ROLL CROWN GRINDING

The operator may specify crown height and length of the roll as well as the desired curve through the program commands. Then the computer will calculate the continuous feed path of the grinding wheel. As a result, smooth crown surface can be quickly accomplished. To meet working requirements, various curve types can be extended, such as sine curve, cosine curve, eye curve, etc.

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WORLD CLASS

HEAVY DUTY CNC CYLINDRICAL & ROLL GRINDERS

CINCINNATI MACHINES

ISO-9001
RIGOROUS THOROUGH QUALITY CONTROL TO ISO 9001-2000 QUALITY STANDARDS INSURES CONSISTENT PRECISION PERFORMANCE

CONSISTENT PRECISION QUALITY PERFORMANCE ASSURED

State-of-the-Art Precision Leveling
Precision Laser Alignment
World Class Heavy-Duty Precision Mehanite Castings
Grinding Accuracies 0.000040" - 0.000080" (0.001 - 0.002 mm)
PT Series Heavy-Duty NC Cylindrical Grinder

PLC CONTROL
EASY TO OPERATE

The PT Series Cylindrical / Roll Grinder is designed to meet the requirements of high accuracy and extra-fine finishing of barrel and shaft grinding. Equipped with a PLC control, the PT series permits the operator to learn operations quickly.

MODEL IDENTIFICATION

PT 85 - 40L - S

- Traveling Table Type (PLC Module)
- Max Swing PT40: 6400 mm
  PT60: 8600 mm
  PT85: 8950 mm
- Distance Between Centers: 40L: 4000 mm
- S: Standard Roller
- H: Heavy Roller

General Purpose Small and Medium Sized Grinder

PT-85-30L shown with optional Full Enclosure

<table>
<thead>
<tr>
<th>MODEL</th>
<th>UNIT</th>
<th>PT40</th>
<th>PT60</th>
<th>PT85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. swing over bed</td>
<td>mm</td>
<td>400</td>
<td>800</td>
<td>880</td>
</tr>
<tr>
<td>Max. distance between centers</td>
<td>M</td>
<td>1.0/1.5/2.0/2.5/3.0</td>
<td>1.0/1.5/2.0/2.5/3.5/4.0</td>
<td>1.5/2.0/2.5/3.0/3.5/4.0/5.0/6.0</td>
</tr>
<tr>
<td>Max. weight of workpiece (with center)</td>
<td>KG</td>
<td>350</td>
<td>1200</td>
<td>2400</td>
</tr>
<tr>
<td>Max. weight of workpiece (with steady rest)</td>
<td>KG</td>
<td>600</td>
<td>3000</td>
<td>4000</td>
</tr>
<tr>
<td>Max. diameter of grinding</td>
<td>mm</td>
<td>8400</td>
<td>8000</td>
<td>8950</td>
</tr>
<tr>
<td>Grinding wheel speed (variable)</td>
<td>rpm</td>
<td>600~1600</td>
<td>500~1100</td>
<td>500~1300</td>
</tr>
<tr>
<td>Spindle speed (variable)</td>
<td>rpm</td>
<td>20~600</td>
<td>10~100</td>
<td>9~80</td>
</tr>
<tr>
<td>Spindle load (single side)</td>
<td>KG/10mm</td>
<td>50 (150)</td>
<td>100 (150)</td>
<td>200 (150)</td>
</tr>
<tr>
<td>Max. right / left travel</td>
<td>mm</td>
<td>1100~3100</td>
<td>1200~4200</td>
<td>1200~4200</td>
</tr>
</tbody>
</table>

NC CONTROL
- The NC control in combination with PLC interface provides convenient operation at a satisfactory price.

NON-SWIVEL WHEELHEAD
- The wheel spindle is supported by a combination of hydrodynamic and hydrostatic bearings for increased stability and feed accuracy.
- The wheel running speed is variable.

WORKHEAD
- Non-swivel structure helps upgrade rigidity.
- The workhead spindle is driven by belts to eliminate chattering issues. Crankshaft Grinder
GENERAL PURPOSE SMALL TO MEDIUM SIZE CNC OD/(ID) GRINDER

RIGID WHEELHEAD
- The wheel spindle is supported by a combination of hydrodynamic and hydrostatic bearings for increased stability and accuracy.
- The grinding wheel feed is driven by a servomotor.

HEADSTOCK
- Non-swivel structure helps upgrade rigidity.
- The workhead spindle is driven by belts to insure smooth precision grinds.

TAILSTOCK
- A wheel dresser is fitted on the tailstock for dressing wheel according to programmable setting.
- The tailstock features air floating for reducing friction when it is moved.

EASY CONVERSION FOR I.D / O.D GRINDING SWIVELING WHEELHEAD
- Swiveling cylindrical grinding to internal grinding is quickly accomplished by simply swiveling the wheelhead.
- The programmable workpiece rotating to improve the grinding efficiency and the concentricity between the external & internal grinding.

MODEL IDENTIFICATION

TT85-50L-C2-S-B

<table>
<thead>
<tr>
<th>MODEL</th>
<th>UNIT</th>
<th>TT40</th>
<th>TT80</th>
<th>TT85</th>
<th>TT100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Swing Over Bed (mm)</td>
<td>400 (15.7)</td>
<td>500 (20)</td>
<td>550 (21.7)</td>
<td>550 (21.7)</td>
<td>1000 (39.4)</td>
</tr>
<tr>
<td>Max. Distance Between Centers (mm)</td>
<td>1, 2, 3</td>
<td>1, 3, 4 6</td>
<td>2, 3, 4 8</td>
<td>2, 3, 4 8</td>
<td>2, 3, 4 8</td>
</tr>
<tr>
<td>Max. Weight of Workpiece (Max Center)</td>
<td>S type: 380</td>
<td>S type: 1200</td>
<td>S type: 2400</td>
<td>S type: 2400</td>
<td>S type: 2400</td>
</tr>
<tr>
<td>Max. Weight of Workpiece (Max Steady Rest)</td>
<td>H type: 800</td>
<td>H type: 3000</td>
<td>H type: 4000</td>
<td>H type: 4000</td>
<td>H type: 6000</td>
</tr>
<tr>
<td>Max. Diameter of Crown (mm)</td>
<td>C1: type: 0 / C2: type: 05 ~ 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FANUC CONTROL

SIEMENS CONTROL
GENERAL PURPOSE SMALL TO MEDIUM SIZE CNC OD/(ID) GRINDER
(continued)

Advanced Features to Create the Ultimate Accuracy
Your No. 1 Choice in Small and Medium Workpiece Grinding

The TT Series CNC Cylindrical/Roll Grinder is user-friendly.

The TT Series is very easy to operate. Simply set the parameters and the machine will perform automatic grinding until the desired accuracy is achieved.

RIGID WHEELHEAD
- The wheel spindle is supported by a combination of hydrodynamic and hydrostatic bearings for increased stability and smooth operation.
- The grinding wheel feed is driven by a servo motor.

HEADSTOCK
- Non-swivel structure helps ensure rigidity.
- The headstock spindle is driven by belts to ensure smooth precision grinds.

TAILSTOCK
- The grinding wheel dresser is fitted to the tailstock to provide maximum operator convenience.

CNC CONTROL
- The tailstock features air flotation assist when moving it.

GRINDING ACCURACY
- Roundness: 0.001 - 0.003 mm (0.00004" - 0.00011"
- Concentricity: 0.001 - 0.003 mm (0.00004" - 0.00011"
- Cylindricity: 0.001 - 0.003 mm/m (0.00004" - 0.00011"
- Profile accuracy: ±0.002 - 0.005 mm/m (0.00008" - 0.00019"
- Surface roughness: Ra ≤0.3 μm

Hydrodynamic and Hydrostatic Spindle Bearings
Swing Over Bed
1000mm (39.3”) - 3000mm (118”)

DISTANCE BETWEEN CENTERS: 16M (630”)
DESIGNED FOR EXTRA LARGE ROLL GRINDING

The TH Series Heavy-Duty CNC Roll Grinder is a true traditional travelling-head style machine that is unexcelled in the world of roll grinding. Whether it be steel, paper, rubber, aluminum, or other exotic materials, Cincinnati Machines can provide the style and size machine that you require. And we can provide machines with grinding capacities from 1000mm (39.3”) up to 3000mm (118”) diameter grinding capacity. 16M (630”) between centers, and weight capacities exceeding 210 tons (460,000 lbs).

Each Cincinnati Machines CNC Heavy-Duty Cylindrical or Roll Grinder is backed up by over 50 years, and 4000 grinding machines experience. These machines are used in steel, paper, rubber, and aluminum mills all over the world.

EXCELLENCE - PERFORMANCE - QUALITY
PRECISION - PRODUCTIVITY

MODEL IDENTIFICATION
TH 200 - 15 L

GRINDING ACCURACY
• Roundness: 0.002 ~ 0.005 mm (0.00004” ~ 0.00019”)
• Concentricity: 0.002 ~ 0.005 mm (0.00004” ~ 0.00019”)
• Cylindricity: 0.002 ~ 0.005 mm/m (0.00004” ~ 0.00019”)
• Profile accuracy: ±0.002~0.005 mm/m (0.00004” ~ 0.00019”)
• Surface roughness: Ra ≤0.3 μm

APPLICABLE INDUSTRIES
• Steel industry
• Roll machining industry
• Manufacturing and machining industry
• Paper-Making Industry

State of the Art Technology
BETWEEN CENTERS GRINDING

ESPECIALLY APPLICABLE FOR ROLL MANUFACTURING

Swing Over Bed

\[ \varnothing 1000 \sim \varnothing 3000 \text{mm} \]

DISTANCE BETWEEN CENTERS: 16M

MACHINE FEATURES
- Specially designed between centers grinding construction allows heavy roll to be held by two centers.
- The new roll body, neck, and transmission parts can be ground simultaneously with just one setup.
- Custom designs are available.
- Ruggedly constructed throughout. High efficiency and accuracy.

APPLICABLE INDUSTRIES
- Roll manufacturing industry

State of the Art Technology

WORLD CLASS ROLL GRINDING BETWEEN CENTERS
CNC Orbital Crankshaft Grinder

STATE-OF-THE-ART CRANKSHAFT GRINDING TECHNOLOGY

The THOC Series Heavy-Duty CNC Crankshaft Grinder is a true Orbital grinder that brings together 50+ years of grinder experience and state-of-the-art control software technology to allow unequaled crankshaft grinding. The large vehicle, ship, and locomotive industries will benefit from the capabilities of the THOC Crankshaft Grinder.

EXCELLENCE - PERFORMANCE - QUALITY
PRECISION - PRODUCTIVITY

MACHINING CAPACITY:
- Max. Swing diameter: Ø750 mm
- Max. Length of workpiece: 6,000 mm
- Grinding wheel dia: Ø1,400 mm
- Max. Weight of workpiece: 6,000 kg

WORLD CLASS CRANKSHAFT GRINDING