



Guan-Yu Machinery Co.,Ltd.

CNC EXTERNAL & INTERNAL GRINDER
TECHNICAL SPECIFICATION

MODEL: KG-500LE



GUAN-YU MACHINERY CO., LTD

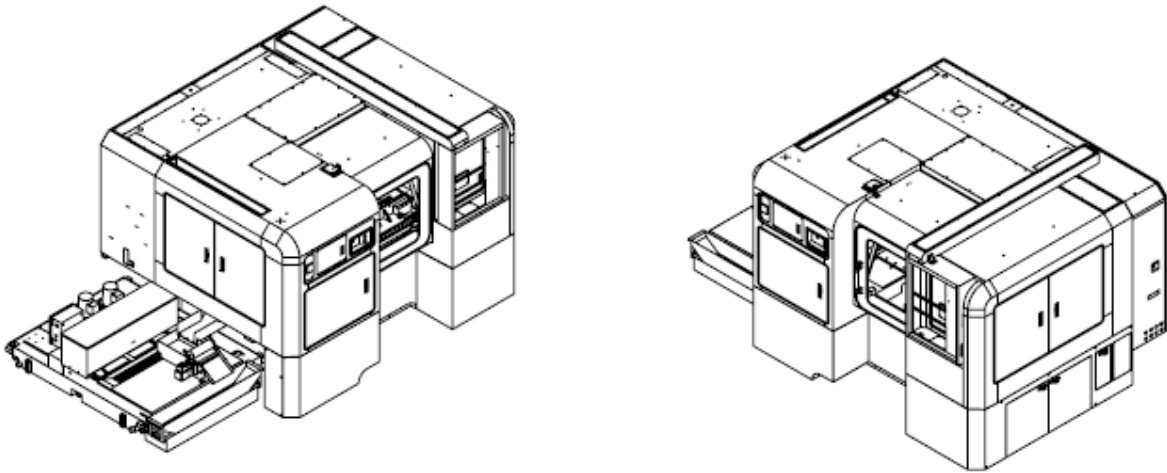
No.96, Ln. 191, Daming Rd., Shengang Dist., Taichung City 429, Taiwan

T / +886-4-2524 9998 F / +886-4-2524 7698

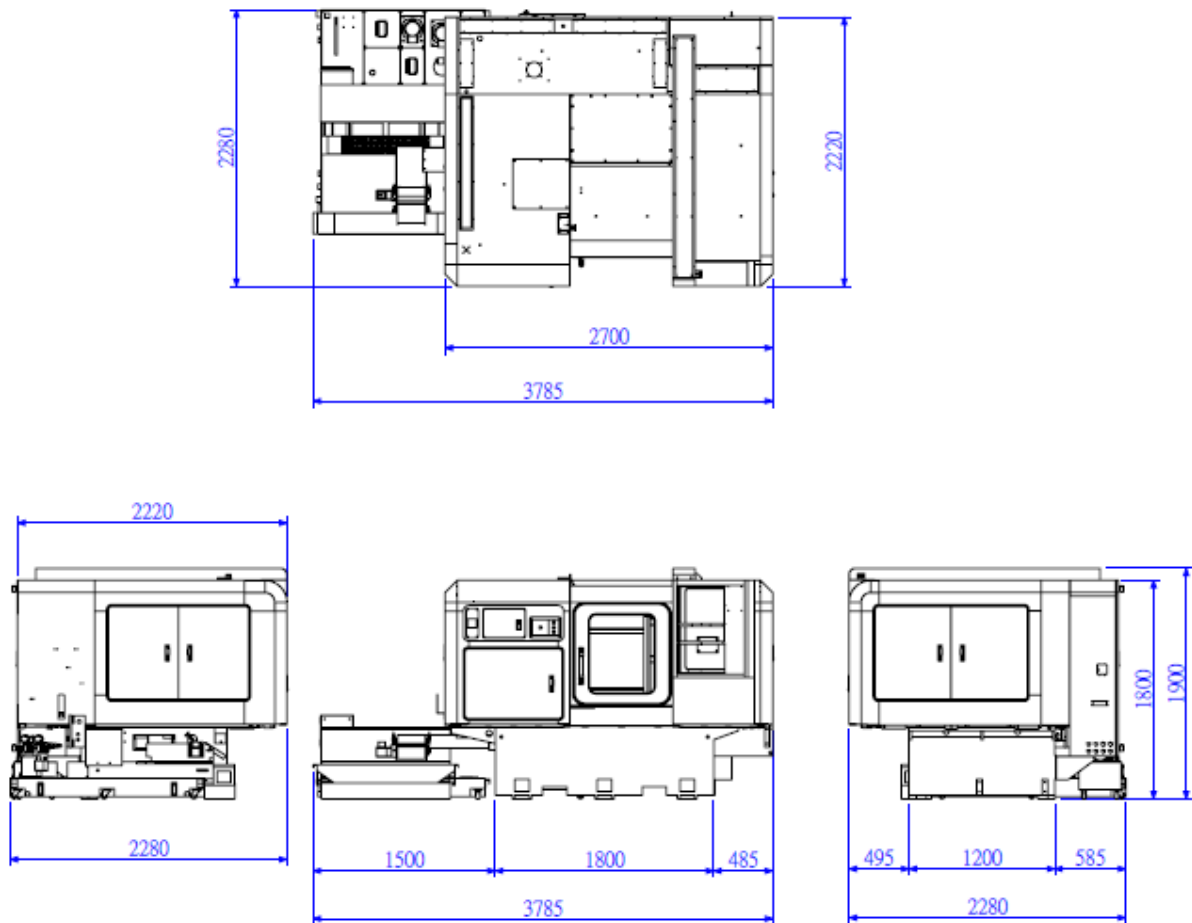
E-mail / guan.yu168@msa.hinet.net

www.grinder-grima.com

Machine Layout



*Model : KG-500LE



Machine Specification

| Specification | | |
|---|-------|------------------------|
| Grinding dia range | mm | 4-320 |
| Max grinding depth | mm | 200 |
| Max swing range of workpiece | mm | 480 |
| Swing range within the waterproof cover | mm | 300 |
| X/Y/Z feedrate | M/min | 10 |
| X axis travel | mm | 750 |
| Y axis travel | mm | 320+150 |
| Z axis travel | mm | 320+200 |
| Controller | | Fanuc 0iTF |
| Spindle spec | | A2-6/1000RPM |
| Workhead spindle swiveling angle | Deg | -5°~+30 ° |
| Y axis OD spindle | | D125 2,000 rpm (7.5HP) |
| OD wheel spec | mm | 405x50x127mm |
| Z axis speed (belt type) | RPM | 10000 |
| Z2 axis speed (belt type) - type B | RPM | 30000 |
| Hydraulic system | | |
| Oil tank capacity | L | 30 |
| Cooling system | | |
| Coolant tank capacity | L | 250 |
| Motor | | |
| Hydraulic pump | kw | 0.75 |
| Coolant pump motor | kw | 0.37 |
| X/Y/Z servo motor | kw | 1.6/1.6/1.6 |
| Grinding wheel motor | kw | Y:5.5 / Z:3.7 |
| Spindle motor | kw | 2.2 |
| Other item | | |
| Capacity of auto lubrication pump | L | 4 |
| Machine weight | kg | 5000/5300kgs |
| Machine Dimensions | mm | 3200 x 2300 x 1950 |

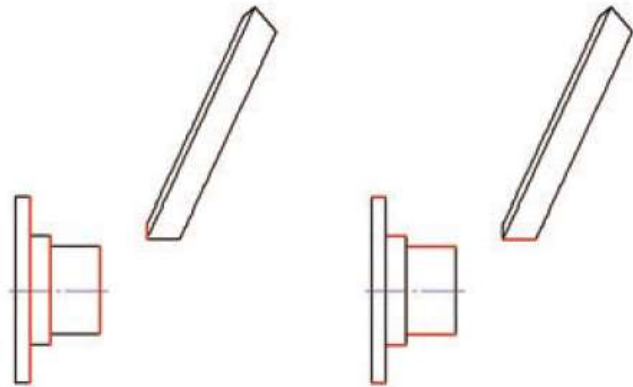
Machine Feature



Base structure apply to FC30 cast iron, with tempered and stress released to guarantee machining accuracy and stability.



With high rigidity A2-6 taper spindle. This spindle provides excellent radial rigidity, stable thermal, minimum heat deformation, and high dynamic accuracy to guarantee absolutely grinding quality. Apply with 45mm width linear scale for heavy duty loading capacity.



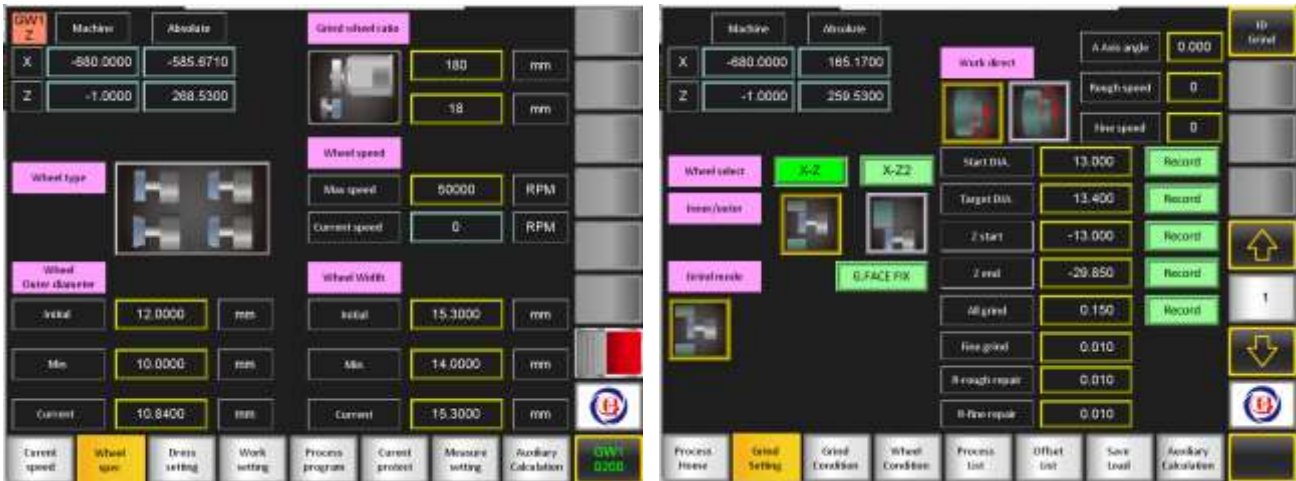
Y axis applies to sleeve type rigid grinding spindle with $\text{Ø}405\text{mm}$ grinding wheel highly increase end face, OD grinding efficiency. (wheel angle 25°)



Independent choice of Z axis and Z2 axis. Standard with BELT type grinding spindle for easy change and maintenance. Speed available from 10000~50000rpm upon workpiece requirement. Multiples spindles enhance high accuracy and complicated Workpieces application. (Built-in available as option)



Lathe module upon request, which allows to decrease stock removal quickly for time and wheel consuming.



Conversational Operation Interface that eliminates the need for programming. The interface incorporates the company's decades of grinding experience to facilitate easy grinding operations.

Machine Standard Accessories

| | |
|--|---|
| 1. Full splash guard | 1 |
| 2. Telescopic guard | 1 |
| 3. Auto lubrication system | 1 |
| 4. Paper filter & magnetic separator | 1 |
| 5. LED working lamp | 1 |
| 6. LED Tri color alarm lamp | 1 |
| 7. Leveling pad & screw | 1 |
| 8. Tool box with tools | 1 |
| 9. Spindle coolant | 1 |
| 10 Coolant spray gun | 1 |
| 11 Diamond pen with dressing seat | 2 |
| 12 Forming diamond pen with dressing seat | 1 |
| 13 Hydraulic cylinder | 1 |
| 14 Hydraulic chuck 8" | 1 |
| 15. Transformer for 380V/50Hz/3Ph | 1 |
| 16. X axis linear scale (Fagor) | 1 |
| 17. OD grinding wheel w/flange | 1 |
| 18. Balancing stand w/arbor | 1 |
| 19. Air conditioner for electrical cabinet | 1 |

Machine Key Parts Brand

| Description | Brand | Origins |
|--|---------------|---------|
| Controller | Fanuc | Japan |
| Workhead spindle | Waylong | Taiwan |
| Spindle bearing | NSK | Japan |
| Internal grinding spindle | KCG PRECISION | Taiwan |
| X axes linear scale 45type (Roller type) | NSK or THK | Japan |
| X axes ball screw ø32 C1 | NSK or THK | Japan |
| Z axes linear scale 35type (Roller type) | NSK or THK | Japan |
| Z axes ball screw ø32 C3 | NSK or THK | Japan |
| Y axes linear scale 35type (Roller type) | NSK or THK | Japan |
| Y axes ball screw ø32 C3 | NSK or THK | Japan |
| Rotary cylinder | Auto Grip | Taiwan |
| Hydraulic chuck | Chandox | Taiwan |
| X axis linear scale | Fagor | Spain |
| Workhead spindle servo motor | YASKAWA | Japan |
| X Axes servo motor | Fanuc | Japan |
| Z Axes servo motor | Fanuc | Japan |
| Y Axes servo motor | Fanuc | Japan |
| Cylindrical grinding wheel motor | Siemens | Germany |
| Internal Grinding wheel motor | SOLPOWER | Taiwan |
| Grinding wheel inverter | Delta | Taiwan |

Brand will change upon delivery

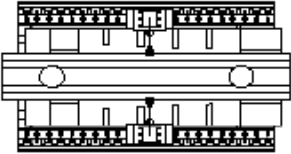
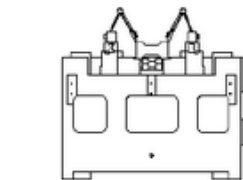
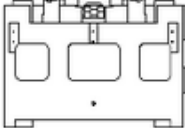
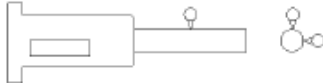
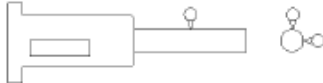


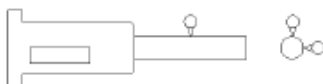
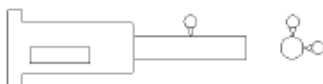
Optional Accessories


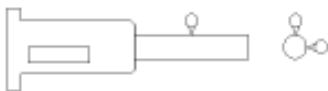


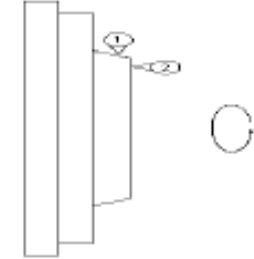

1. Oil mist collector
2. Spare internal grinding spindle 8000, 20000, 50000rpm
3. Rotary dressing attachment (w/o diamond roller)
4. Diamond roller
5. Lathe module seat
6. Oil chiller for coolant tank

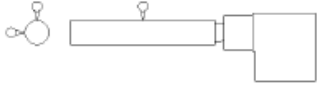


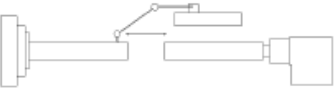
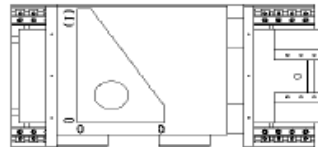
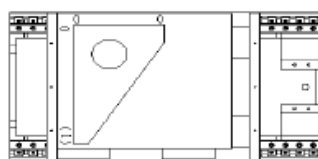
Machine Accuracy List

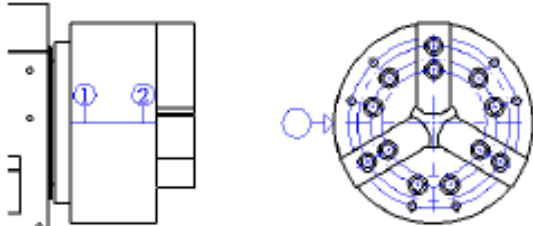
Assembling accuracy check list

Unit : mm

| Item | Inspection Item | | Measuring Point | Test bar length | Inspection result | Inspector |
|------|---------------------|-------------|---|-----------------|-------------------|-----------|
| | | | | Tolerance | | |
| 1 | X Axis linear way | Parallelism |  | | | |
| | | | | 0.005mm/M | | |
| 2 | Y Axis linear way | Parallelism |  | | | |
| | | | | 0.005mm/M | | |
| 3 | Z Axis linear way | Parallelism |  | | | |
| | | | | 0.005mm/M | | |
| 4 | X Axis Motor base | Horizontal |  | Test bar 150 | | |
| | | | | +0.005mm | | |
| 5 | X Axis Motor base | Vertical |  | Test bar 150 | | |
| | | | | 0.005mm | | |
| 6 | X axis bearing base | Horizontal |  | Test bar 150 | | |
| | | | | +0.005mm | | |
| 7 | X axis bearing base | Vertical |  | Test bar 150 | | |
| | | | | 0.005mm | | |
| 8 | Y axis Motor base | Horizontal |  | Test bar 150 | | |
| | | | | +0.005mm | | |
| 9 | Y axis Motor base | Vertical |  | Test bar 150 | | |
| | | | | 0.005mm | | |

| | | | | | | |
|----|---|------------|---|--------------|--|--|
| 10 | Y axis bearing base | Horizontal |  | Test bar 150 | | |
| | | | | +0.005mm | | |
| 11 | | Vertical | | Test bar 150 | | |
| | | | | 0.005mm | | |
| 12 | Z axis motor base | Horizontal |  | Test bar 150 | | |
| | | | | +0.005mm | | |
| 13 | | Vertical | | Test bar 150 | | |
| | | | | 0.005mm | | |
| 14 | Z axis bearing base | Horizontal |  | Test bar 150 | | |
| | | | | +0.005mm | | |
| 15 | | Vertical | | Test bar 150 | | |
| | | | | 0.005mm | | |
| 16 | Workhead spindle | Horizontal |  | Test bar 300 | | |
| | | | | 0.02mm | | |
| 17 | | Vertical | | Test bar 300 | | |
| | | | | 0.01mm | | |
| 18 | Runout and flatness of bore on workhead spindle | |  | 1 (Runout) | | |
| | | | | 0.005mm | | |
| | | | | 2 (Flatness) | | |
| | | | | 0.005mm | | |
| 19 | Test bar on Y Axis grinding spindle | Horizontal |  | Test bar 150 | | |
| | | | | 0.005mm | | |
| 20 | | Vertical | | Test bar 150 | | |
| | | | | 0.005mm | | |

| | | | | | | |
|----|---|---|---|--------------|--|--|
| 21 | Test bar on Z Axis grinding spindle | Horizontal |  | Test bar 150 | | |
| | | | | 0.005mm | | |
| 22 | Test bar on Z Axis grinding spindle | Vertical |  | Test bar 150 | | |
| | | | | 0.005mm | | |
| 23 | The center deviation between workhead spindle and Y axis grinding spindle |  | 0.02mm | | | |
| 24 | The center deviation between workhead spindle and Z axis grinding spindle |  | 0.02mm | | | |
| 25 | Regulation for X axis and Y axis with angle gauge |  | (1) | 0.01/300mm | | |
| | | | | | | |
| 26 | Regulation for X axis and Z axis with angle gauge |  | (1) | 0.01/300mm | | |
| | | | | | | |

| | | | | | |
|----|-------|---|------------|---|---|
| 27 | Chuck |  | Horizontal | 1 | 2 |
| | | | | | |