



SUPERTEC MACHINERY INC.

No. 6, Keya 2nd Rd., Daya Township, Taichung County, 42881

Taiwan R. O. C.

TEL : 04 - 2567 - 6767

FAX : 04 - 2568 - 2727

**Subject : Invitation of 2009 Taipei International Machine TOols Show (TIMTOS)
Introduction of Supertec New Machines and Improvements**

Description : Firstly, thank you for your cooperation with Supertec in these years. Supertec sincerely invite you to visit our booth from **2nd to 7th of March 2009** in TIMTOS exhibition. **Our booth number is i-416, allocated in the Nankang Exhibition Center.** We are going to demonstrate our new machines and share grinding experiences with you.

Our machines might not be perfect in the old time, but many customers gave us advices to drive us toward perfections. Supertec thanks you for your advices and suggestions. Hereafter, we list some improvements for your reference:

1. Positive-Pressure device of Work Head improves the MTBF of the work head spindle bearings by preventing the intrusion of coolant.
2. Air-cushion, anti-rust screw and effort-saving mechanism are applied to facilitate the angle adjustment operation of the work table.
3. Automatically speed-shifting function of CNC machines, keeps the peripheral speed of the grinding wheel in constant. Therefore the cutting capacity of wheel can be ensured during the grinding operation.
4. The coolant devices on both work head and tailstock can reduce the heat-transformation of the center holes.
5. Air- cushions of work head and tailstock facilitate workpiece setup operations.
6. New design of the X-axis saddle cover prevents the guide ways of X-axis from the entering of the coolant and chips to avoid damage.
7. Positive-Pressure device ensures the accuracy of X-axis linear scale will not be affected by the splash of coolant.
8. Cabinet seal design prevents electronic components from damage due to moisture from outside environment.
9. etc.

During TIMTOS2009, Supertec is going to show you the Grindmaster 80, Universal Cylindrical Grinder GU-650, Square Surface Grinder... etc. Features introductions please refer to attachments for detailed information. Looking forward to seeing you in TIMTOS 2009.

Sincerely yours

SUPERTEC MACHINERY INC.

ETERNITY 、 INNOVATION 、 GROWTH 、 EXCELLENCE

Attachment 1: Features of Grindmaster 45/80, 3-axis Complex CNC Grinder

FEATURES :

1. 3-axis Independent Control: X-axis (Work), Y-axis (ID) and Z-axis (ID/OD) are controlled by CNC controller independently.

2. Multiple Combinations of Axes:

According to Customers requirements to choose best combination of axes.

I/I Type: ID wheel head for Y-axis and ID wheel head for Z-axis

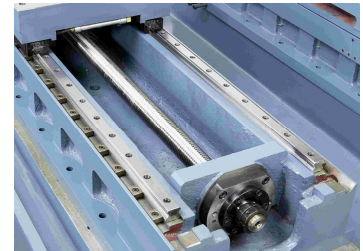
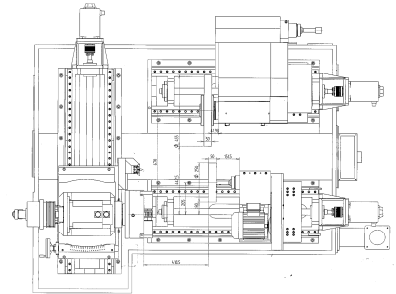
I/O Type: OD wheel head for Y-axis and ID wheel head for Z-axis

I/I/O Type: ID/OD swivel wheel head for Y-axis and ID wheel head for Z-axis

These combinations can allow you to perform multiple complex grinding operations, such as OD/ID/Shoulder/End Face/Taper grinding etc., with only one setup. High flexibility, time-saving, high accuracy performances are some of the most stunning features of Grindmaster series.

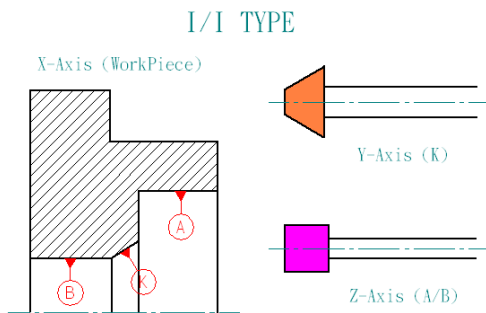
3. Roller Type Linear Guide Ways: All 3 axes apply roller type linear guide ways with high rigidity, super-high loading, high accuracy, low friction and noise-free etc.

4. Special Coolant System design: Coolant flow through the whole machine via nozzle system during the grinding operation. Extra heat will be taken away to prevent transformation, ensure the accuracy performance. Grinding chips will be washed away by the current to keep the cleanness of the machine.

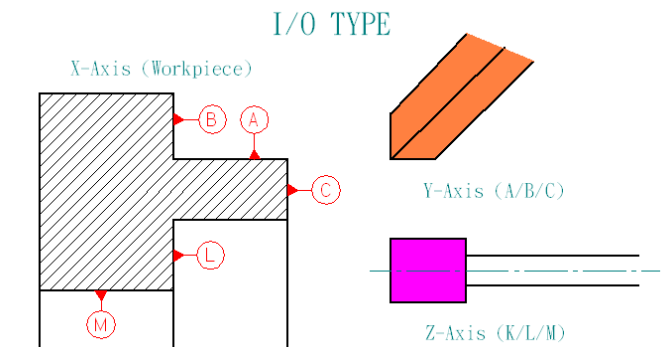


GRINDING APPLICATIONS :

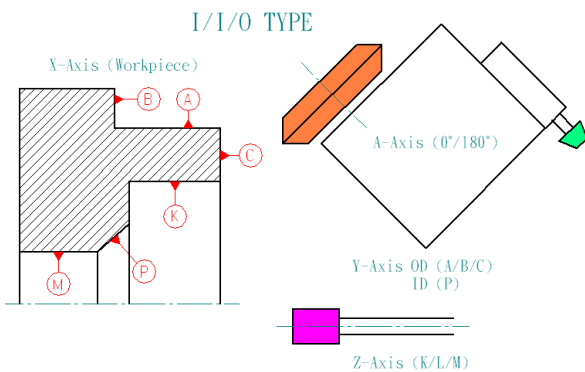
I/I Type



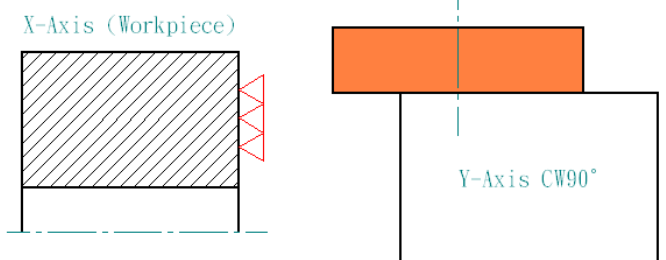
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I/I/O Type



I/O Type



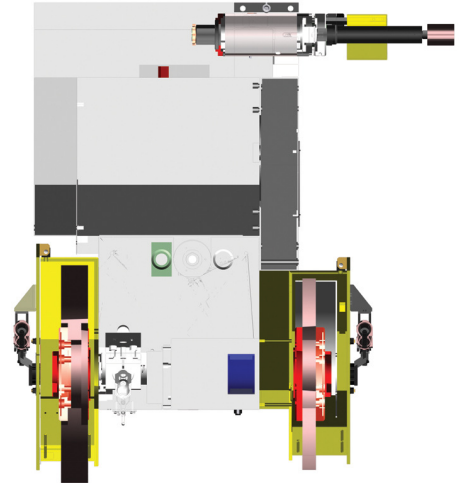
Attachment 2: Features of Universal Cylindrical CNC Series (GU Series) and M Head

FEATURES:

- 1. M Head:** GU series use the M head (Automatic B-axis) with 2 OD wheels and 1 ID wheel, for performing complex grinding operations, such as OD / Taper / ID grinding operations, under one setup to reduce cycle time, operation costs, and get better accuracy performances.

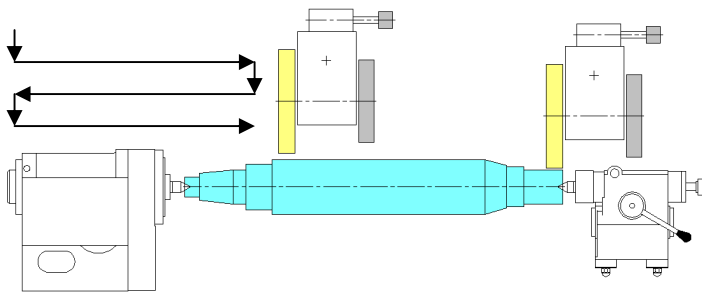
- 1-1. CNC controlled M head (B-axis) with servo motor output 1.2 kw
- 1-2. B-axis swivel range from 35° CCW to 190° CW
- 1-3. OD spindle motor output 5HP, equipped with CE certified safety cover
- 1-4. OD wheel size (LHS) Ø355 x 50 x Ø127 mm (Opt. Ø405)
- 1-5. OD wheel size (RHS) Ø305 x 25 x Ø127 mm
- 1-6. CNC program controlled wheel rotation shifting mechanism (15 levels), ensure cutting capacity

- 2. Special Coolant System design:** Coolant flow through the whole machine via nozzle system during the grinding operation. Extra heat will be taken away to prevent transformation, ensure the accuracy performance. Grinding chips will be washed away by the current to keep the cleanness of the machine.

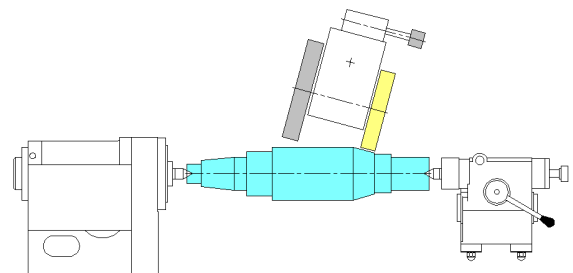


GRINDING APPLICATIONS :

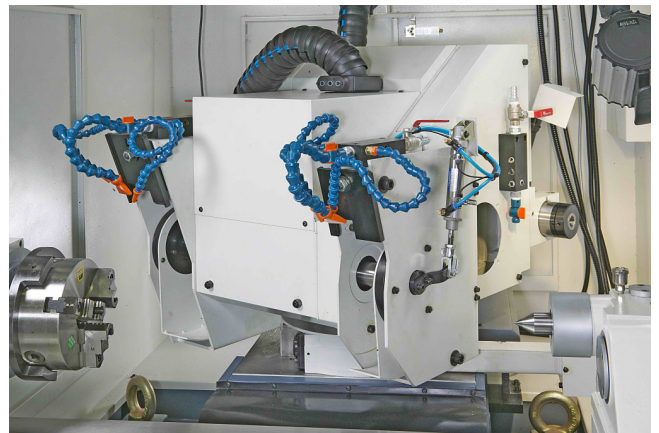
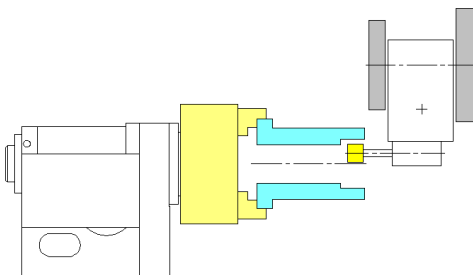
- 1. Long-shaft OD Grinding :** Apply LHS wheel for plunge or traverse grinding operations



- 2. Long-shaft OD Taper Grinding :** Swift wheel head angle according to the taper, apply RHS wheel for taper grinding operation



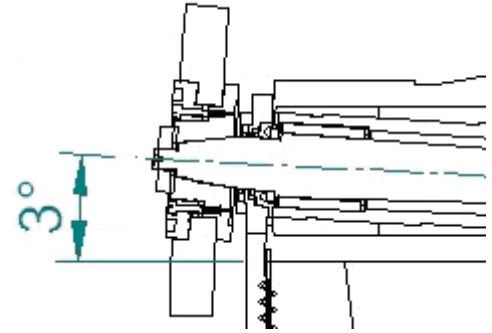
- 3. ID Grinding :** Apply chuck for clamping; hang up the tailstock with hanger inside the machine. Swivel wheel head 180°, apply ID grinding wheel for ID grinding.



Attachment 3: Features of SSG Surface CNC Grinder Series

FEATURES:

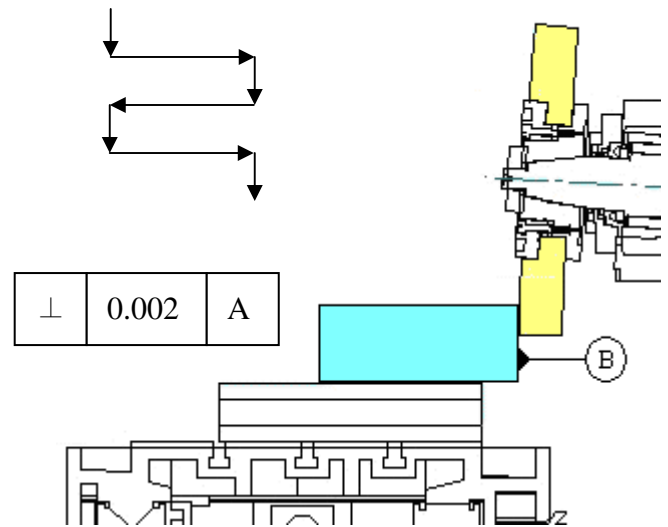
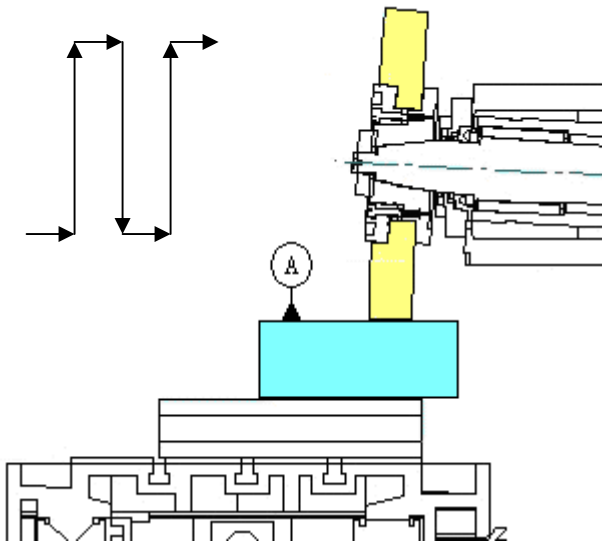
1. **3°-upward elevated wheel head design** : SSG CNC series can perform ordinary surface grinding and side grinding operations under single setup. This operation can ensure the perpendicularity accuracy within 0.002 mm ($\perp \leq 2\mu\text{m}$).
2. **2 axes / 3 axes CNC control** : According to customer requirements to produce 2 axes (Y/Z) or 3 axes (X/Y/Z) control CNC machine
3. **Multiple Operational Accessories** : Such as Diamond Roller Dressing Device, Rotary Electro-Magnetic Chuck, Full-Enclosure Cover... etc.



GRINDING APPLICATIONS :

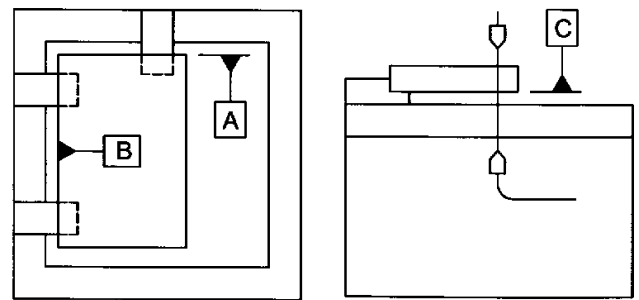
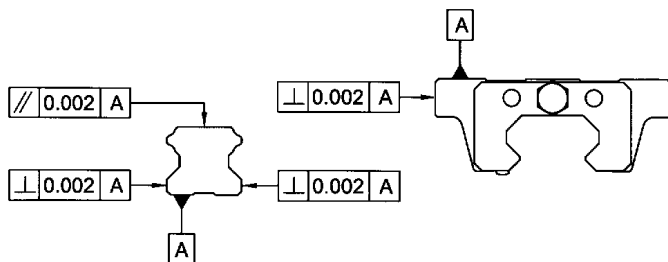
OP I : Grinding operation for Horizontal surface A

OP II : Grinding operation for Vertical surface B



Example 1 : Grinding operation of Linear Guide Way/Block

Example 2 : Grinding operation of the mold industries



A ⊥ B ⊥ C