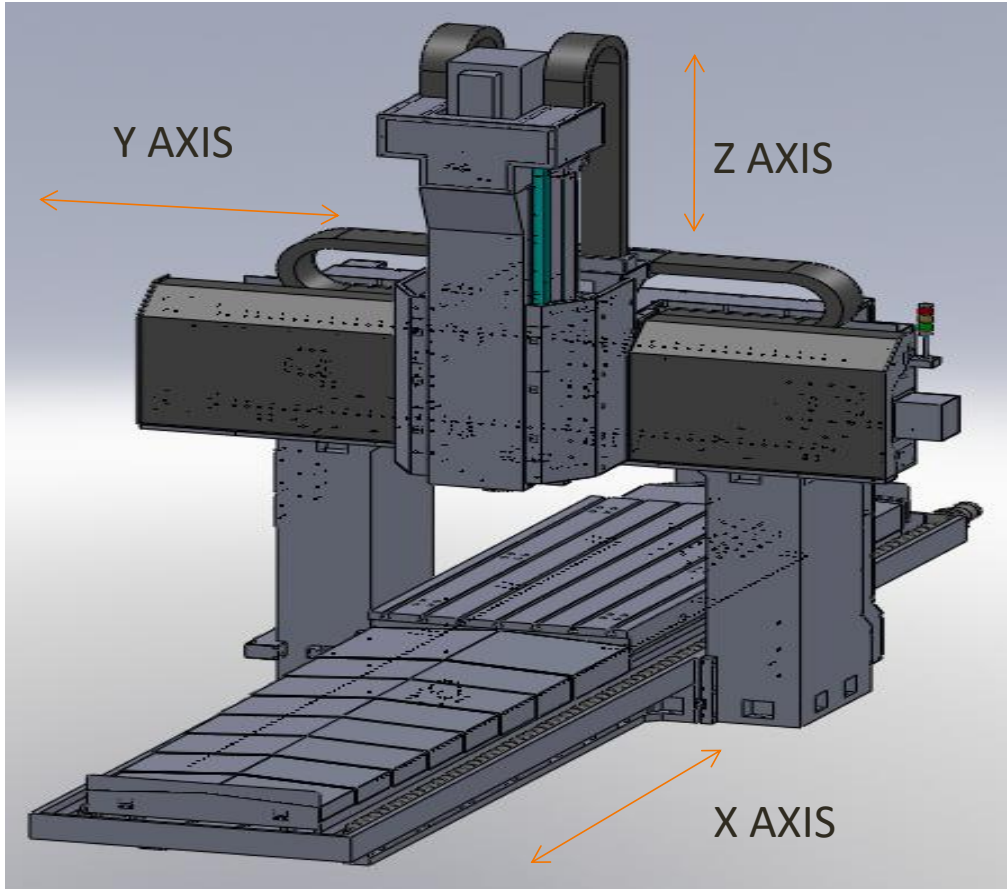


SINO DCMC INTRODUCTION

www.sinocnc.com.cn

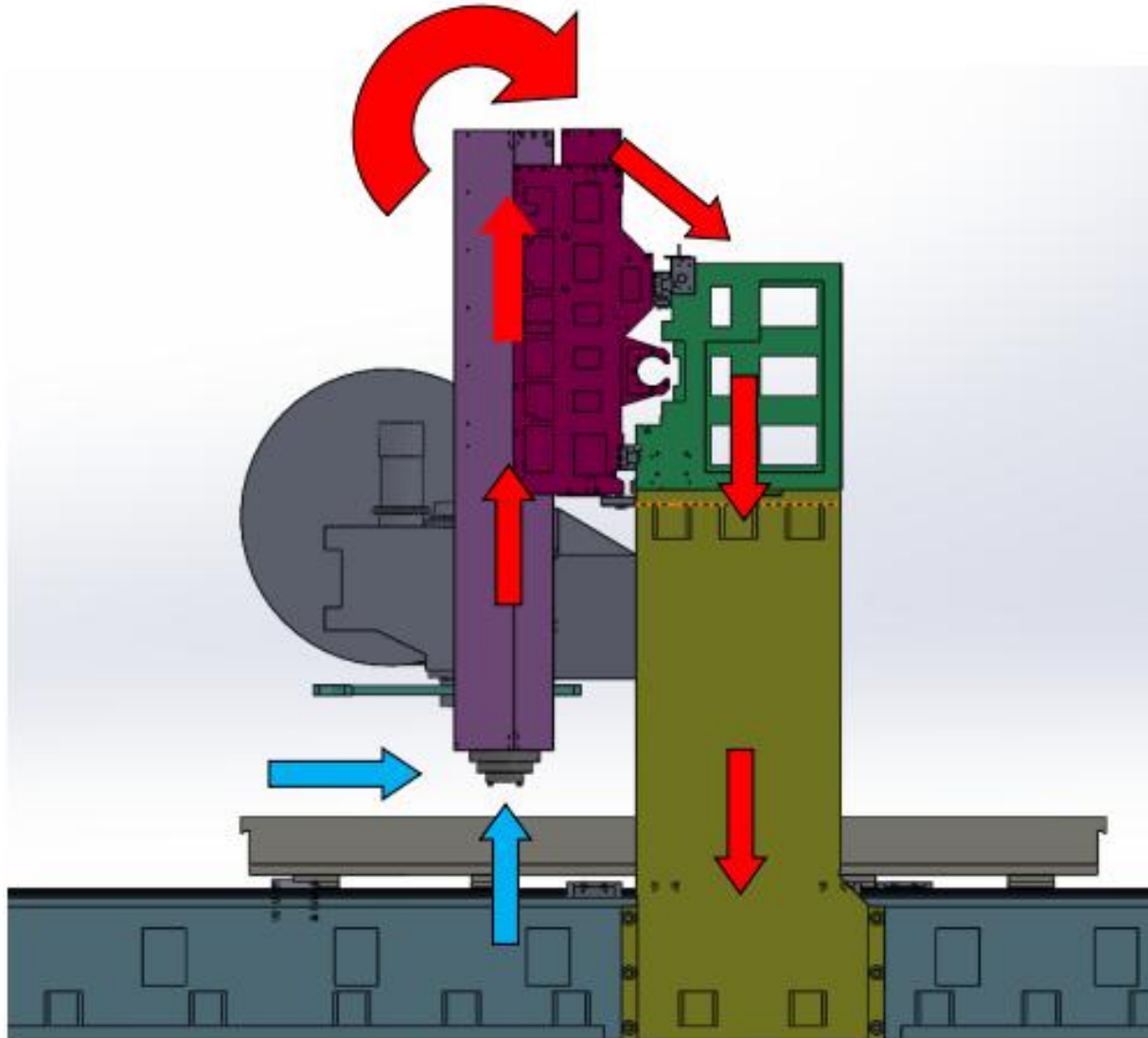




Column and beam fixed type DCMC

X axis: worktable moving forward and backward
Y axis : saddle and spindle box moving left and right
Z axis : spindle box moving up and down

All DCMCs in SINO are fixed type and designed by PROE , FEA and thermal deformation principle to get best structure .

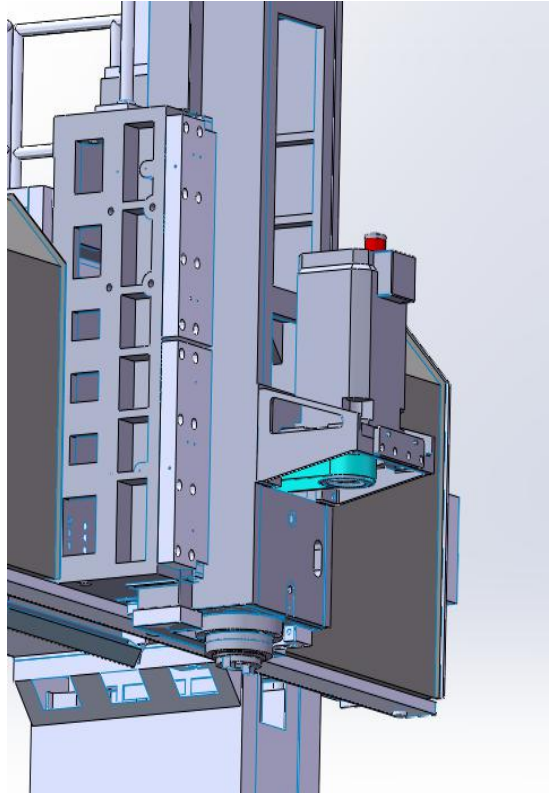


Cutting contrary strength

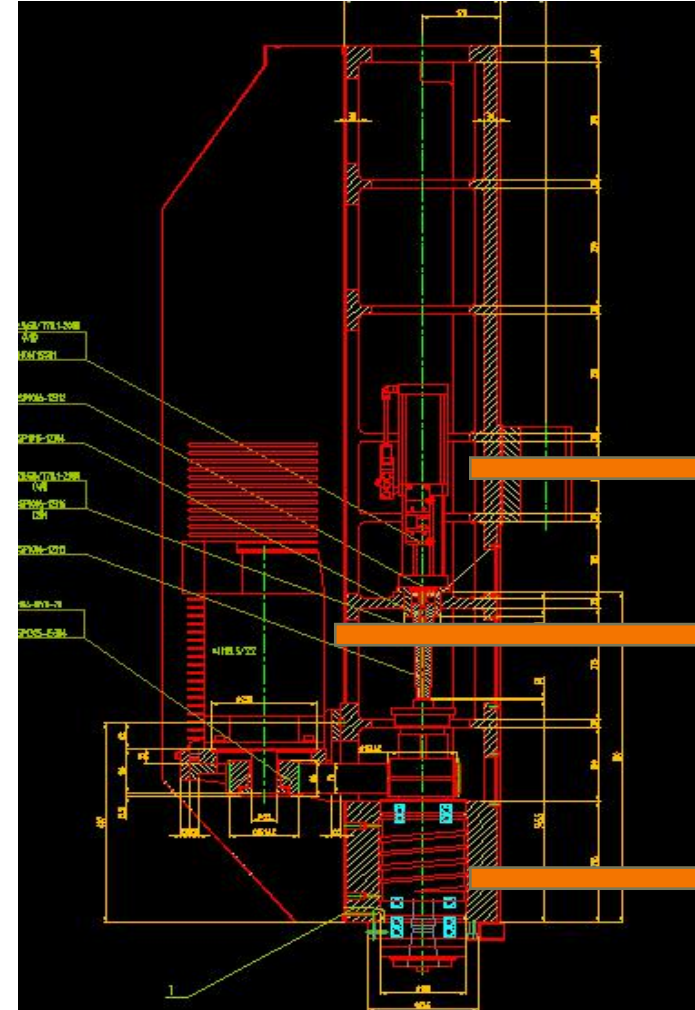


Machine strength direction

When machining, X axis direction force focused on body then convey to foundation
Z axis force from spindle to saddle to beam to column then to foundation



All DCMC are standard equipped with belt type spindle which can offer higher rigidity but competitive price



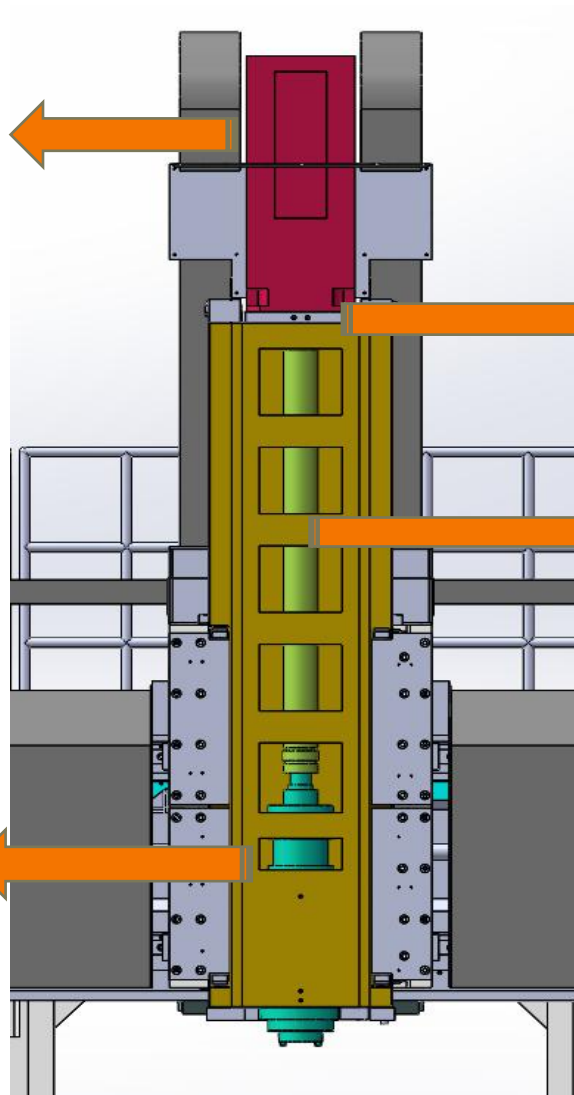
Tool cylinder

Main motor

Pneumatic tool clamping and unclamping

Spindle transmission - direct type

Spindle motor directly connects to spindle through high quality carbon fiber coupling.



Spindle motor thermal-protective plate with oil cooling

Mayr brand high torque high rigidity carbon fiber coupling (TKs=975Nm) , which helps to fullfil the nice performance of main motor as overturn torque is much reduced.

Hydraulic tool clamping and unclamping for spindle unit

Spindle transmission - gear type

Compared with belt type, gear head is with much higher rigidity, better for heavy cutting

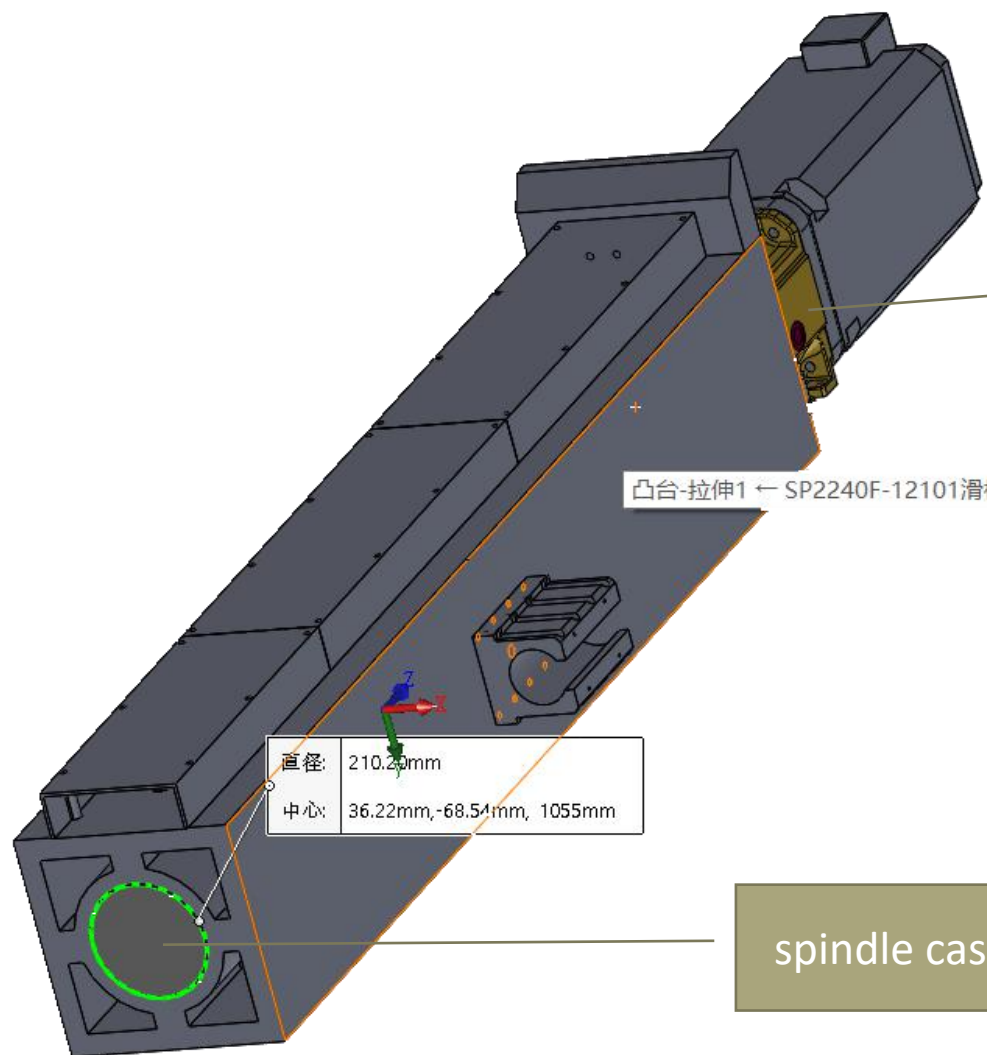
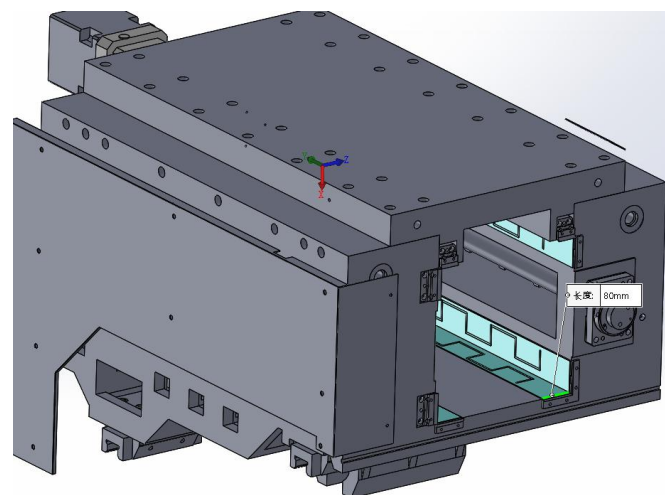


Tool cylinder (pneumatic tool clamping and unclamping)

Spindle motor

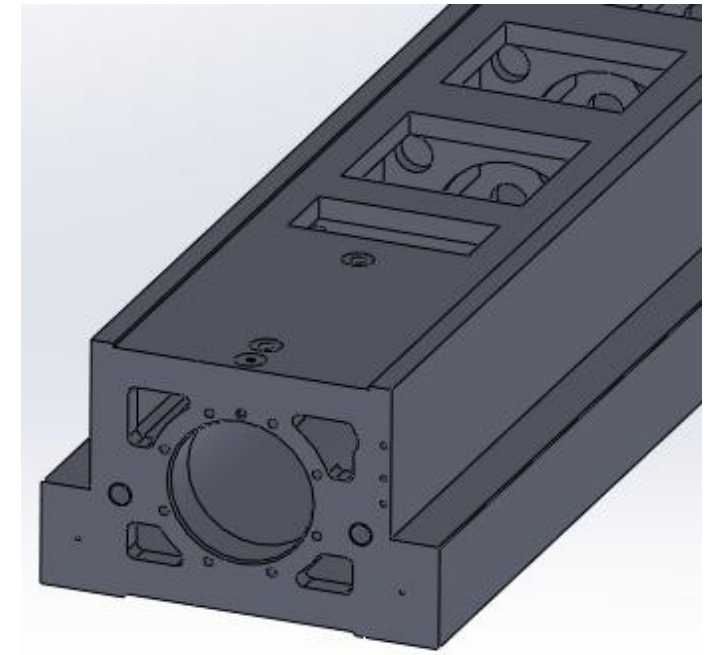
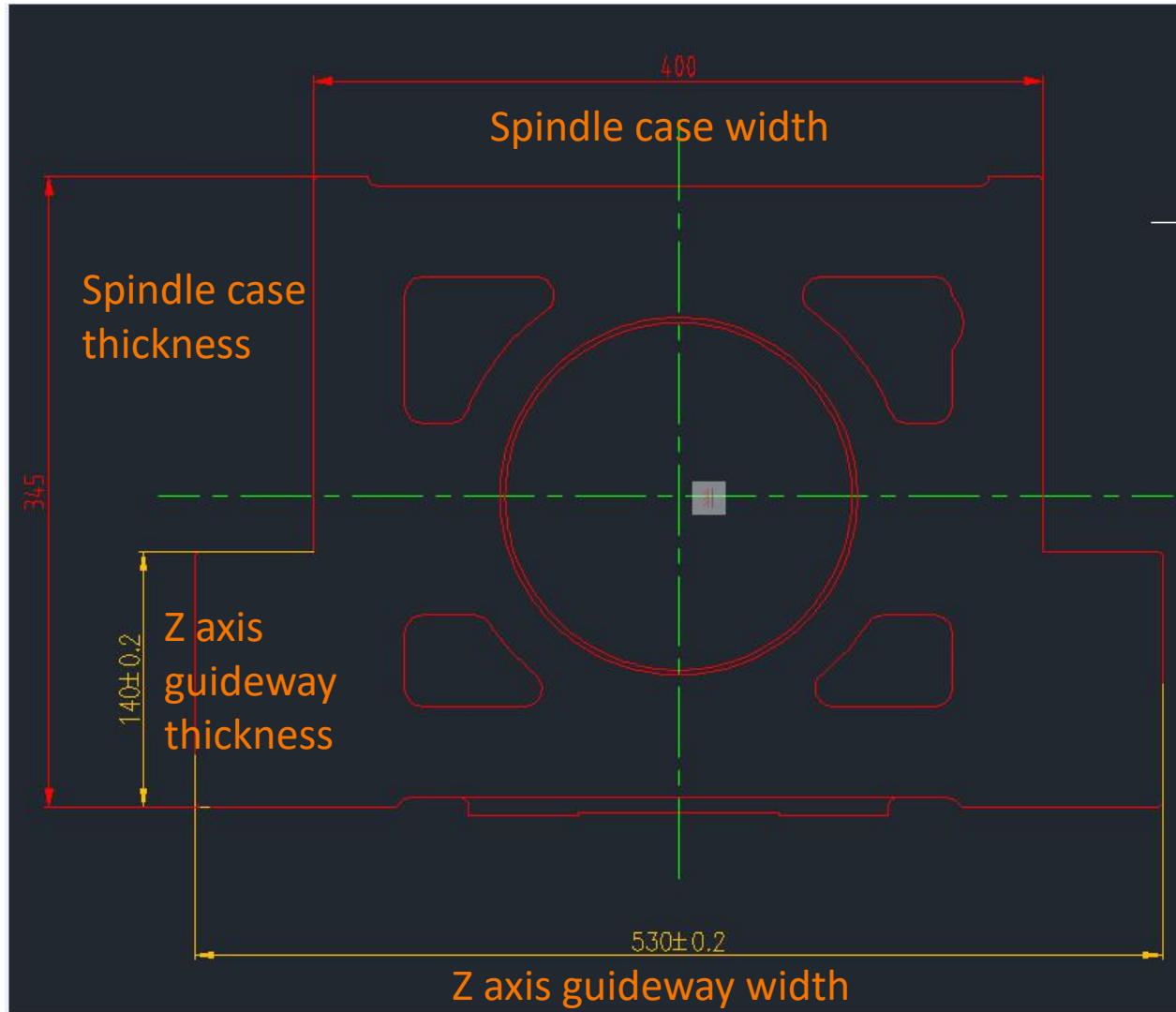
Gear head

Spindle transmission - square ram

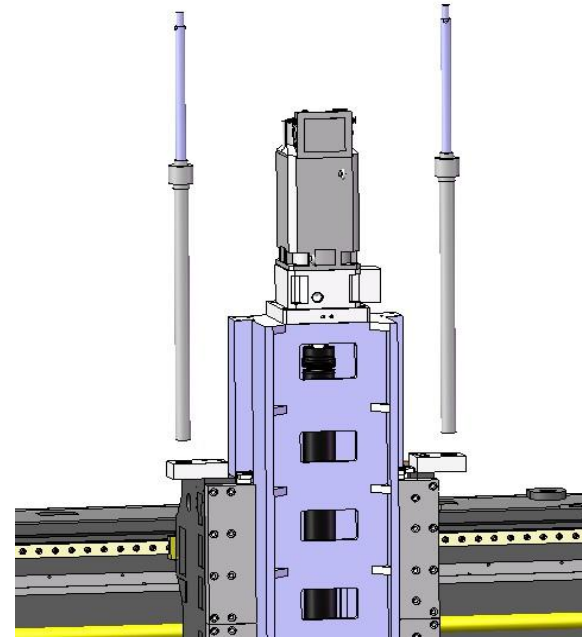
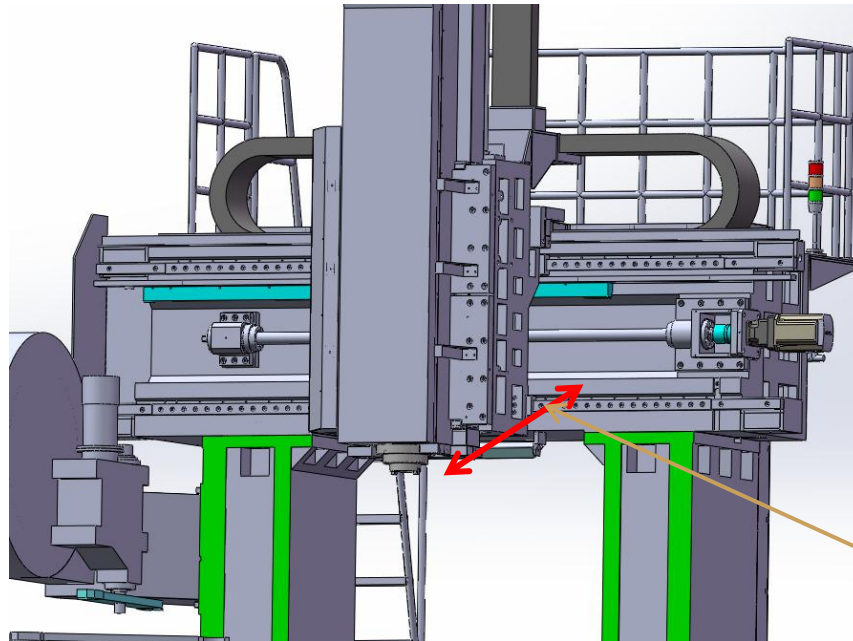


ZF gearbox

spindle case diameter 210mm



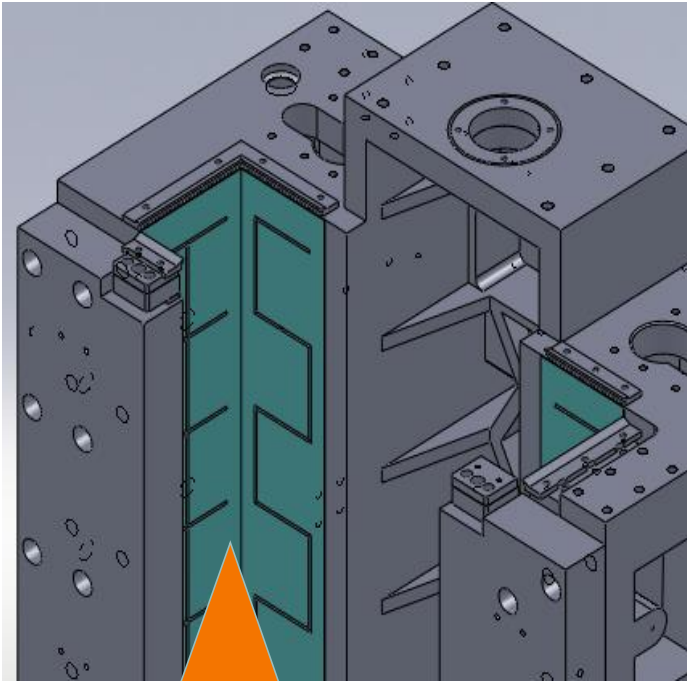
With large cross section design, it improves spindle case rigidity by 20% compared with other competitors



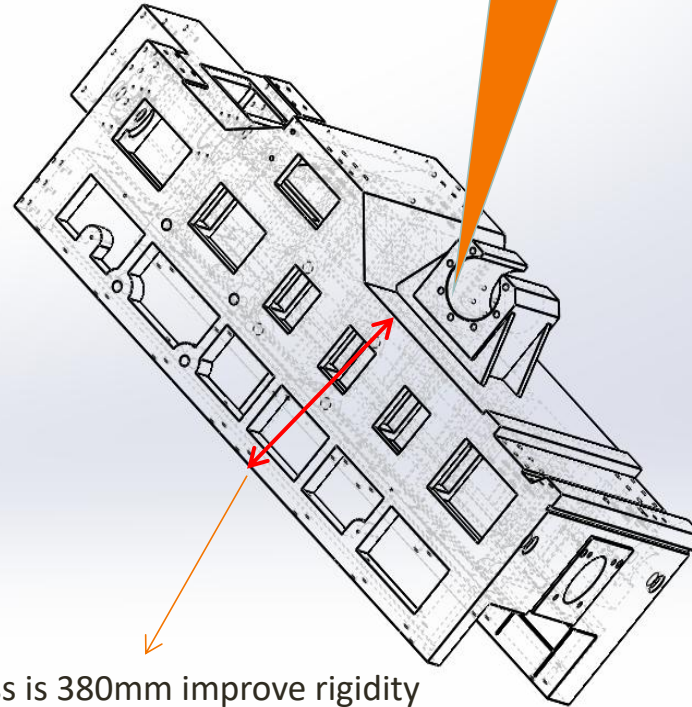
Double balance cylinder can efficiently decrease bending moment during Z axis movement.(source powered by hydraulic station)

460mm (distance from spindle center to Y axis guideway)

Machine structure - saddle



To improve saddle rigidity and anti-shock, Z axis is made of box guideway with plastic which is manually scraped well.

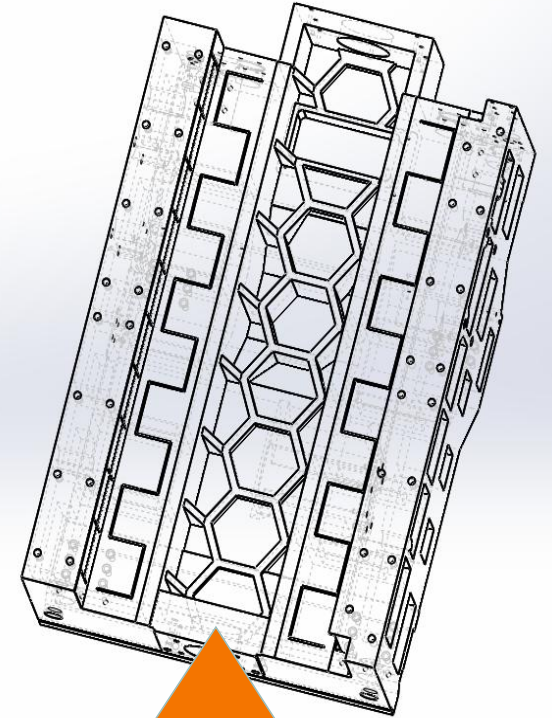


One piece of screw nut seat improve machine accuracy

Thickness is 380mm improve rigidity

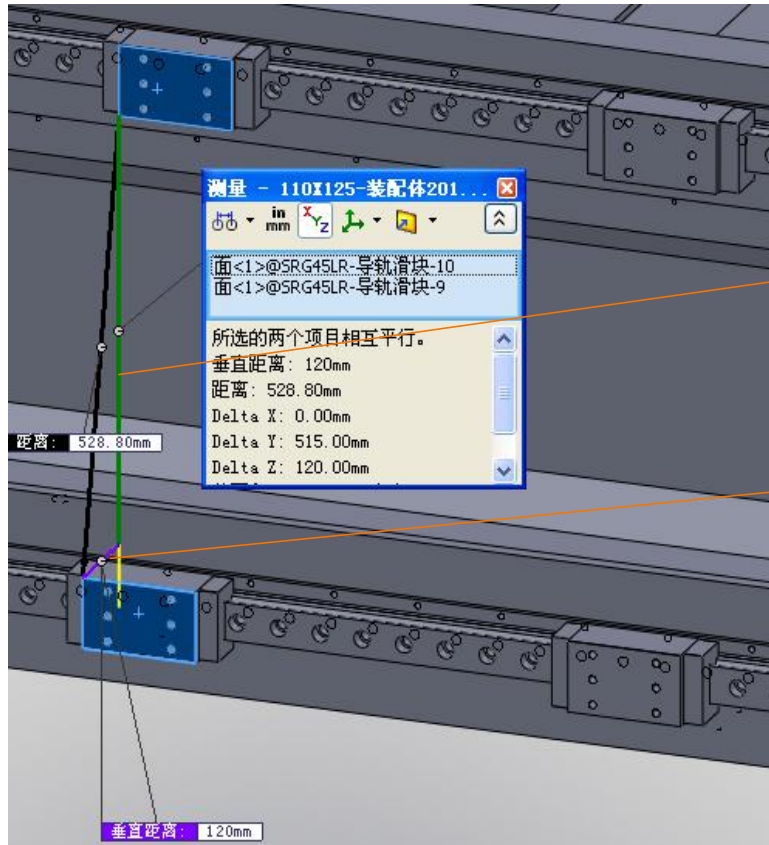
92 years machine manufacturer

SINO
CNC MACHINERY



Inner side use regular hexagon design for higher rigidity

Machine structure - beam

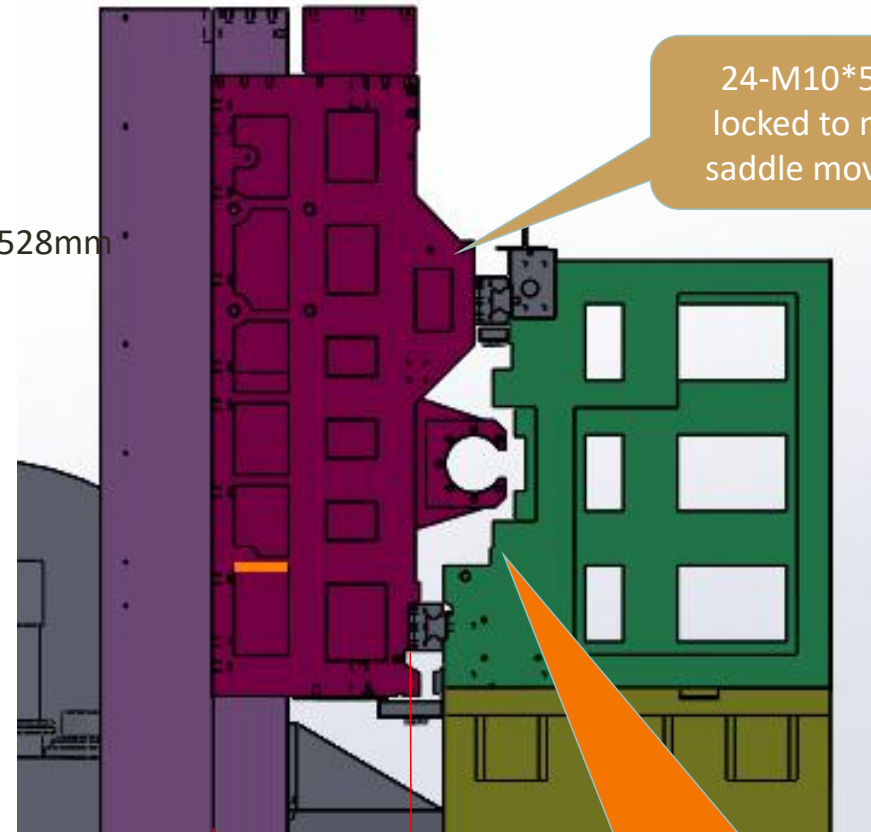


Upper
guideway
(SRG45)

→ guideways distance 528mm

→ ladder distance 120mm

Down
guideway
(SRG45)



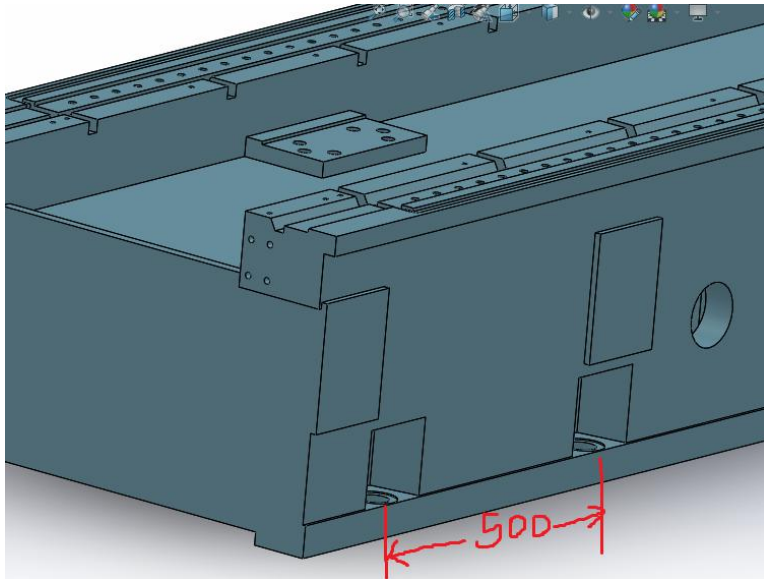
24-M10*55 screws
locked to make sure
saddle moving stably

Ladder designed beam assured
spindle case gravity backward.

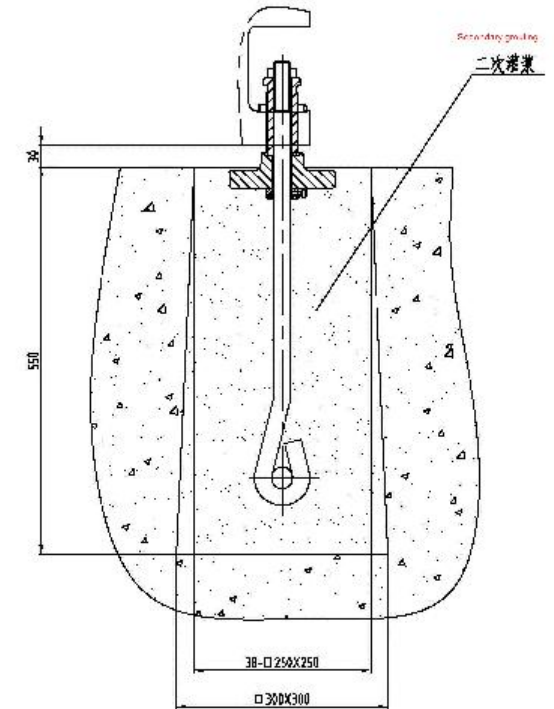
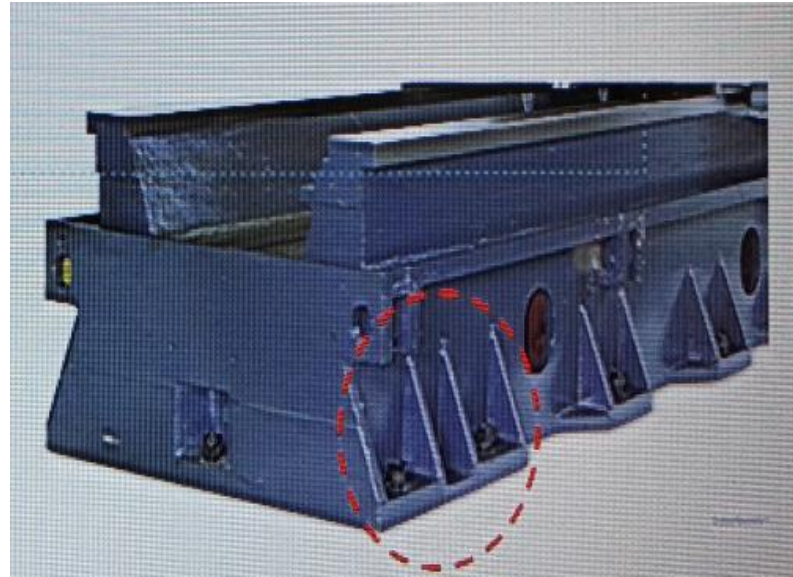
Reasonable distance
between guideway to
spindle center by FEA

Machine structure - base

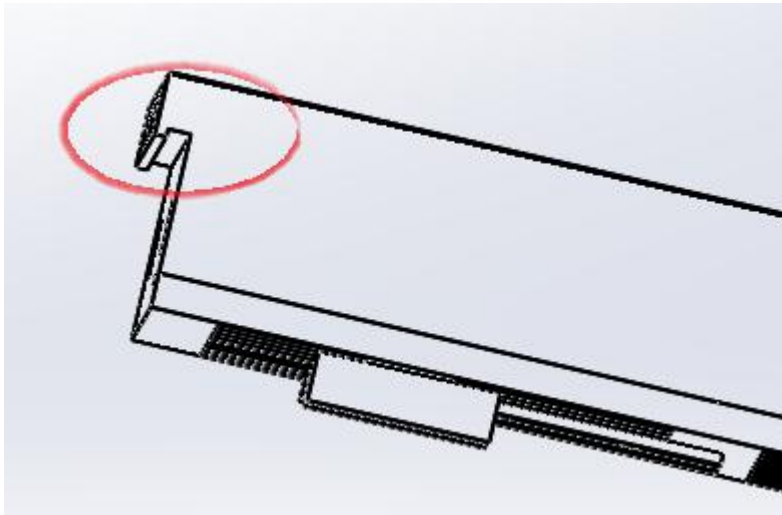
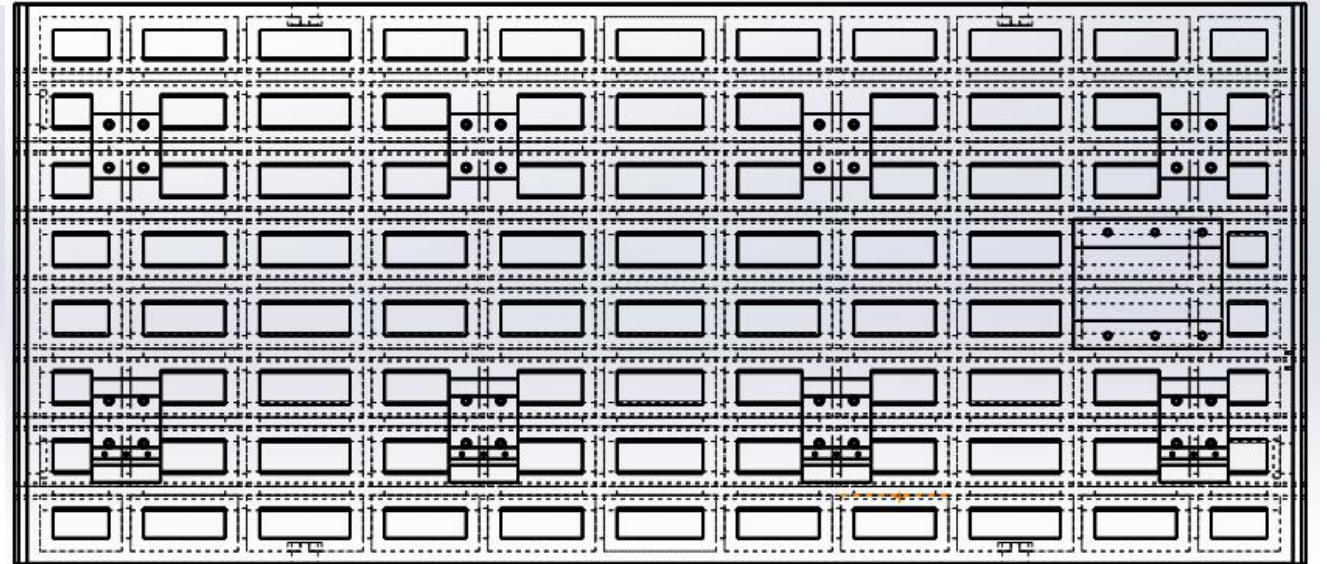
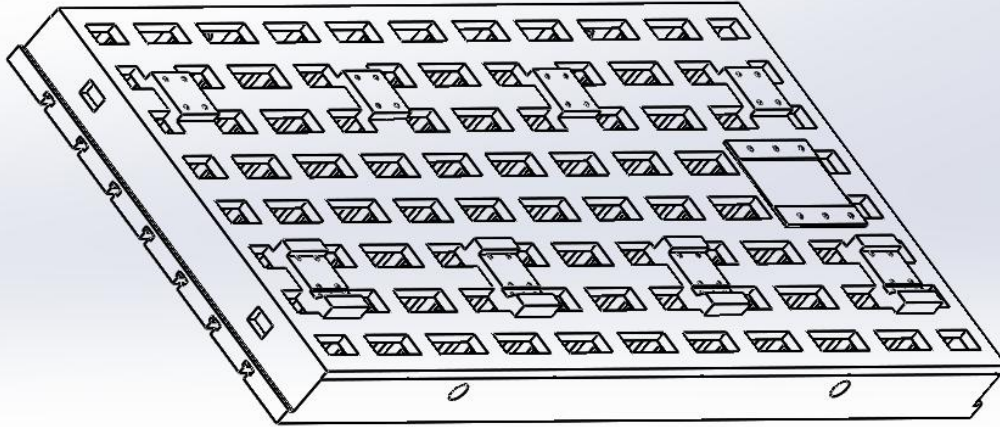
SINO



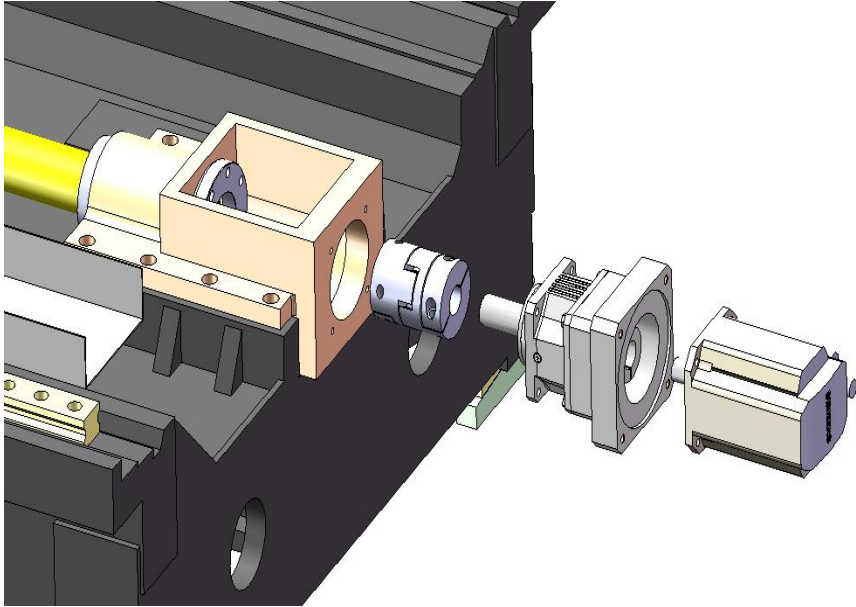
OTHERS



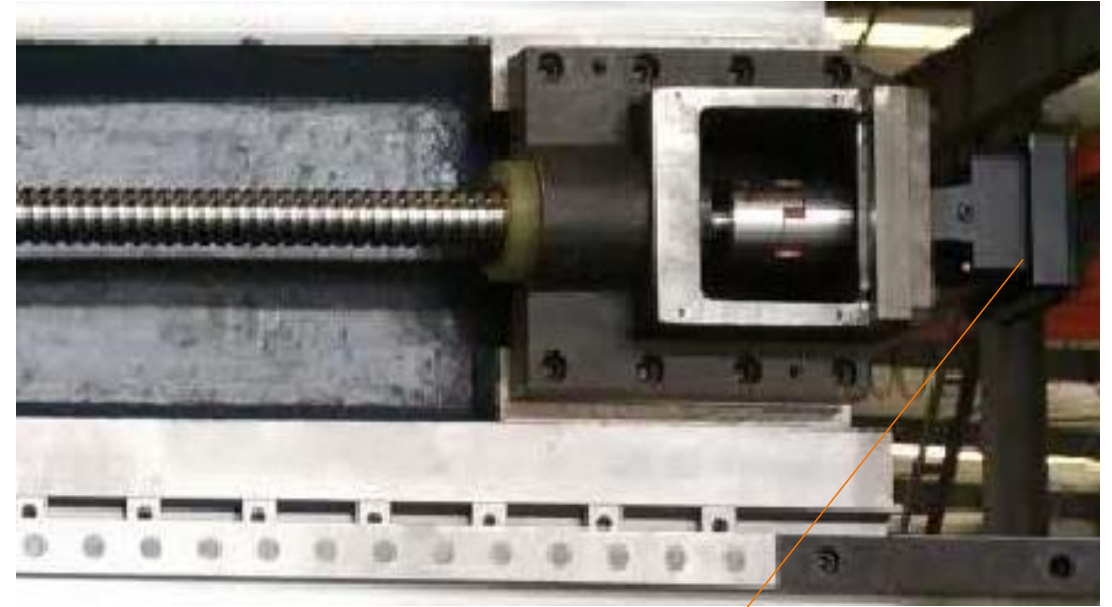
- Foundation hole keep in vertical line with linear guideway which assure a better loading support.
- If machine is installed by two holes, one fixing hole and one adjusting hole, the machine base is easily deformed due to unequal force.
- Trapezoid foundation hole ensure machine stability.
- 500mm distance between two holes keep reasonable equal force.



- Worktable cavity is square and hollowed-out designed to reduce weight but keep rigidity. Groove is designed in case of cutting fluid flowing into the worktable underneath and inner side of machine to reduce slider accuracy.



3 axes motor connect ball screw directly by coupling and reducer



10 years free- maintenance Germany STOBBER reducer (increase torque by 1:4)

| SERIES | MODEL | WORKTABLE SIZE | AXES TRAVEL | MOTOR POWER | SPINDLE TORQUE | COLUMNS DISTANCE | TRANSMISSION | | | |
|--------|--------|----------------|--------------------|--|----------------|---|--|-------------|------|--|
| 10 | SP1016 | 1000 x 1600 | 1650 x 1100 x 600 | X/Y/Z: 3 SP:15/18.5 | 71.5 | 1250 | BELT | | | |
| | SP1020 | 1000 x 2000 | 2050 x 1100 x 600 | | | | | | | |
| 13 | SP1325 | 2500 x 1300 | 2600 x 1400 x 800 | X/Z: 3 Y:1.8 SP: 15/18.5 (WIDE AREA MOTOR) | 143/143/572 | 1400 | BELT TYPE STANDARD DIRECT/GEAR HEAD OPTIONAL | | | |
| | SP1330 | 3000 x 1300 | 3100 x 1300 x 900 | | | | | | | |
| 15 | SP1530 | 3000 X 1500 | 3100 X 1650 X 800 | | | 1650 | | | | |
| | SP1540 | 4000 X 1500 | 4100 X 1650 X 800 | | | | | | | |
| 18 | SP1830 | 3000 X 1800 | 3200 x 1850 x 1000 | | | X/Y/Z: 3 SP:15/18.5 (WIDE AREA MOTOR) | | 143/572/572 | 2000 | BELT TYPE STANDARD DIRECT/GEAR HEAD /SQUARE RAM OPTIONAL |
| | SP1840 | 4000 X 1800 | 4200x 1850 x 1000 | | | | | | | |
| 22 | SP2230 | 3000 X 2000 | 3200 X 2250 X 1000 | 2400 | | | | | | |
| | SP2240 | 4000 x 2000 | 4200 x 2250 x 1000 | | | | | | | |

Standard accessories

| | |
|--|--|
| Dual screw type chip conveyor | Air gun |
| Front side chain type chip conveyor | Cutting fluid cooling system |
| Semi enclosed splash guard | Tool box |
| Oil cooler | Auto power off |
| Tosoku MPG | Leveling blocks and bolts |
| RS232 and IEEE data transfer box | Oil skimmer |
| Automatic lubrication system | Transformer |
| Pneumatic coupling | 3 colour LED warning light |
| Schneider electric parts | Heat exchanger |
| Independent lubrication oil collector for 3 axes | Z-axis retract function at power failure |
| Thermal compensation system of Spindle | Footswitch for tool clamping |

Optional accessories



ZF/BF/GTP gear box



WEMAS gear head



Mitsubishi / SIEMENS/HEIDENHAIN



Extension head
(only manual)



Manual right angle milling head



Manual universal milling head



Semi-automatic right angle milling head

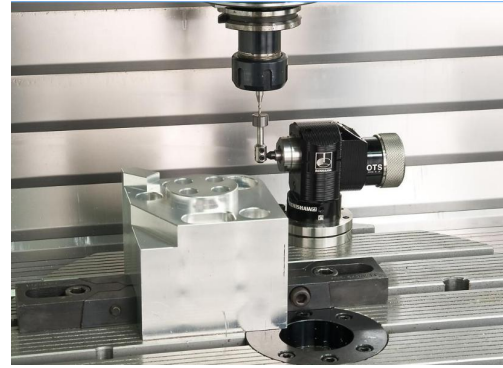


Automatic right angle milling head

Optional accessories



Chain type tool magazine-32T/40T/60T



RENISHAW tool measurement

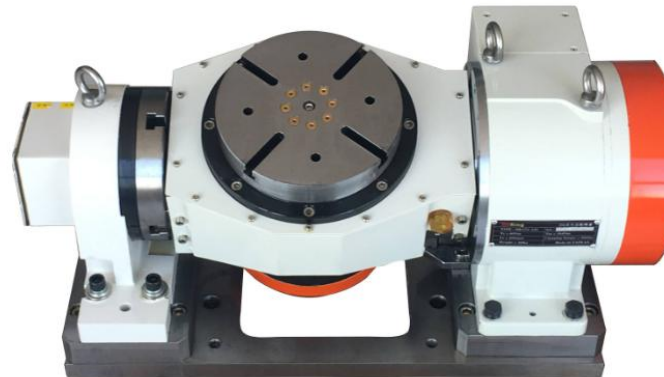


HEIDENHAIN linear scale



CTS for belt type and gear head type

for direct type, cost is high and delivery time is long



4th /5th axis

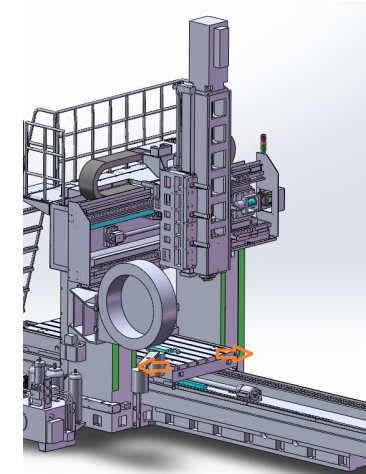


Table size width increase
distance between columns/
column height increase

Manual right angle milling head



Connected with flange

Milling head rotating: manual
Milling head clamping tool: manual
Milling head installed: manual

| | |
|---------------------|-------------------------|
| speed | 2000rpm |
| Max. power | 30Kw |
| Max. torque | 1000Nm |
| Tool specification | BT50 |
| Clamping tool force | M24 screw clamping tool |
| Cutting coolant way | N/A |

Semi-automatic right angle milling head

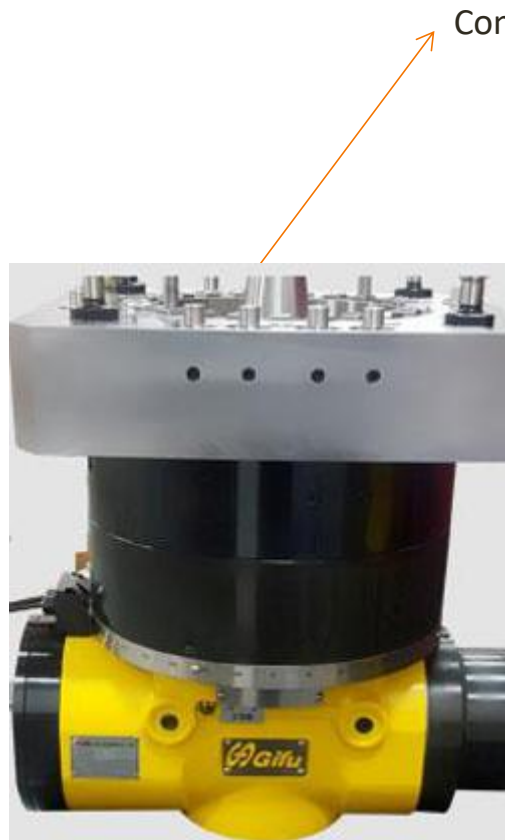
Connected with flange/ milling head moduel



Milling head rotating: manual
Milling head clamping tool: automatic
Milling head installed: manual/automatic

| | |
|---------------------|---------------|
| speed | 2500rpm |
| Max. power | 30Kw |
| Max. torque | 500Nm |
| Tool specification | BT50 |
| Clamping tool force | 1200 |
| Cutting coolant way | Cutting fluid |

Automatic right angle milling head



Connected with milling head module

Milling head rotating: automatic
Milling head clamping tool: automatic
Milling head installed: automatic

| | |
|---------------------|---------------|
| speed | 3500rpm |
| Max. power | 30Kw |
| Max. torque | 100Nm |
| Tool specification | BT 50 |
| Clamping tool force | 1500kgf |
| Cutting coolant way | Cutting fluid |

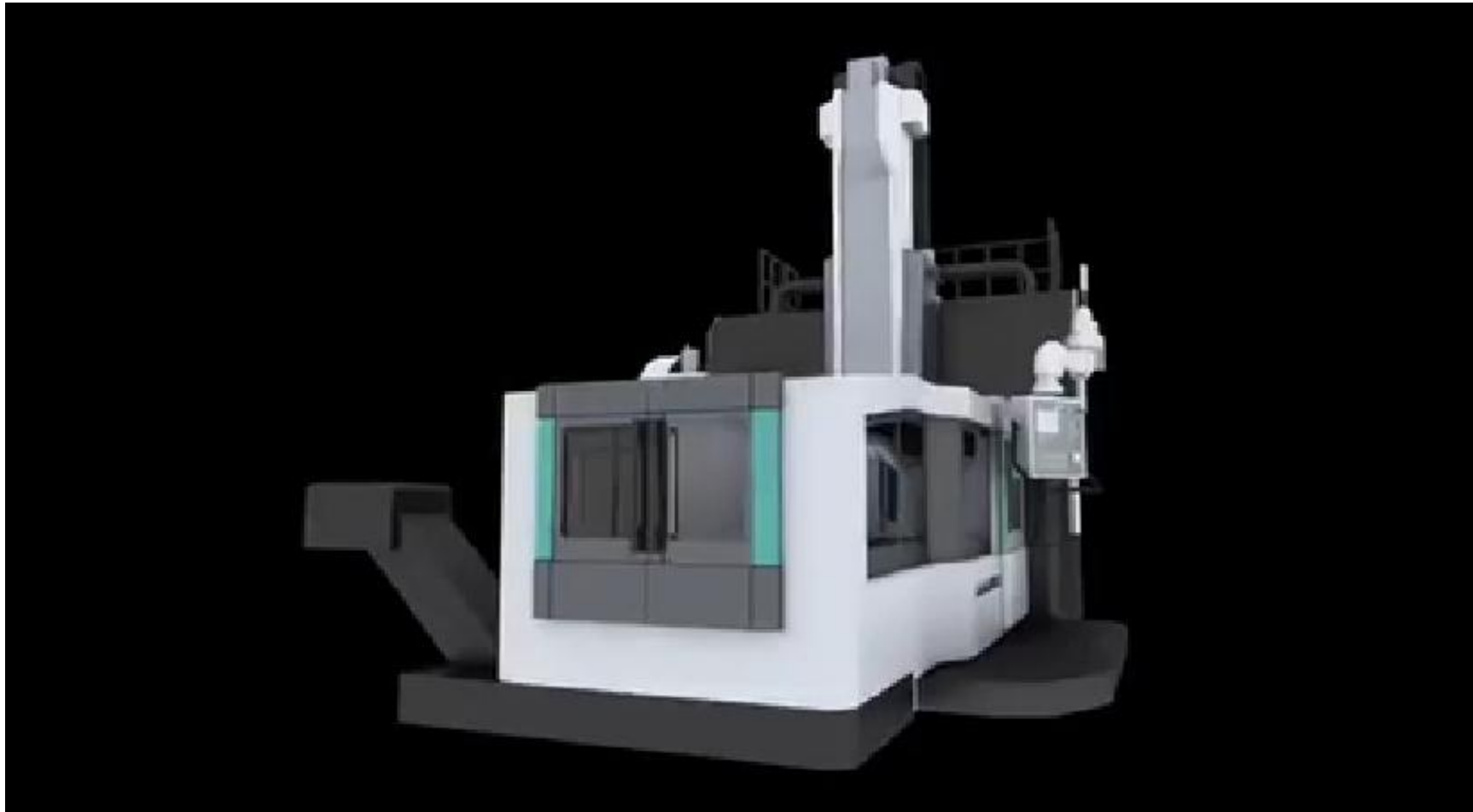
Connected with flange



Milling head rotating: manual
Milling head clamping tool: manual
Milling head installed: manual



| | |
|---------------------|-------------------------|
| speed | 2000rpm |
| Max. power | 30Kw |
| Max. torque | 1000Nm |
| Tool specification | BT 50 |
| Clamping tool force | M24 screw clamping tool |
| Cutting coolant way | N/A |



YES , SINO !



www.sinocnc.com.cn

