I. Introduction of QC YK3132 CNC Hobbing Machine

The Yk3132 CNC is a highly efficient, high-precision, high-performance gear hobbing machine. It is designed for machining many kinds of medium-size gears. It is equipped with most advanced technologies to achieve the goal of high productivity with quality workpiece. In addition to the excellent operability and maintainability, the machine can also be expanded with optional feature, auto load/unload sys, to be easily fit into an automated production line.

Main Features

- The machine has five CNC axes controlled simultaneously by FANUC Series 0i ： the hobbing tool feed Axis (X); hobbing tool cutting movement, the Axis to make the width of gear(Z); the hobbing tool axial movement (Y); workpiece spin Axis (C); and hobbing tool spin Axis (B).
- Instead of traditional mechanical transmission gear box, the machine is equipped with a high-precision “electronic gear box”, which greatly improves the accuracy of tooth indexing and the efficiency of production.
- The high-precision guide ways, dual leads worm gear transmit on working table, and hydraulic damping anti-backlash device ensure the machine machining gears with an accuracy of ISO class A6 or higher.
- The machine is equipped with electrostatic mist suction devices. Offering a clean and healthy working condition.
- The machine can be used for machining spur gears, helical (or double helical) gears, drum-shaped gears and splines.

Ⅱ. Gear application field

Gears machined by hobbing are applicable in industries of cars, engineering machineries, machine tools, power generators, heavy duty trucks, motorcycles, farm vehicles, agricultural machineries and tractors, etc.

Ⅲ. Advantages of YK3132 full CNC gear hobbing machine

High accuracy: machining accuracy: class A6 or higher(of new International Standard)

- High accuracy rotary encoder taking care the position feedback precisely. Electronic gear box is used to precisely control movements of hobbing axis and worktable, which greatly enhances indexing accuracy.

High efficiency: Way faster than traditional gear hobbing machine

- Adopt with rigid and precise guideways, worktable is driven through high precision dual lead worm gear pair, the machine works quickly and efficiently.

Maintenance-free: High reliability

- With e-gear box equipped, the mechanism is highly simplified. Such result in a high reliability. Centralized lubricating sys is used for guideways and worm gear pair. Maintenance-free for long time.

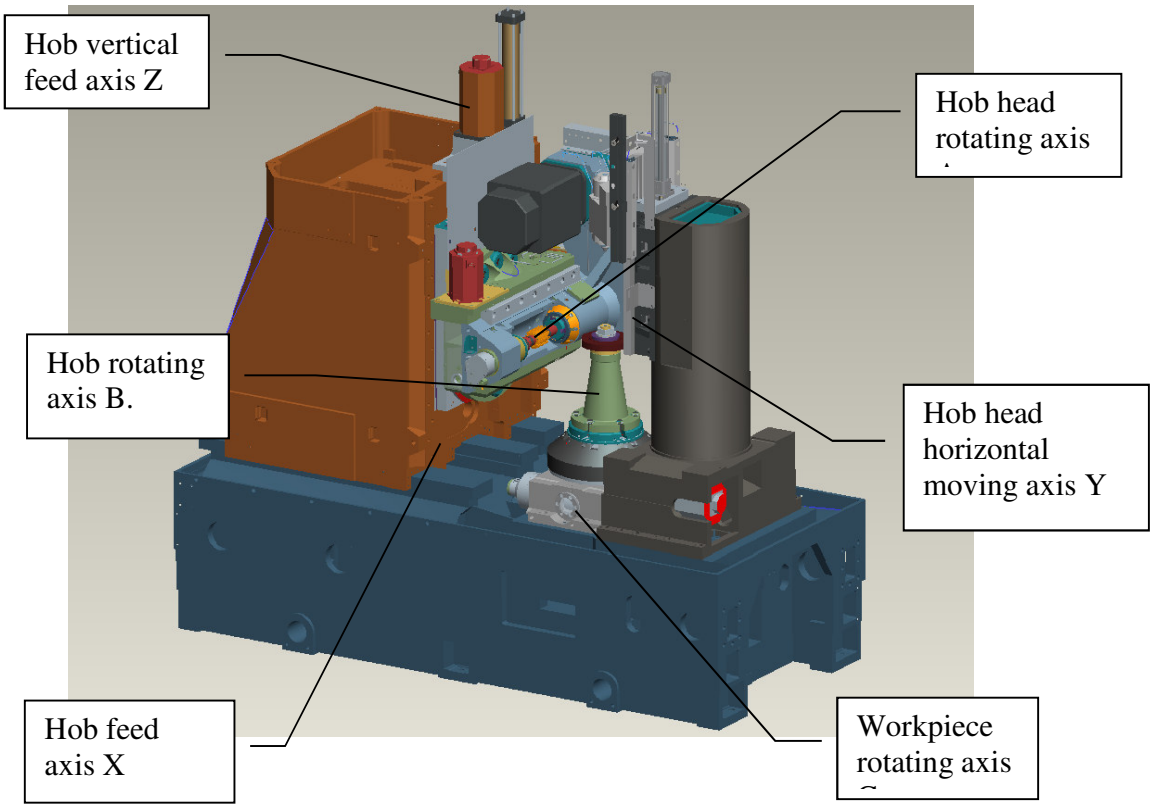
Programming-free: Friendly control interface

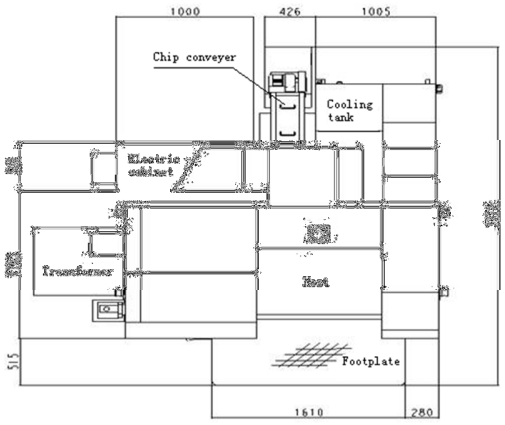
- The machine provides user-friendly control panel. Users only need to input the specs and parameters of workpiece/gear, hobbing tool and some necessary parameters for machining, and the machine will automatically generate the machining program, G-code. And then, all you need to do is to hit the RUN button.

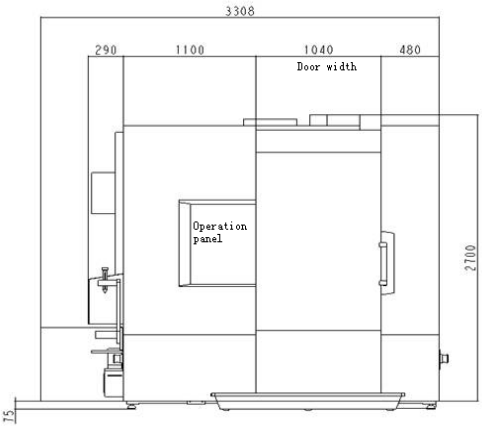
IV. Technical data and introduction

1	Max. machining dia.	Φ320 mm
2	Max. module	8 mm
3	No. of teeth	≥5
4	Max. helical angle	±45°
5	Distance between hob head spindle to worktable surface	190 mm-490 mm
6	Distance between hob head spindle to workpiece	40 mm-340 mm
7	Max. hobbing dia.	Φ150 mm
8	Max. hobbing length	230 mm
9	Hobbing Arbor Dia.	Φ22、27、32、40
10	Hob head spindle taper hole	7 : 24
11	Hob spindle speed	75 - 600 RPM
12	Max. distance of tangential displacement	180 mm
13	Max. speed of tangential displacement	5000 mm/min
14	Rapid feed of tangential displacement	2500 mm/min
15	Axial feed speed	1 mm - 1000 mm/min
16	Axial rapid	1000mm/min
17	Radial feed speed	1 mm - 1000 mm/min
18	Radial rapid	1000 mm/min
19	Max. work table speed	60 RPM
20	Max. working pressure of tailstock	8000 N
21	AC main motor power	15 KW
22	Gross weight	10 T
23	Overall dimensions(mm)	3000×2400×2800
24	Total power	50KVA
25	NC system	FANUC

V. Inside view & layout of YK3132 hobbing machine







VI. Performance comparison of various gear hobbing machine

Item / Type	Traditional mechanical hobbing machine	2-3 axis CNC gear hobbing machine	6 axis full CNC gear hobbing machine
Gear indexing transmission	Full mechanical transmission	Full mechanical transmission	Mechanical+ electronic gear box
Change gear	Need	Need	Not need
Automatic rectangle cycle	Without	With	With
Machining accuracy	8 class or lower	7 class	6 class or better
Reliability	Low	Low	Very high
Production efficiency	Low	Low	Very high
Preparation time of production	Longer	Long	Short
Machining cost of single piece	Very high	High	Very low
Noncircular gear machining	No	No	Yes
Small taper helical gear, crown type	No	Yes	Yes

VII. Comparison of efficiency & cost of different hobbing machines