

PRODUCT FAMILY

YB100 Series Precision CNC Horizontal Gear Hobbing Machines

YB100 | YB100II | YB100III



The YB100 series is designed for efficient, precision hobbing of small- and medium-diameter cylindrical spur and helical gears. The seven-axis platform supports four-axis simultaneous control and workpieces up to Ø100 mm, with modules up to 3 mm. Model selection determines the CNC system and work-spindle configuration.

MAX. WORKPIECE DIAMETER

Ø100 mm

MAX. MODULE

3 mm

MAX. SLIDE TRAVEL

220 mm

One platform, three configurations

YB100 uses a FANUC torque-motor work spindle with an oil-cooling unit. YB100II and YB100III use precision gear-driven work spindles. YB100 and YB100II are equipped with FANUC CNC systems; YB100III uses a Syntec CNC system.

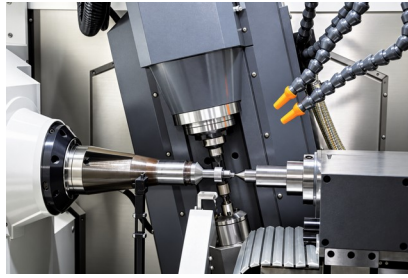
MACHINE DESIGN AND PROCESS CAPABILITY

Designed for precision and automation

Machine and application views



Operator control interface



Gear hobbing work zone



Representative gear components

Seven controlled axes with four-axis simultaneous control

The machine controls the X, Y, Z, W, A, B, and C axes. Standard CNC functions include linear interpolation, travel-limit protection, an electronic gearbox, and a retract function. The graphical operator interface can be adapted through secondary development to support automated programming and machining.

Rigid structure for demanding gear work

The base, spindle-box slide, and hob head use a high-rigidity design. High-precision, high-rigidity linear roller guides support axis motion, while an auxiliary locking mechanism on the tangential slide helps stabilize the setup. The configuration is intended for high-speed, high-precision machining, including applications involving hardened gear surfaces; confirm capability against the workpiece, tooling, and process.

Work-spindle configurations

On YB100, the FANUC torque motor and original FANUC encoder provide backlash-free transmission and high indexing accuracy; an oil-cooling unit supports stable spindle performance. YB100II and YB100III use precision gear transmission. Their spindle speeds and torque ratings vary by model, as shown in the specification table.

MODEL COMPARISON

Technical Specifications

Parameter	YB100	YB100II	YB100III
Maximum workpiece diameter	Ø100 mm	Ø100 mm	Ø100 mm
Maximum module	3 mm	3 mm	3 mm
Maximum slide travel	220 mm	220 mm	220 mm
Tooth-count range	3–999	3–999	3–999
Hob-head swivel angle	±45°	±45°	±45°
Maximum hob diameter	Ø80 mm	Ø80 mm	Ø80 mm
Hob arbor diameter	Ø13 mm	Ø13 mm	Ø13 mm
X/Z rapid traverse speed	10 m/min	10 m/min	10 m/min
Work spindle — maximum speed	1,000 r/min (torque motor)	500 r/min	500 r/min
Work spindle — rated torque	95 N·m	20 N·m	18.6 N·m
Hob spindle — maximum speed	5,000 r/min	5,000 r/min	4,000 r/min
Hob spindle — rated power	5.5 kW	5.5 kW	3.9 kW
X/Z servo motor rated torque	11 N·m	11 N·m	8.34 N·m
Y servo motor rated torque	3.5 N·m	3.5 N·m	3.2 N·m
W servo motor rated torque	7 N·m	7 N·m	5.39 N·m
A servo motor rated torque	11 N·m	11 N·m	8.34 N·m
CNC system	FANUC	FANUC	Syntec
Spindle and servo motors	FANUC	FANUC	Syntec
Gear accuracy	Grade 6 per GB/T 10095-2001 for spur and helical gears with m ≤ 1.5 mm	Same	Same
Machine weight	5,000 kg	5,000 kg	5,000 kg
Overall dimensions (L × W × H)	2,200 × 2,000 × 2,200 mm	2,200 × 2,000 × 2,200 mm	2,200 × 2,000 × 2,200 mm

Note: Specifications may change without prior notice. “Same” in the accuracy row means the same stated accuracy grade applies to all three models. Confirm the current machine configuration and process capability with the manufacturer.