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HI-BHAMBAR MILLING MACHINES

Selector Guide

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Helping India Machine Better Since 1989

Feature / Aspect	Tool Room Milling Machine	Production Milling Machine
Purpose	Suitable for multi-tasking	Suitable for single operation in bulk with accuracy
Accuracy	High	High
Speed	Infinite (depends on operator control)	Infinite (depends on production cycle)
Setup Time	Long – needs operator effort every time	Fast – with manual/hydraulic jigs & fixtures
Operator Dependency	Two Logics: 1) Mechanical Feed = Less Productivity 2) Servo PLC = More Productivity	Less dependency – higher productivity due to automation
Machine Type	Vertical, Universal, Horizontal, Ram Turret	Vertical, Universal, Horizontal, Ram Turret
Flexibility	High – Multi-operation jobs	High – Based on defined cycle timing
Automation Support	Optional	Yes
Machine Duty	Light / Medium / Heavy	Light / Medium / Heavy

Feature / Aspect	Normal Precision (≤ 0.06 mm)	High Precision (< 0.03 mm)
Application Type	General machining, brackets, slots	Dies, molds, gauges, aerospace jobs
Accuracy Level	Up to 0.05 mm	Less than 0.03 mm
Surface Finish	Standard machining finish	Fine finish, close to grinding quality
Tolerance Range	Medium	Very tight tolerance
Operator Requirement	Skilled or semi-skilled	Highly skilled or automation preferred
Machine Type Compatibility	Manual, Hydraulic Feed or Gearbox Type	Servo Controlled, PLC, Ball Screw Type
Output Consistency	Depends on operator skill	Repeatable and stable with automation
Suitable for Tool Room	Yes	Yes
Suitable for Production		For production and time-oriented tasks

Feature / Aspect	Light Duty	Medium Duty	Heavy Duty
Job Weight	Up to 50 kg	Up to 1000 kg	Up to 2500 kg
Material Type	Material type doesn't matter – only depth of cut matters	Material type doesn't matter – only depth of cut matters	Material type doesn't matter – only depth of cut matters
Depth of Cut	1 mm (varies by material)	5 mm (varies by material)	10 mm (varies by material)
Operation Type	Light facing, light slotting, engraving	Regular facing, drilling, boring, slotting	Gear cutting, spline cutting, heavy duty facing
Machine Frame	Compact, light body structure	Standard base, medium size castings	Wide base, heavy casting, rigid box structure
Accuracy Level	Normal Precision	Normal to High Precision	High Precision with Gearbox / Servo
Recognized Drive System	Manual / Mechanical / Hydraulic / Gearbox / Servo	Manual / Mechanical / Hydraulic / Gearbox / Servo	Manual / Mechanical / Hydraulic / Gearbox / Servo
Operator Skill Need	Depends on feed selection (manual = high skill, servo = low skill)		
Operator Skill Need	Basic to Moderate	Moderate	Skilled or Semi-Skilled

Feed System vs Operator Skill Comparison

Feature / Aspect	Manual / Mechanical Feed	Hydraulic Feed	Servo Controlled Feed
Operator Skill Requirement	High Skill Needed (Feed by Handwheel)	Low to Moderate Skill (Feed by Lever/Hydraulic)	No Skill Required / Operator Independent (Program Based)
Feed Type	Manual Handwheel Operation	Lever / Hydraulic Feed System	Auto Feed via Servo Motors / Ball Screw
Accuracy Achievable	Normal Precision (0.06 - 0.1 mm)	Normal to Medium Precision (0.05 - 0.08 mm)	High Precision (Less than 0.03 mm)
Flexibility & Setup	Highly Flexible but Time Consuming Setup	Quick Setup with Hydraulic Clamps	Preset Program Cycle Time – Repeatable
Use Case Suitability	Tool Room, General Purpose, Prototyping	Batch Production, Tool Room	High Accuracy Production, Zero Error Task

Suggested Parameters for Machine Selection

Parameter	Option 1	Option 2	Option 3
Job Type	Single Operation	Multiple Operations	Custom Complex Jobs
Quantity	Low Volume	Medium Volume	Mass Production
Accuracy Requirement	Normal ($\leq 0.06\text{mm}$)	High ($\leq 0.03\text{mm}$)	Ultra High ($\leq 0.01\text{mm}$)
Job Size (mm)	Small	Medium	Large
Job Weight (kg)	Up to 50kg (Light Duty)	Up to 1000kg (Medium Duty)	Up to 2500kg (Heavy Duty)
Material Type	Mild Steel / Aluminium	CI / EN8 / EN9	Hard Material / Alloy Steel
Depth of Cut	1mm	5mm	10mm+
Operator Skill	Basic to Moderate	Moderate	Skilled / Semi-Skilled
Automation Need	Manual / Mechanical Feed	Hydraulic / Gearbox Based	Servo Controlled / PLC

Suggested Output Logic Chart

Output Category	Manual / Mechanical Feed	Hydraulic Feed	Servo Controlled (PLC + HMI)
Production Volume	Low to Medium	Medium to High	High Volume
Operator Skill	High	Moderate	Low or Not Required
Setup Time	High	Medium	Low
Repeat Accuracy	Low	Medium	High
Automation Level	None	Semi-Automatic	Fully Automatic
Operation Type	General Milling, Slotting	Batch Job Milling	Precision Production Milling
Output Consistency	Depends on Operator	Improved Consistency	Highly Consistent

Frequently Asked Questions – HI-BHAMBAR Milling Machines

Question	Answer
Q1. How to select the right milling machine?	Use our Selector Chart based on job size, material, required operations, and accuracy. Still confused? Call us or visit www.bhambar.in .
Q2. What is the difference between Tool Room and Production Milling Machines?	Tool Room Machines are suitable for multi-tasking and die work. Production Machines are ideal for single-task bulk operations with high accuracy.
Q3. Which machines offer high precision?	Servo Controlled PLC Machines and Hydraulic Machines offer high precision, especially suitable for repetitive and automatic operations.
Q4. Do I need a skilled operator for these machines?	Manual and Mechanical Feed machines require skill. Servo and Hydraulic models reduce operator dependency.
Q5. What is the difference between light, medium, and heavy-duty?	It depends on job weight and depth of cut. Light: up to 50 kg, Medium: up to 1000 kg, Heavy: up to 2500 kg.
Q6. What is the accuracy level in Bhambar Machines?	Normal precision: ± 0.05 – 0.1 mm; High precision: less than ± 0.03 mm. Depends on machine type and setup.

Q7. Are different drive systems available?	Yes – Manual, Mechanical Feed, Hydraulic Feed, Gearbox-based, and Servo Controlled options available.
Q8. Can these machines be upgraded later?	Some models support modular upgrades – such as servo conversion or auto feed kits. Please contact us.
Q9. What support do you provide after machine purchase?	We provide full commissioning support, operator training (if needed), and on-call service assistance.
Q10. Where can I get help in choosing the right model?	Use our online selector booklet or WhatsApp us directly at 94642 73342 or 98141 95888.