CREWORKS MLML

CREWORKS 18x35 cm Mini Metal Lathe Instruction Manual

Model: MLML

1. Introduction and Overview

The CREWORKS 18x35 cm Mini Metal Lathe is a robust and precise machine designed for small to medium-sized metal and wood projects. Constructed from high-quality cast iron, this mini lathe features a powerful 550W motor driving a high-precision 3-jaw chuck through durable metal gears. Its well-machined headstock and tailstock, large through-hole, and 4-way tool post provide comprehensive control for turning, cutting, drilling, and threading operations at speeds ranging from 0 to 2250 RPM. With an 18 cm (7-inch) swing over the bed and a 35 cm (14-inch) distance between centers, it accommodates various projects. This versatile tool is suitable for both professional artisans and hobbyists.

Key Features:

- **Compact yet Powerful:** Equipped with a 550W (0.74 HP) motor, offering an 18 cm (7-inch) swing over the bed and a 35 cm (14-inch) distance between centers. The versatile 2 cm spindle bore is ideal for various applications.
- **Precision Technology:** Features a 10 cm (4-inch) high-precision 3-jaw chuck, capable of securely holding both square and round workpieces. Its granular precision makes it highly suitable for intricate tasks such as threading.
- **Full Control:** Provides adjustable speed from 0 to 2250 RPM, monitored via a digital display. The well-machined headstock, tailstock, large through-hole, and 4-way tool post enhance operational results.
- **Stable and Safe:** Built with an all-metal construction to ensure ultra-stable and safe operation. A transparent cover protects against chips and tool damage while maintaining clear visibility of the work area.
- **Wide Range of Applications:** This mini metal lathe is versatile, suitable for a broad spectrum of machining activities including turning, drilling, tapping, and cutting with maximum precision.

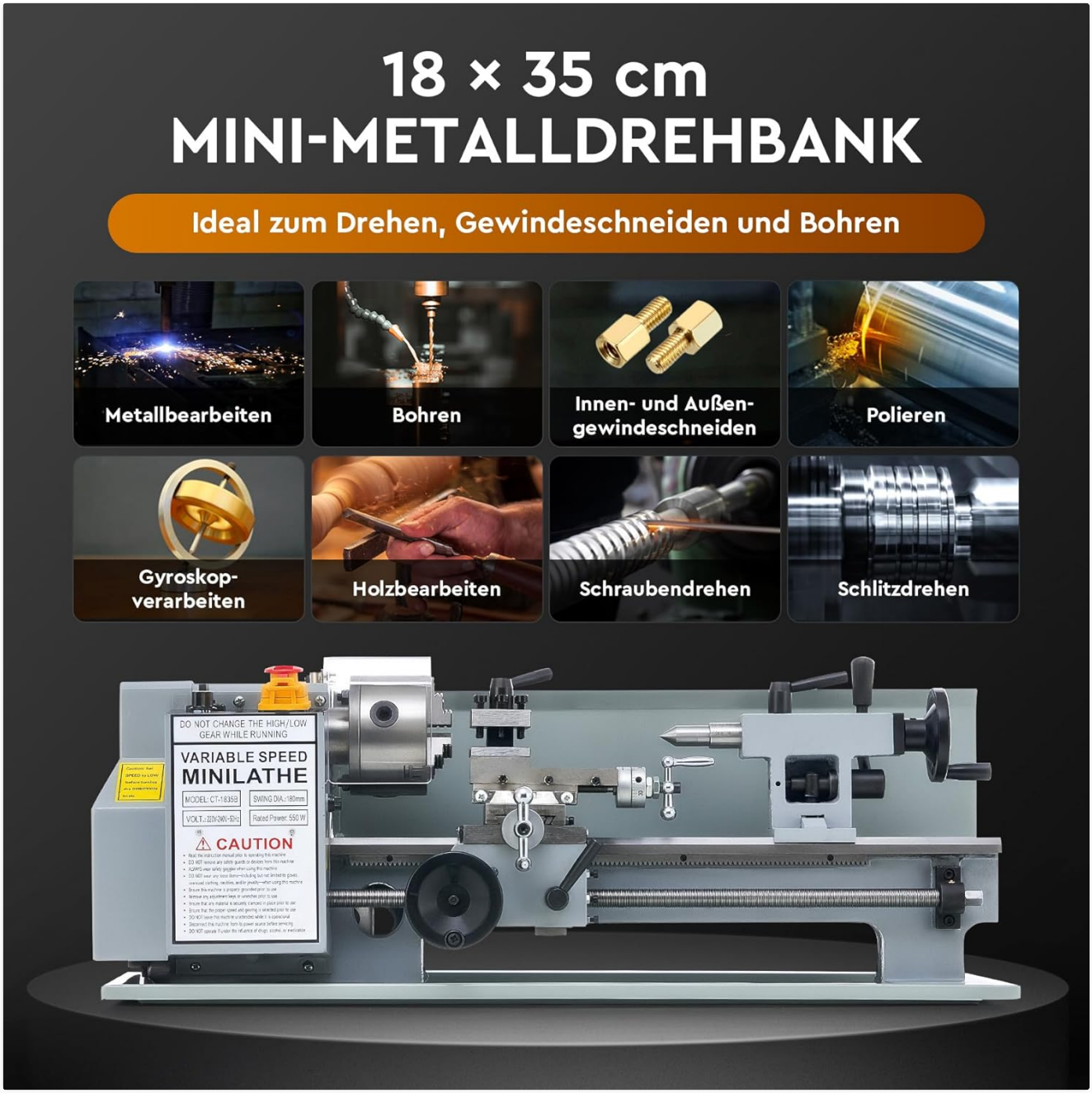

Figure 1.1: Overview of the CREWORKS Mini Metal Lathe and its diverse applications including metalworking, drilling, threading, polishing, gyroscopic processing, woodworking, screwing, and slotting.

2. Setup

Before operating the CREWORKS Mini Metal Lathe, ensure proper setup to guarantee safety and optimal performance.

1. **Unpacking:** Carefully remove all components from the packaging. Inspect for any shipping damage. Retain packaging for future transport or storage.
2. **Placement:** Position the lathe on a sturdy, level workbench capable of supporting its weight (approximately 36.5 kg). Ensure adequate clearance around the machine for safe operation and chip removal.
3. **Power Connection:** Connect the lathe to a suitable AC power supply as specified in the technical data. Ensure the power switch is in the 'OFF' position before plugging in.
4. **Initial Cleaning:** Clean any protective grease or oil from the machine's surfaces, especially the bedways and

moving parts, using a suitable degreaser. Lubricate moving parts as per the maintenance section.

5. **Tool Post Installation:** Securely mount the 4-way tool post and ensure it is properly aligned.
6. **Chuck Inspection:** Verify that the 3-jaw chuck is securely attached and operates smoothly.

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3. Operating Instructions

Familiarize yourself with the controls and safety procedures before beginning any operation.

3.1 Safety Precautions

- Always wear safety glasses or a face shield.
- Do not wear loose clothing, gloves, or jewelry that could get caught in moving parts.
- Ensure the workpiece is securely clamped in the chuck or between centers.
- Never leave the machine unattended while it is running.
- Disconnect power before making adjustments or maintenance.

3.2 Speed Control

The lathe features continuously variable speed adjustment from 0 to 2250 RPM. Use the speed control knob to set the desired RPM. The digital display provides real-time feedback on the current spindle speed.

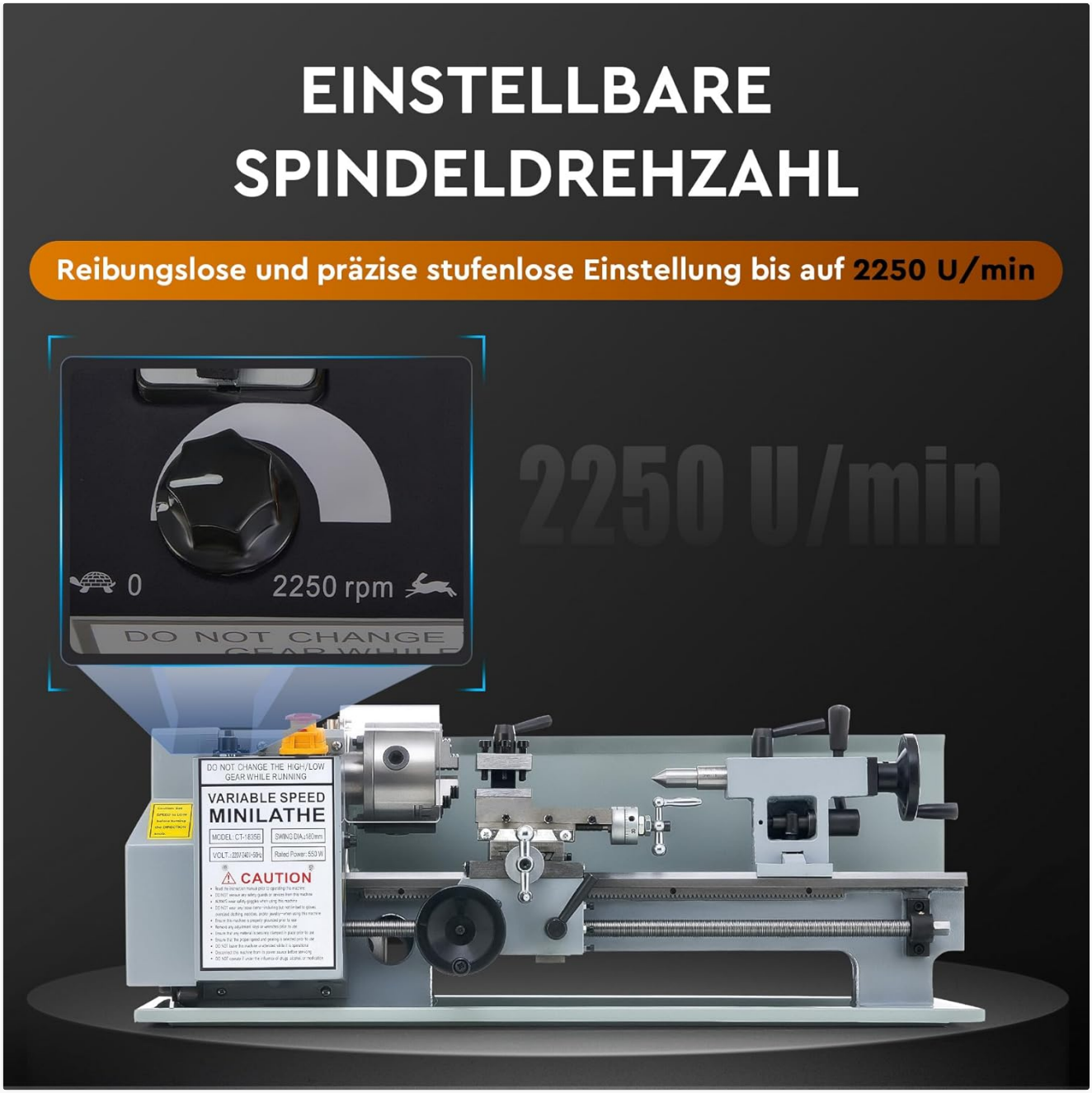

Figure 3.1: Adjustable Spindle Speed. The dial allows for stepless adjustment up to 2250 RPM, with the current speed displayed digitally.

3.3 Workpiece Clamping

The 10 cm (4-inch) 3-jaw chuck is designed to hold various workpieces. Ensure the workpiece is centered and clamped firmly to prevent slippage during operation. Refer to the chuck's specifications for internal and external jaw clamping ranges.

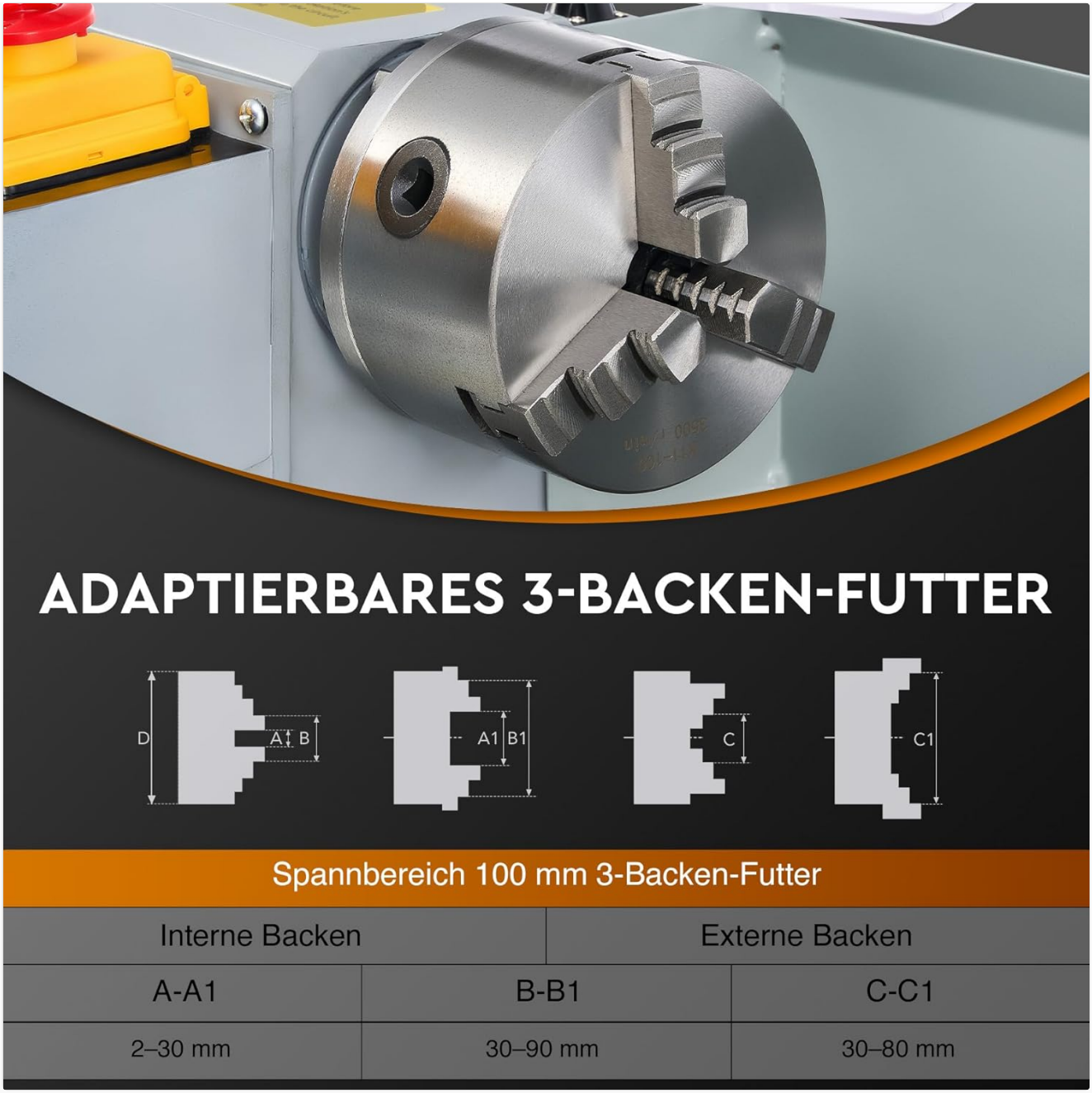

Figure 3.2: Adaptable 3-Jaw Chuck. This diagram illustrates the internal and external jaw configurations and their respective clamping ranges for the 100 mm 3-jaw chuck.

3.4 Controls and Movement

The lathe features several handwheels for precise control over the cutting tool and workpiece movement:

- **Emergency Stop Button:** Immediately stops all machine operations.
- **Handwheel for Bed Slide:** Controls the longitudinal movement of the carriage along the bed.
- **Handwheel for Cross Slide:** Controls the transverse movement of the tool post.
- **Handwheel for Compound Slide:** Allows for angular adjustments and short taper turning.
- **Handwheel for Tailstock Feed:** Controls the movement of the tailstock quill for drilling or supporting long workpieces.

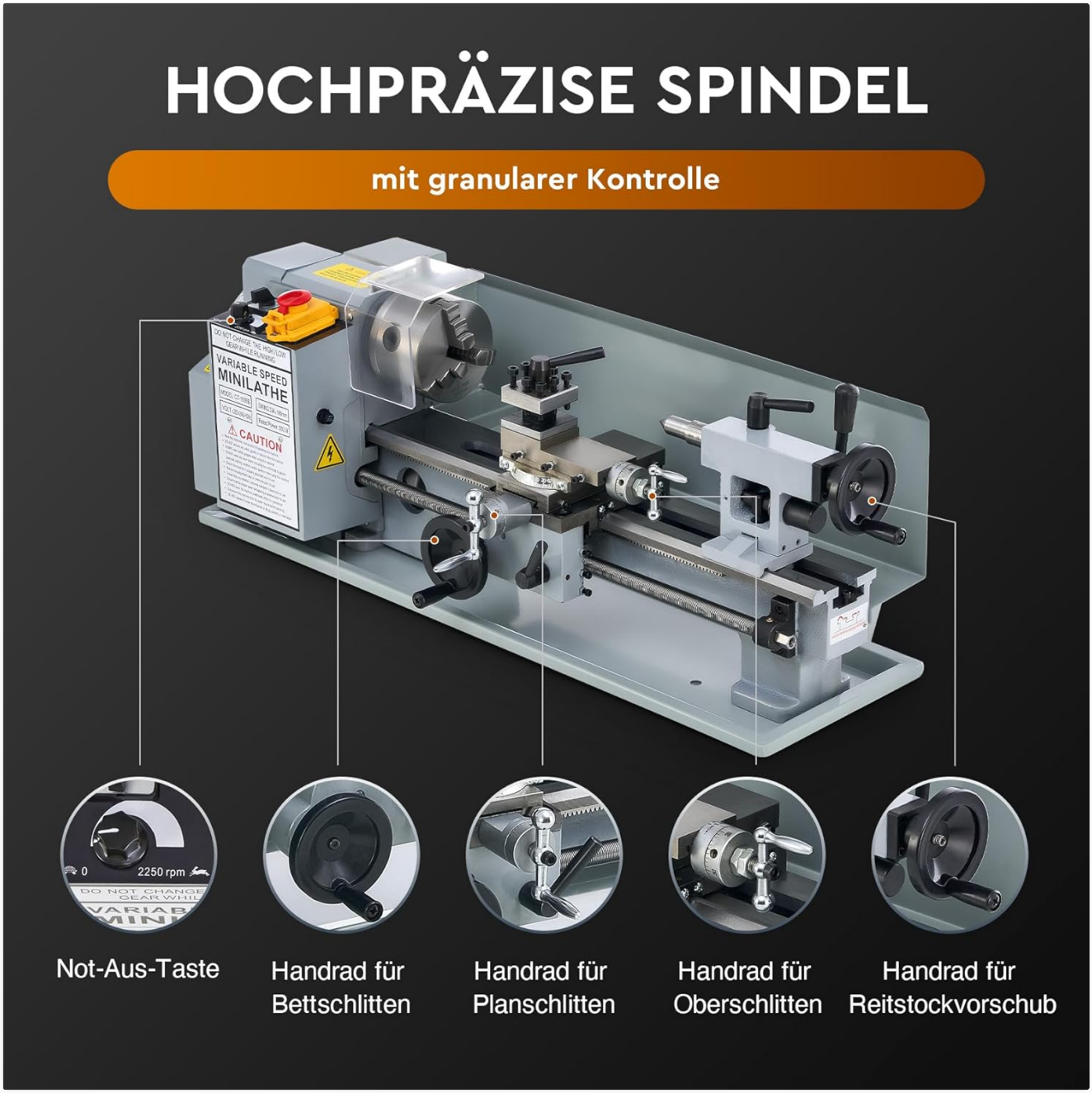

Figure 3.3: High-Precision Spindle and Controls. This image highlights the emergency stop button and the various handwheels for precise control over the bed slide, cross slide, compound slide, and tailstock feed.

4. Maintenance

Regular maintenance ensures the longevity and accuracy of your CREWORKS Mini Metal Lathe.

1. **Cleaning:** After each use, clean chips and debris from the machine, especially from the bedways, lead screw, and chuck. Use a brush or air gun (with caution and eye protection).
2. **Lubrication:** Regularly lubricate all moving parts, including the bedways, lead screw, cross slide, and compound slide. Refer to the machine's lubrication points for specific requirements.
3. **Gear Inspection:** Periodically inspect the metal gears for wear or damage. The durable metal gear set is designed for efficient power transmission.

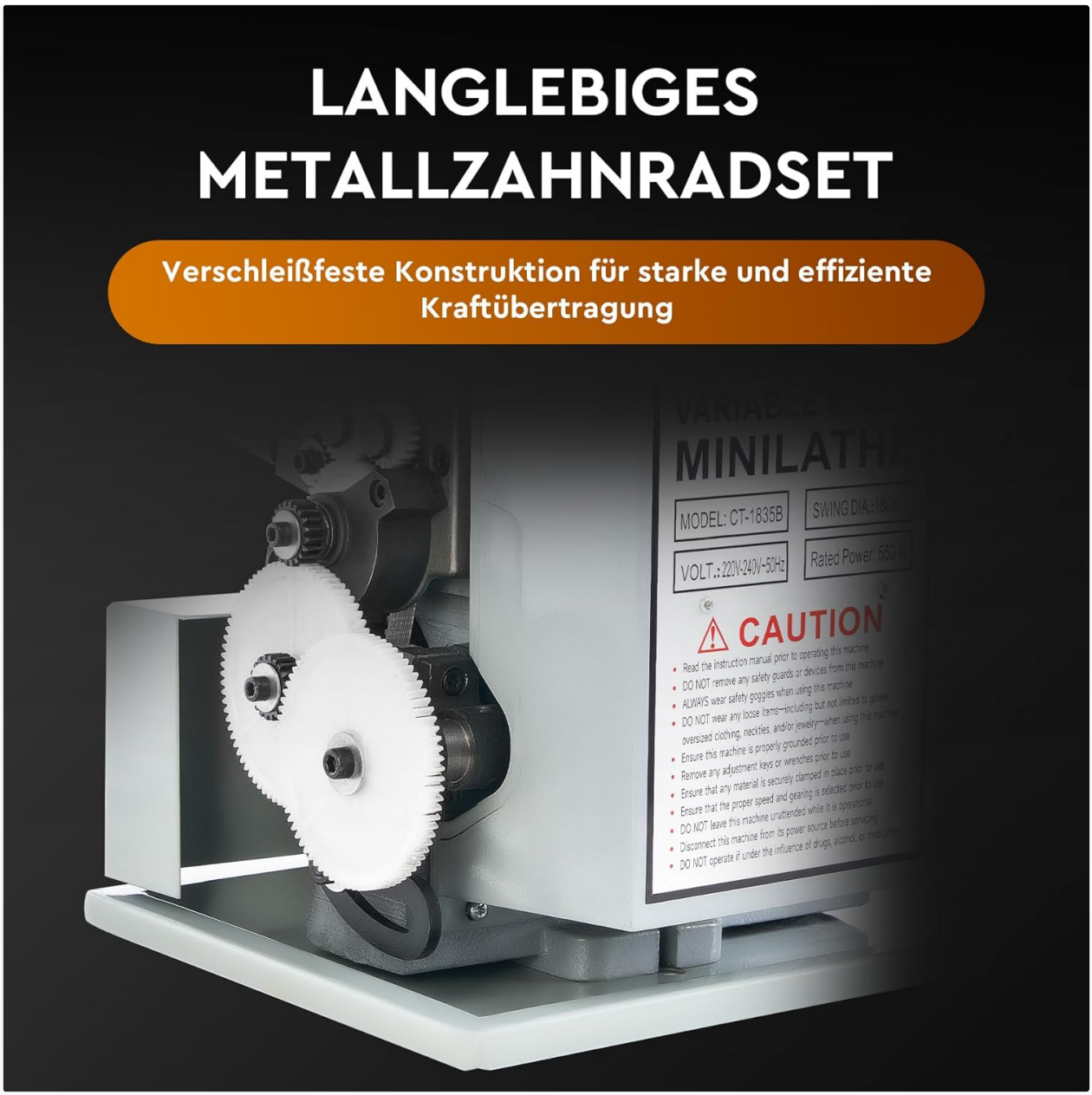

Figure 4.1: Durable Metal Gear Set. This image shows the wear-resistant construction of the metal gears, designed for strong and efficient power transmission.

4. **Guide Rail Maintenance:** Keep the double V-shaped guide rails clean and lightly oiled to ensure smooth and precise operation.

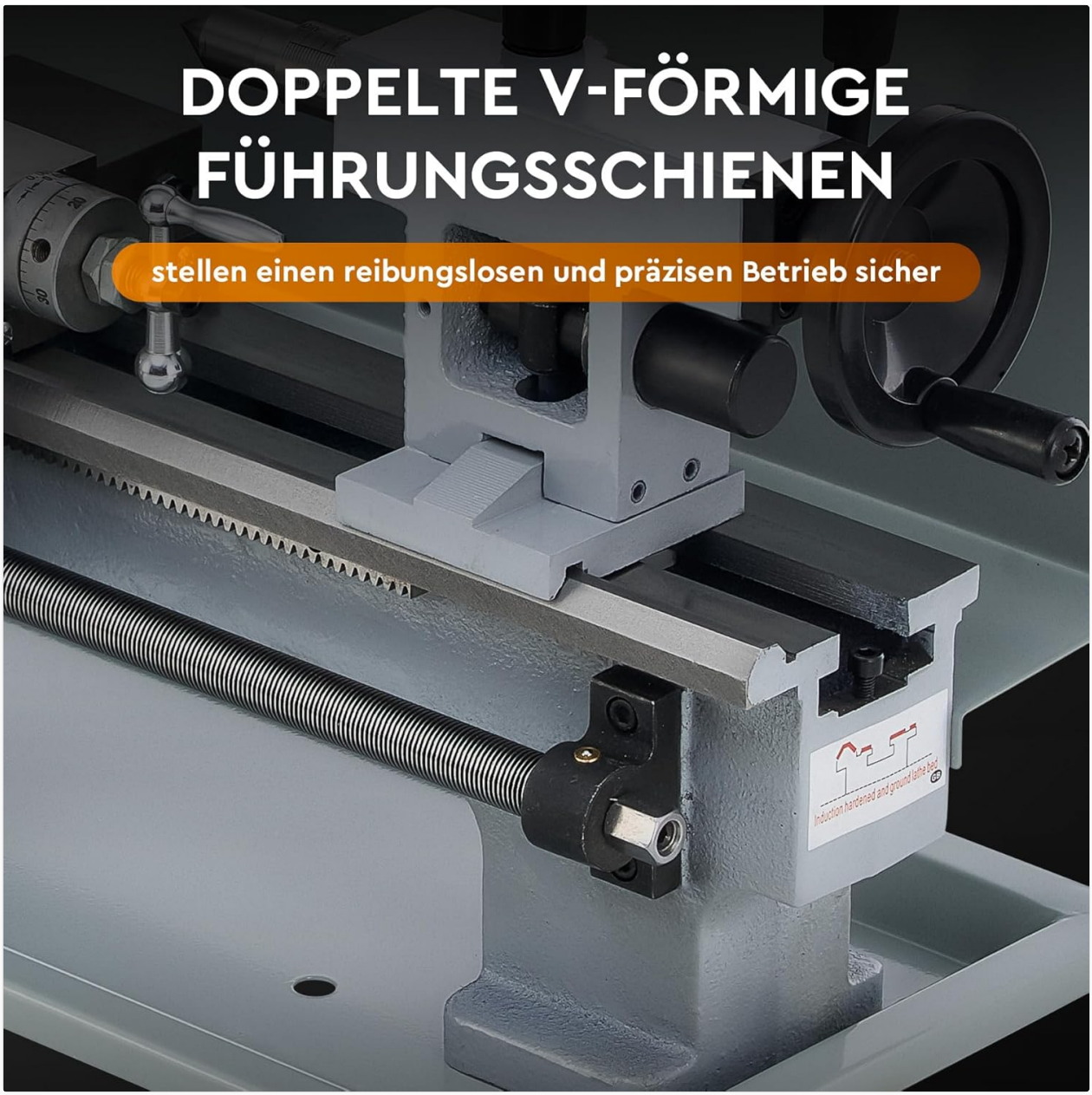

Figure 4.2: Double V-Shaped Guide Rails. These rails ensure smooth and precise operation of the carriage.

5. **Tightness Check:** Periodically check all nuts, bolts, and screws for tightness. Tighten as necessary.

5. Troubleshooting

This section addresses common issues you might encounter with your mini metal lathe.

- **Machine does not start:**
  - Check if the power cord is securely plugged in.
  - Ensure the power switch is in the 'ON' position.
  - Verify that the emergency stop button is not engaged.
- **Spindle speed is inconsistent:**
  - Check the speed control knob for proper setting.
  - Ensure the motor brushes are not worn (if applicable).

- **Excessive vibration or noise:**
    - Ensure the machine is securely mounted on a stable surface.
    - Check if the workpiece is properly balanced and securely clamped.
    - Inspect for loose components or worn bearings.
- **Poor surface finish on workpiece:**
    - Ensure cutting tools are sharp and correctly ground.
    - Adjust cutting speed and feed rate.
    - Check for excessive tool overhang or play in the slides.

6. Technical Specifications

Below are the detailed technical specifications for the CREWORKS 18x35 cm Mini Metal Lathe (Model MLML).

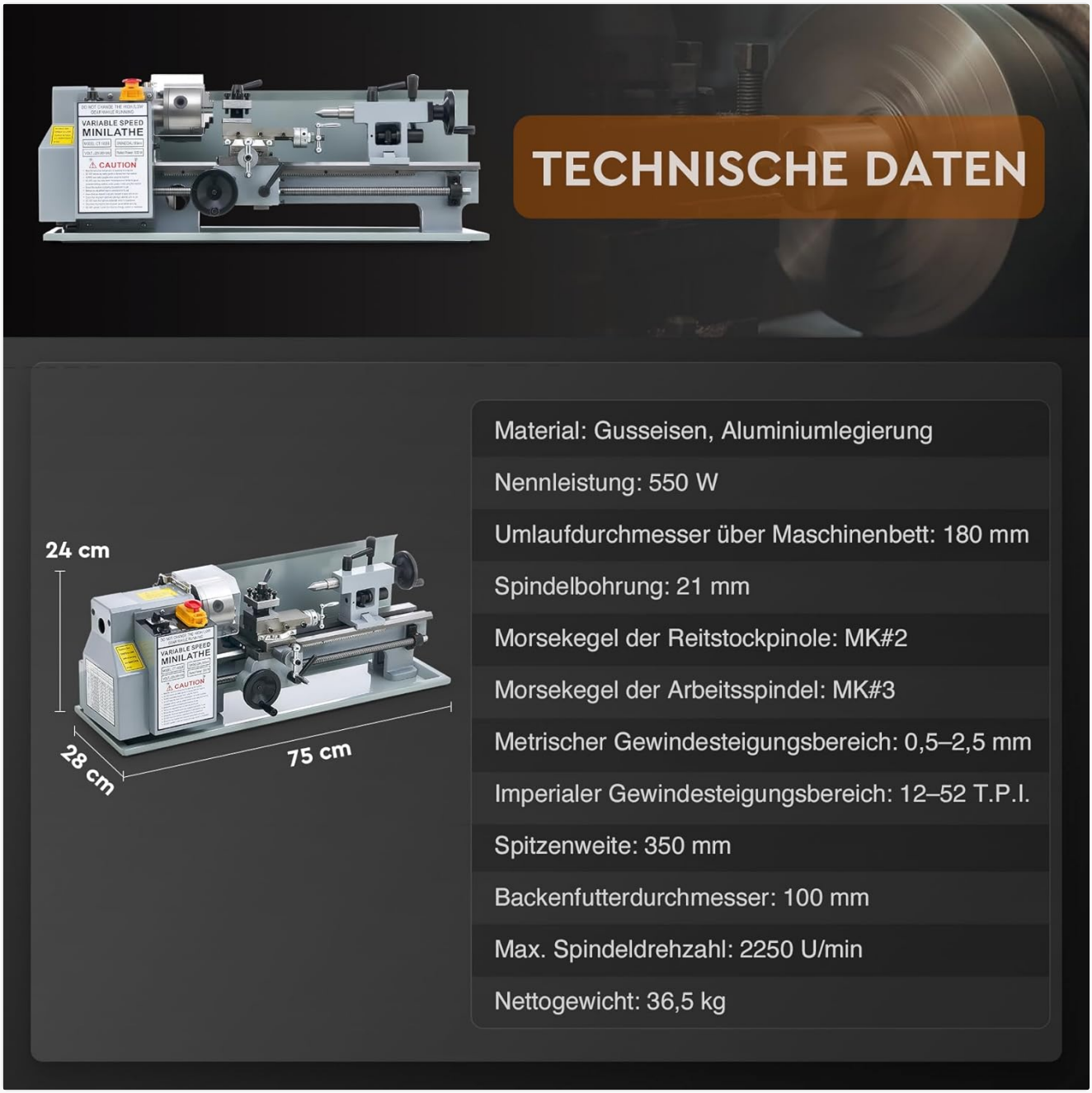

Figure 6.1: Technical Data. This image provides a summary of the key specifications for the CREWORKS Mini Metal Lathe.

Specification	Value
Manufacturer	CREWORKS
Model Number	MLML
Product Dimensions	75 x 28 x 24 cm
Item Weight	36.5 kg
Material	Cast Iron, Aluminum Alloy
Rated Power	550 W
Swing Over Bed	180 mm (7 inches)
Distance Between Centers	350 mm (14 inches)
Spindle Bore	21 mm
Tailstock Taper	MK#2
Spindle Taper	MK#3
Metric Thread Pitch Range	0.5-2.5 mm
Imperial Thread Pitch Range	12-52 T.P.I.
Chuck Diameter	100 mm
Max. Spindle Speed	2250 U/min (RPM)
Power Type	AC
Included Components	1 set of accessories, 1 metal lathe

7. Warranty and Support

For warranty information, technical support, or service inquiries regarding your CREWORKS Mini Metal Lathe, please refer to the documentation included with your purchase or contact CREWORKS customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.