maintenance
CUTEX-160 is designed with the user in mind—all machine components are easily accessible for service and maintenance.

L-HTLD: Hwacheon Lathe Tool Load Detect System (Option)
The Hwacheon Lathe Tool Load Detect System constantly detects and diagnoses the tool load under a process to prevent tool wear and damage, and to keep your machine and tools in optimal shape.

<table>
<thead>
<tr>
<th>Load Detection Limit 1</th>
<th>Load Detection Limit 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm + Feed Hold</td>
<td>Alarm + Machine Stop</td>
</tr>
<tr>
<td>When the LIMIT 1 Alarm sounds, the system holds the feed and the machine goes into standby.</td>
<td>When the LIMIT 2 Alarm sounds, the system stops the machine, and must be reset to operate it.</td>
</tr>
</tbody>
</table>
**Product Data**

*Unit: mm (inch)*

<table>
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<tbody>
<tr>
<td><strong>CUTEX-160B (STD)</strong></td>
</tr>
<tr>
<td><strong>CUTEX-160A (STD)</strong></td>
</tr>
</tbody>
</table>

**Spindle Power-Torque Diagram**

**CUTEX-160A (STD)**

- **Front**
- **Right Side**

**CUTEX-160B (STD)**

- **Side Type Chip Conveyor**
- **Back Type Chip Conveyor**
Tool Interference Diagram

CUTEX-160

STD

MC
Moving Range

**CUTEX-160A**

**STD**

- Max. Cutting Length: 300 (11.81")
- X-Axis Stroke: 170 (6.69")
- Max. Cutting Dia.: 300 (11.81")
- Tailstock Stroke: 275 (10.83")
- Z-Axis Stroke: 335 (13.19")
- Quill Stroke: 80 (3.15")
- Max. ø: 40 (1.57")
- Max. Cutting Length: 300 (11.81")

**MC**

- Max. Cutting Length: 209 (8.23")
- X-Axis Stroke: 170 (6.69")
- Max. Cutting Dia.: 260 (10.24")
- Tailstock Stroke: 275 (10.83")
- Z-Axis Stroke: 335 (13.19")
- Quill Stroke: 80 (3.15")
- Max. ø: 16 (0.63")
- Max. Cutting Length: 165 (6.5")

**CUTEX-160B**

**STD**

- Max. Cutting Length: 225 (8.86")
- X-Axis Stroke: 170 (6.69")
- Max. Cutting Dia.: 300 (11.81")
- Tailstock Stroke: 275 (10.83")
- Z-Axis Stroke: 335 (13.19")
- Quill Stroke: 80 (3.15")
- Max. ø: 40 (1.57")
- Max. Cutting Length: 125 (4.92")

**MC**

- Max. Cutting Length: 284 (11.18")
- X-Axis Stroke: 170 (6.69")
- Max. Cutting Dia.: 300 (11.81")
- Tailstock Stroke: 275 (10.83")
- Z-Axis Stroke: 335 (13.19")
- Quill Stroke: 80 (3.15")
- Max. ø: 16 (0.63")
- Max. Cutting Length: 125 (4.92")

*Unit: mm (inch)*

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Tool Interference Diagram & Moving Range
### Product Configuration

Each product can be configured to fit your application.

#### Machine Specifications

<table>
<thead>
<tr>
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<td>160A</td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
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<tr>
<td>Swing over Bed</td>
<td>mm (inch)</td>
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<tr>
<td>Max. Cutting Diameter</td>
<td>mm (inch)</td>
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<tr>
<td>Standard Cutting Diameter</td>
<td>mm (inch)</td>
</tr>
<tr>
<td>Max. Cutting Length</td>
<td>mm (inch)</td>
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<tr>
<td>Chuck Size</td>
<td>inch</td>
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<tr>
<td><strong>Spindle</strong></td>
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<tr>
<td>Type of Spindle Nose</td>
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<td>Max. Spindle Speed</td>
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<tr>
<td>Through Spindle Hole Diameter</td>
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<td>Max. Bar Size</td>
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<td>Spindle Bearing Inner Diameter</td>
<td>mm (inch)</td>
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<tr>
<td>Spindle Motor</td>
<td>kW (HP)</td>
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<tr>
<td><strong>Turret</strong></td>
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<td>Number of Tool Station</td>
<td>ea</td>
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<td>Tool Size</td>
<td>mm (inch)</td>
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<td>Turret Indexing Time</td>
<td>sec / step</td>
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<tr>
<td><strong>Axes</strong></td>
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<tr>
<td>Rapid Speed (X/Z)</td>
<td>m/min (rpm)</td>
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<tr>
<td>Max. Stroke (X/Z)</td>
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<tr>
<td>Feed Motor (X/Z)</td>
<td>kW (HP)</td>
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<tr>
<td><strong>Tailstock (Opt.)</strong></td>
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<tr>
<td>Quill Dia.</td>
<td>mm (inch)</td>
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<tr>
<td>Quill Stroke</td>
<td>mm (inch)</td>
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<td><strong>Turnmill (Opt.)</strong></td>
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<tr>
<td>Spindle Motor</td>
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</tr>
<tr>
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<td>rpm</td>
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<tr>
<td>Max. Drill/Tap Size</td>
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<td><strong>Tank Capacity</strong></td>
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<td>Hydraulic</td>
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<td>Coolant</td>
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<tr>
<td>Floor Space (LxW)</td>
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<tr>
<td>Weight</td>
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<tr>
<td><strong>NC Controller</strong></td>
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<tr>
<td>Fanuc 0i-TD</td>
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</tbody>
</table>
Machine Specifications

Standard and Optional Product Components

**Standard Accessories**

- Coolant System
- Door Interlock
- Foot Switch
- Hydraulic Chuck & Cylinder (CUTEX-160A: 6”)
- Turret with 12 Station
- Leveling Bolt & Plate
- Operation Manual & Part List
- Signal Lamp with 2 Colors(R, G)
- Set of Soft Jaws

**Optional Accessories**

- Air Blower
- Air Gun
- Auto Door
- Bar Feeder Interface
- Chip Conveyor, Side Type / Back Type
- Coolant Gun
- Chuck Pressure Check Switch
- Chuck Pressure Compensation
- Chuck Dual Pressure System
- Set of Hard Jaw
- HTLD (Lathe-Hwacheon Tool Load Detect)
- NC Cooler
- High Pressure Pump, 6 Bar/15Bar
- Oil Skimmer

**TC Specifications [Fanuc 0i-TD]**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>SPECIFICATION</th>
<th>STD</th>
<th>MC</th>
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<tbody>
<tr>
<td>Controlled axis (C1 axis)</td>
<td>2-Axes</td>
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<tr>
<td>Simultaneously controlled axes</td>
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<td>S</td>
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<td>Inch/metric conversion</td>
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<td>Stored stroke check</td>
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<td>Chamfering on/off</td>
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<td>Backlash compensation</td>
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<td>Interpolation function</td>
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<tr>
<td>Positioning</td>
<td>G00</td>
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<tr>
<td>Linear interpolation</td>
<td>G01</td>
<td>S</td>
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<tr>
<td>Circular interpolation</td>
<td>G02, G03</td>
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<tr>
<td>Dwell (Per seconds)</td>
<td>G04</td>
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<td>Polar coordinate interpolation</td>
<td>G12.1/G13.1</td>
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<td>Cylindrical interpolation</td>
<td>G17</td>
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<td>Threading</td>
<td>G32</td>
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<td>Variable lead threading</td>
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<td>Reference position return 1st</td>
<td>G28</td>
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<tr>
<td>Reference position return check</td>
<td>G27</td>
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<tr>
<td>2,3,4th reference position return</td>
<td>G30</td>
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<td>Arbitrary speed threading</td>
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<tr>
<td>Feed function</td>
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<tr>
<td>Rapid traverse override</td>
<td>F0, F25, F50, F100</td>
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<tr>
<td>Feed per minute (mm/min)</td>
<td>G98</td>
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<td>Feed per revolution (mm/rev)</td>
<td>G99</td>
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<tr>
<td>Rapid traverse bell-shaped acceleration/deceleration</td>
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<tr>
<td>Feedrate override</td>
<td>0-150 %</td>
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<tr>
<td>Jog feed override</td>
<td>0-1,260 mm/min</td>
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<tr>
<td>Tool function / compensation</td>
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<tr>
<td>Tool function</td>
<td>T4-digits</td>
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<tr>
<td>Tool offset pairs</td>
<td>64pairs</td>
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<tr>
<td>Tool nose radius compensation</td>
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<tr>
<td>Tool geometry/wear compensation</td>
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</tr>
<tr>
<td>Tool life management</td>
<td>O</td>
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<tr>
<td>Automatic tool offset</td>
<td>Tool presetter option is required</td>
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<td>Direct input tool offset value measured</td>
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<tr>
<td>Tape code</td>
<td>EIA-RS244 / ISO840</td>
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<td></td>
</tr>
</tbody>
</table>

**Program Input**

- Optional block skip
- Program number
- Sequence number
- Decimal point programming
- Coordinate system setting
- Coordinate system shift
- Workpiece coordinate system
- Workpiece coordinate system preset
- Direct drawing dimension programming
- G code system
- Programmable data input
- Sub program call
- Custom macro B
- Addition of custom macro -common variables
- Canned cycles
- Multiple repetitive cycle
- Multiple repetitive cycle II
- Canned cycles for drilling
- Small-hole peck drilling cycle
- Manual Guide i

**Spindle speed function**

- Constant surface speed control
- Spindle override
- Spindle orientation
- Rigid tapping
- Spindle synchronous control

**Spindle function**

- G96 / G97
- 50-120 %
- O

**Feed function**

- Jog feed override
- Feed per minute (mm/min)
- Feed per revolution (mm/rev)
- Rapid traverse bell-shaped acceleration/deceleration
- Feedrate override
- Jog feed override

**Tool function / compensation**

- Tool function
- Tool offset pairs
- Tool nose radius compensation
- Tool geometry/wear compensation
- Tool life management
- Automatic tool offset
- Direct input tool offset value measured
- Tape code

**Data input/output**

- Reader/Puncher interface CH1
- Reader/Puncher interface CH2
- Ethernet interface
- Memory card interface
- USB card interface

**Language**

- English, German, French, Italian, Spanish, Spanish
- English, German, French, Italian, Spanish, Swedish, Russian

**Operation**

- Clock function
- Self-diagnosis function
- Alarm history display
- Help function
- Run hour and parts count display
- Graphic function

**Multi-language display**

- English, German, French, Italian, Spanish, Spanish

**Machine Specifications**

- Italian, Chinese, Spanish, English, German, French, Swedish, Russian, Polish, Hungarian

**Optional Accessories**

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**Language**

- Italian, Chinese, Spanish, English, German, French, Swedish, Russian
The product design and specifications may change without prior notice. Read the operation manual carefully and thoroughly before operating the product, and always follow the safety instructions and warnings labels attached on the surfaces of the machines.

Please call us for product inquiries.

www.hwacheon.com