

Classic Universal Small Precision M250 Cylindrical Grinding Machine

Our Product Introduction

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Basic Information

- Place of Origin: China
- Brand Name: Luyoung
- Certification: CE
- Model Number: M250
- Minimum Order Quantity: 1/SET
- Price: USD1300-USD20000
- Packaging Details: non-fumigation wooden box
- Delivery Time: 45 working days
- Payment Terms: L/C, T/T
- Supply Ability: 30/SET



Product Specification

- Table Size (length X Width): 500x250mm
- Workbench Front And Rear Travel: 260mm
- Workbench Left And Right Travel: 560mm
- Workbench Left And Right Moving Speed (stepless): 320mm
- Total Motor Power: 2.79KW
- Highlight: small cylindrical grinding machine, precision grinding machine M250, universal grinding machine with warranty

Product Description

Core Characteristics of the M250 Small Grinding Machine

The M250 is a very classic **universal, small, precision cylindrical grinding machine**. Known for its compact structure, high precision, and wide applicability, it is widely used in tool rooms, maintenance workshops, laboratories, and small-batch production.

Core Features of the M250 Small Grinding Machine

I. Structural Layout and Rigidity Characteristics

Compact Design and Small Footprint

As a small grinding machine, it has a compact structure and typically occupies less than 2 square meters, making it ideal for installation in workshops or laboratories with limited space.

High Rigidity Bed

Despite its small size, the bed is usually made of **high-quality cast iron** with a rational structure, providing good rigidity and vibration damping characteristics, forming a stable foundation for precision grinding.

Precision Guideway System

The table and wheelhead typically use **manually or hydraulically driven precision sliding guideways (V-and-flat type)**. These guideways offer good rigidity, smooth movement, and strong vibration resistance, representing the classic choice for traditional precision grinding machines.

II. Performance and Configuration Characteristics

Grinding Wheel Spindle System

High-Precision Spindle: Utilizes **hydrodynamic sliding bearings** or **precision rolling bearings** to ensure high rotational accuracy and stability of the spindle at high speeds, which is key to achieving high roundness and low surface roughness.

Grinding Wheel Size: Typically equipped with a grinding wheel with a diameter of around 250mm to 300mm, which is also the origin of its model name "M250".

Workhead and Tailstock

Workhead: The spindle is supported by precision bearings and can achieve variable speed (mechanical or inverter-controlled) to adapt to workpieces of different materials and diameters.

Centers: Both the workhead and tailstock are equipped with **Morris tapers** (e.g., Morse Taper #4) for accurate positioning and easy clamping.

Tailstock: The quill moves flexibly, and the spring pressure is adjustable, ensuring a stable clamping force on the workpiece during grinding.

Feed System

Cross Feed (Infeed): The wheelhead cross feed usually employs a **manual fine-pitch lead screw** equipped with a **dial or DRO**, enabling precise micron-level infeed to control the grinding depth.

Longitudinal Feed: The table longitudinal movement can be manual or hydraulic, ensuring smooth motion without creep.

III. Technical Advantages and Application Characteristics

High-Precision Machining Capability

With correct operation and maintenance, the M250 can consistently achieve:

High Roundness: $\leq 0.002 \text{ mm}$

High Cylindricity: $\leq 0.005 \text{ mm}$

Low Surface Roughness: $Ra \leq 0.4 \mu\text{m}$ or even lower

Operational Flexibility and High Versatility

Ideal for **small-batch, high-mix** part processing, offering easy setup and quick changeover between different products.

Capable of performing various grinding operations by equipping different attachments and fixtures.

Wide Machining Range

Primarily used for grinding **cylindrical and conical** external surfaces and shaft shoulders.

Typical applications include:

Precision shaft parts like transmission shafts, motor shafts, and spindles.

Precision measuring tools like plug gauges and snap gauges.

Special small parts for scientific research and experiments.

Cost-Effectiveness and Ease of Maintenance



Specification data

As a basic model, it has a relatively low acquisition cost. Its simple structure and mature, reliable mechanical components make it easy to maintain, and it is relatively user-friendly for operators.

Table size (length x width)			mm	500×250
Workbench front and rear travel			mm	260
Workbench left and right travel			mm	560
Workbench left and right moving speed (stepless)			m/min	3 20
Worktable front and rear feed	Continuous (stepless speed regulation)		mm/min	50-500
	Intermittent (stepless speed regulation)		mm	1 20
Workbench T-slot (number of slots × slot width)			mm	1×14
grinding head	Distance from grinding wheel spindle centerline to work table		mm	470
	Vertical feed handwheel feed amount	Handwheel per turn	mm	2
		Handwheel per grid	mm	0.01
	Transverse feed handwheel feed amount	Handwheel per turn	mm	4
		Handwheel per grid	mm	0.02
	Grinding wheel spindle speed		r/min	2850
	Grinding wheel size (outer diameter × width × inner diameter)		mm	Φ200×16×Φ31.75
hydraulic system	spindle motor		kw	1.5
	Work pressure		Mpa	3
	Fuel tank capacity		L	60
Working accuracy	Parallelism of the machined surface to the base surface		mm	300:0.01
	surface roughness		μm	Ra0.32
	net weight		kg	1100

Machine weight	Gross weight	kg	1200
Total motor power		kw	2.79
Grinding head motor power		kw	1.1
frequency		w	50
Overall dimensions (length × width × height)		mm	1700×1300×1800
Packing box dimensions (length × width × height)		mm	1400×1200×1900

The M250 Small Grinding Machine is the "classic workbench" in the field of precision machining. It does not pursue extreme efficiency like large, fully automatic grinders, but instead **achieves a perfect balance between precision, flexibility, and cost-effectiveness for small workpieces.**

For users involved in part rework, tool manufacturing, prototype development, or small-batch production of precision shafts, the M250 is a reliable, practical, and cost-effective piece of fundamental precision equipment. It represents the reliability and essence of traditional mechanical grinding machines.



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