

MZ CNC GEAR HOBBING MACHINES

Monnier + Zahner (MZ) CNC gear hobbing machines deliver high-precision machining for a wide range of gear types. Designed for universal hobbing and worm milling, these machines can efficiently produce spur gears, helical gears, worm wheels, worms, straight bevel gears, and other tooth profiles using advanced hobbing and milling processes.

- **High-speed direct-drive hob head with CNC shifting.**
- **Flexible dialogue programming for:**
 - One or two gears on a single workpiece.
 - Radial, axial, climb, and/or conventional hobbing on a single- or two-cut cycle.
 - Crowning (lead modification).
 - Deburring using two equal hobs and burr-free hobbing using a single hob.
 - Single- or multi-start worm milling for double worms with both right and left hand, and deburring at worm thread entry and/or exit.
 - Multi-start worm hobbing.
 - Worm skiving.
 - Miter gear (straight bevel) cutting by index milling or Conikron generating.
- **Synchronous high-speed direct-drive work and tailstock spindles.**
- **Cast iron base for superior dynamic stability.**
- **Programmable clamping pressure.**
- **Flexible automation systems.**
- **Hydraulic and pneumatic deburring options.**
- **Optional re-hobbing (skiving) system.**



WORKPIECE	MZ 150 metric/imperial		MZ 500 D-Drive metric/imperial		MZ 1000 D-Drive metric/imperial	
Maximum pitch rating, hobbing	2.50 m _n	10.16 DP	0.60 m _n	42.33 DP	1.00 m _n	25.4 DP
Maximum pitch rating, worm milling	3.00 m _n	8.47 DP	—	—	—	—
Maximum workpiece diameter (manually loaded)	150 mm	5.905 in	40 mm	1.575 in	100 mm	3.937 in
Maximum workpiece diameter (automatically loaded)	80 mm	3.150 in	30 mm	1.181 in	40 mm	1.575 in
Maximum workpiece length (manually loaded)	330 mm	12.992 in	60 mm	2.362 in	100 mm	3.937 in
Maximum workpiece length (automatically loaded)	250 mm	9.843 in	60 mm	2.362 in	100 mm*	3.937 in*
Total axial travel	300 mm	11.811 in	30 mm	1.181 in	65 mm*	2.559 in*
Total radial travel of hob head	90 mm	3.543 in	54 mm	2.126 in	89 mm	3.504 in
Minimum radial position of hob head	10 mm	0.394 in	0 mm	0 in	-37 mm	-1.457 in
Maximum radial position of hob head	100 mm	3.937 in	54 mm	2.126 in	52 mm	2.047 in
Maximum work spindle speed	4,000 rpm		4,000 rpm		5,000 rpm	
HOB HEAD					<i>*Reduced at higher hob head swivel angles</i>	
Maximum spindle speed	8,000 rpm		12,000 rpm		12,000 rpm	
Maximum hob diameter	63 mm	2.480 in	32 mm	1.26 in	32 mm	1.260 in
Maximum cutter diameter (worm milling)	120 mm	4.724 in	—	—	—	—
Maximum cutter width	165 mm	6.496 in	35 mm	1.378 in	60 mm	2.362 in
Maximum cutter shift	160 mm	6.299 in	30 mm	1.181 in	70 mm	2.756 in
Swivel range	+45°/-127°		+/-10°		+/-35°	
DIMENSIONS						
Width	3,200 mm	10.5 ft	2,280 mm	7.5 ft	2,620 mm	8.6 ft
Depth	2,800 mm	9.2 ft	1,800 mm	5.9 ft	2,133 mm	7.0 ft
Height	2,780 mm	9.2 ft	2,200 mm	7.2 ft	2,370 mm	7.8 ft
Weight	7,400 kg	16,300 lbs	1,300 kg	2,900 lbs	2,000 kg	4,400 lbs
POWER						
Main spindle motor	6.00 kW		1.25 kW		3.00 kW	

“ We specialize in incredibly precise, miniature parts with relatively simple configurations but extremely tight tolerances and challenging materials. The MZ’s versatile and user-friendly workholding makes it easier to achieve exceptional quality with less effort. We never thought we could automate Class 11 and above with repeatable accuracy—but now, our MZ runs lights out four to five nights a week. ”

JARROD MCCLENDON, AMERICAN PRECISION GEAR

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