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VEVOR TQ2275S

VEVOR Metal Lathe 8.7" x 30" 1100W User Manual

Model: TQ2275S

1. Important Safety Instructions

Read and understand all instructions before operating this machine. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.

- **Work Area Safety:** Keep the work area clean and well-lit. Cluttered or dark areas invite accidents. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.
- **Electrical Safety:** Power tool plugs must match the outlet. Never modify the plug in any way. Do not abuse the cord. Never use the cord for carrying, pulling, or unplugging the power tool. Keep cord away from heat, oil, sharp edges, or moving parts.
- **Personal Safety:** Always wear eye protection. Use safety glasses, goggles, or a face shield. Wear appropriate clothing; avoid loose clothing, jewelry, and long hair that can get caught in moving parts. Use hearing protection when operating the lathe.
- **Machine Operation:** Do not overreach. Keep proper footing and balance at all times. Use clamps or other practical ways to secure and support the workpiece to a stable platform. Do not force the tool. Use the correct tool for your application.
- **Maintenance:** Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools. Maintain tools with care. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation.
- **Emergency Stop:** Familiarize yourself with the location and operation of the emergency stop button.

2. Product Overview

The VEVOR Metal Lathe TQ2275S is a semi-automatic benchtop machine designed for precision metalworking tasks such as turning, drilling, threading, and knurling. It features an 8.7-inch swing over bed and a 30-inch distance between centers, powered by an 1100W brushless motor with variable speeds up to 2500 RPM. The gearless drive technology and electronic leadscrew provide simplified operation and consistent results.



Figure 2.1: Key Features of the VEVOR Metal Lathe

2.1 Main Components

- **Headstock:** Contains the main spindle, chuck, and motor.
- **Chuck:** Holds the workpiece securely.
- **Tool Post:** Holds the cutting tools.
- **Carriage:** Moves along the bed, carrying the cross-slide and tool post.
- **Cross-Slide:** Moves the tool perpendicular to the lathe bed.
- **Tailstock:** Supports the end of long workpieces or holds drilling/reaming tools.
- **Lathe Bed:** The main frame that supports all other components.
- **Control Panel:** For speed adjustment, feed settings, and emergency stop.

3. Setup and Installation

3.1 Unpacking

Carefully remove the lathe and all accessories from the packaging. Inspect all components for any signs of damage during transit. Report any damage to your supplier immediately. Retain packaging for future transport or storage.

3.2 Placement and Mounting

Place the lathe on a sturdy, level workbench capable of supporting its weight (approximately 172 lbs / 78 kg). Ensure there is adequate space around the machine for safe operation and chip clearance. Secure the lathe to the workbench using appropriate bolts and fasteners to prevent movement during operation.

3.3 Power Connection

Ensure the power switch is in the OFF position. Connect the lathe to a grounded power outlet that matches the voltage and frequency requirements specified on the machine's rating plate. Do not use extension cords unless absolutely necessary, and ensure they are rated for the machine's power requirements.

3.4 Initial Inspection

Before first use, check all moving parts for free movement. Apply a thin layer of machine oil to all unpainted metal surfaces to prevent corrosion and ensure smooth operation. Verify that all safety guards are in place and functioning correctly.

4. Operating Instructions

4.1 Basic Controls

- **Power Switch:** Turns the machine ON/OFF.
- **Speed Control Knob:** Adjusts the spindle speed within the selected range.
- **Emergency Stop Button:** Press to immediately stop all machine operations in an emergency.
- **Direction Switch:** Controls the spindle rotation direction (Forward/Reverse).

4.2 Workpiece Mounting

Open the chuck jaws using the chuck key. Insert the workpiece, ensuring it is securely gripped by at least half the jaw length. Tighten the chuck jaws firmly and remove the chuck key before starting the machine. For longer workpieces, use the tailstock for additional support.

4.3 Tool Setup

Select the appropriate cutting tool for the operation. Mount the tool securely in the tool post, ensuring the cutting edge is aligned with the center height of the workpiece. Tighten the tool post locking screws firmly.

4.4 Speed Selection

The lathe offers two speed ranges: Low (0-1250 RPM) and High (0-2500 RPM). Select the appropriate range using the speed range switch. Fine-tune the speed within the selected range using the variable speed control knob. Lower speeds are generally used for larger diameters, harder materials, and roughing cuts, while higher speeds are for smaller diameters, softer materials, and finishing cuts.

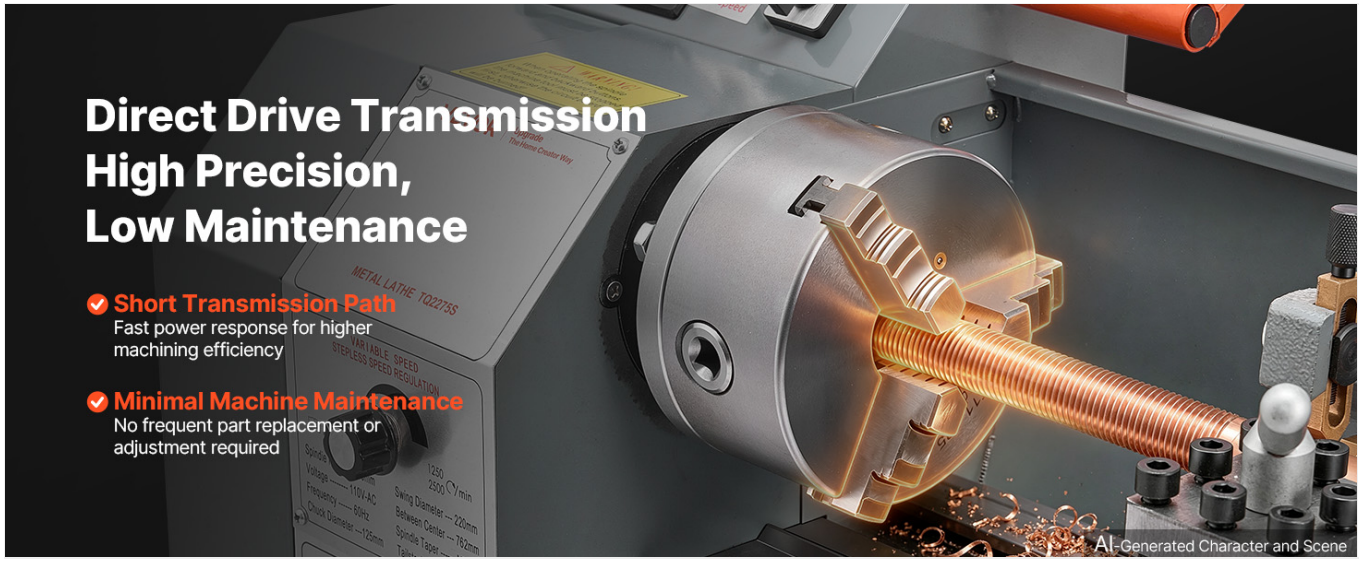

Figure 4.1: Speed Control and Machining Operation

4.5 Automatic Cross Feed

This lathe features a semi-automatic control system for cross feed. Use the control panel buttons to set parameters for automatic feeding. This reduces manual operation for fixed outer diameter machining and thread turning.



Figure 4.2: Smart Control Panel for Automatic Cross Feed

4.6 Threading

The electronic leadscrew drive allows for precise thread cutting. Refer to the threading chart on the machine for specific settings for 19 Metric Threads (0.3-3.5 mm) and 19 Imperial Threads (6-40 T.P.I). The gearless system automatically matches the optimal transmission ratio.



Figure 4.3: Gearless Drive for Simplified Threading

4.7 Multiple Capabilities

This lathe is versatile and can perform various operations on materials like iron, aluminum, copper, plastic, and wood.

- **Turning:** Reducing the diameter of a workpiece.
- **Drilling:** Creating holes along the axis of the workpiece using the tailstock.
- **Threading:** Cutting external or internal threads.
- **Knurling:** Creating a textured pattern on the surface of a workpiece for grip.



Figure 4.4: Versatile Operations: Turning, Drilling, Threading, Knurling

5. Maintenance

5.1 Cleaning

After each use, clean the lathe thoroughly. Remove all metal chips and debris from the bed, carriage, and other surfaces using a brush or shop vacuum. Do not use compressed air as it can force chips into moving parts. Wipe down surfaces with a clean cloth.

5.2 Lubrication

Regularly lubricate all moving parts, including the leadscrew, cross-slide, compound slide, and tailstock quill. Use high-quality machine oil as recommended by the manufacturer. Refer to the lubrication points indicated in the machine's diagram (if provided).

5.3 Inspection

Periodically inspect the machine for wear and tear. Check for loose fasteners, damaged wires, or excessive play in moving components. Ensure all safety guards are intact and functional. Replace any worn or damaged parts immediately.

6. Troubleshooting

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
Motor does not start	No power supply; Emergency stop engaged; Faulty switch	Check power connection; Release emergency stop; Contact service
Poor surface finish	Dull cutting tool; Incorrect speed/feed; Workpiece not rigid	Sharpen/replace tool; Adjust speed/feed; Secure workpiece firmly
Excessive vibration	Loose mounting; Unbalanced workpiece; Worn bearings	Tighten mounting bolts; Balance workpiece; Inspect bearings
Inaccurate threading	Incorrect settings; Tool not aligned; Play in leadscrew	Verify threading settings; Align tool to center; Check leadscrew for play

7. Technical Specifications

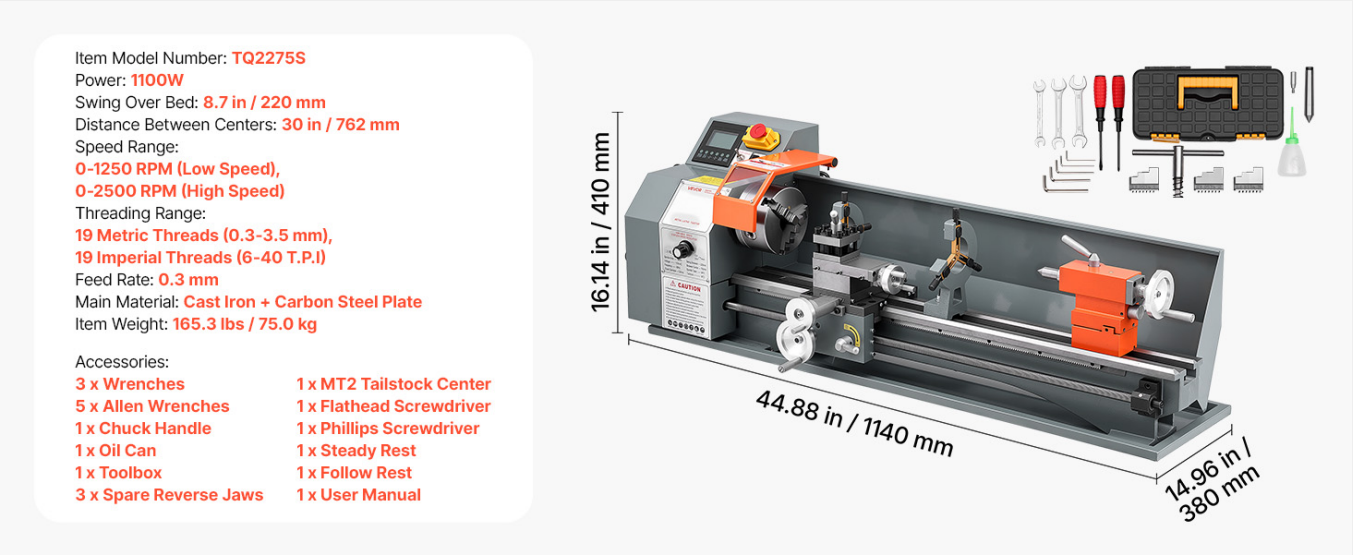

Figure 7.1: Product Dimensions and Specifications

Specification	Value
Item Model Number	TQ2275S
Power	1100W
Swing Over Bed	8.7 in / 220 mm
Distance Between Centers	30 in / 762 mm
Speed Range (Low)	0-1250 RPM
Speed Range (High)	0-2500 RPM
Threading Range (Metric)	19 Threads (0.3-3.5 mm)
Threading Range (Imperial)	19 Threads (6-40 T.P.I)
Feed Rate	0.3 mm
Main Material	Cast Iron + Carbon Steel Plate
Item Weight	165.3 lbs / 75.0 kg
Product Dimensions	51.57 x 17.72 x 17.52 inches

7.1 Included Accessories

- 1 x Metal Lathe
- 1 x Accessory Kit
- 1 x Toolbox
- 1 x User Manual
- 3 x Wrenches
- 5 x Allen Wrenches
- 1 x Chuck Handle
- 1 x Oil Can

- 3 x Spare Reverse Jaws
- 1 x MT2 Tailstock Center
- 1 x Flathead Screwdriver
- 1 x Phillips Screwdriver
- 1 x Steady Rest
- 1 x Follow Rest

8. Warranty and Support

VEVOR products are designed for durability and performance. This product comes with a standard manufacturer's warranty against defects in materials and workmanship. For warranty claims, technical support, or replacement parts, please contact VEVOR customer service through their official website or the retailer from whom the product was purchased. Please have your model number (TQ2275S) and purchase information ready when contacting support.

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