

PRODUCT OVERVIEW

YB80 Precision CNC Horizontal Gear Hobbing Machine

High-efficiency hobbing for small-diameter spur and helical gears



The YB80 is a six-axis CNC horizontal gear hobbing machine with four-axis simultaneous control, developed for precision, high-efficiency machining of small gears. It is designed for spur and helical gears with a module of up to 3 mm and a maximum workpiece diameter of 100 mm. The CNC system, servo motors, and servo controllers are supplied by Bosch Rexroth.

MAX. WORKPIECE DIAMETER
Ø100 mm

MAX. MODULE
3 mm

MAX. WORKPIECE LENGTH
220 mm

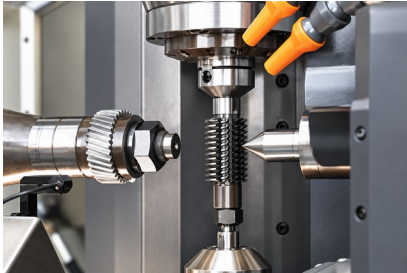
Designed for stable, flexible production

- A high-rigidity, one-piece cast-iron base supports the machine structure.
- The work-spindle drive uses backlash compensation; the hob head has a locking mechanism, and the hob spindle is directly driven by a servo motor.
- With suitable tooling and process accessories, dry cutting may be configured where the application permits, helping reduce coolant use and oil-mist exposure.

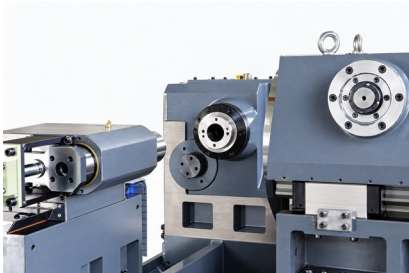
TECHNICAL DATA

Technical Specifications

Machine and application views



Gear hobbing in process



Machine spindle configuration



Representative gear components

Parameter	Specification
Maximum workpiece diameter	Ø100 mm
Maximum module	3 mm
Maximum workpiece length	220 mm
Tooth-count range	3–999 teeth
Hob-head swivel angle	±45°
Maximum hob diameter	Ø80 mm
Maximum hob length	100 mm
Maximum axial hob stroke	100 mm
Hob arbor diameter	Ø13 mm (optional: Ø10, Ø16, Ø22 mm)
Work spindle — maximum speed	500 r/min
Work spindle — rated torque	17 N·m
Hob spindle — maximum speed	5,000 r/min
Hob spindle — rated power	5.2 kW
Hob spindle — rated torque	50 N·m
Axis servo motor rated torque	X: 8; Y: 2.7; Z: 8; A: 8 N·m
CNC system	Bosch Rexroth IndraMotion MTX micro
Spindle and servo motors	Bosch Rexroth
Gear accuracy	Grade 6 per GB/T 10095-2001 for spur and helical gears with $m \leq 1.5$ mm
Machine weight	5,000 kg
Overall dimensions (L × W × H)	2,400 × 2,000 × 2,450 mm

Optional process enhancements

An optional secondary tool-setting attachment can support automatic tool re-setting after roughing. With an appropriate high-precision carbide hob, finish hobbing of hardened gear blanks may be considered, subject to workpiece and process validation. An optional deburring attachment can reduce burrs at the gear exit end. A part-specific automatic loading and unloading system can also be engineered.

Note: Specifications may change without prior notice. Confirm the configuration and process capability for the intended workpiece with the manufacturer.