

Baileigh VMD-828G

Baileigh Industrial VMD-828G Mill and Drill Machine User Manual

Model: VMD-828G (Part No. 1020692)

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, setup, and maintenance of your Baileigh Industrial VMD-828G Gear Driven Mill and Drill Machine. The VMD-828G is designed to combine the functionalities of a drill press and a milling machine, offering a space-efficient solution for various metalworking tasks. Please read this manual thoroughly before operating the machine to ensure proper usage and to prevent injury or damage.



Figure 1: Baileigh Industrial VMD-828G Mill and Drill Machine with stand.

The Baileigh Industrial VMD-828G is a versatile machine combining milling and drilling capabilities. It features a robust construction, a gear-driven head for precise speed control, and an integrated stand for stability. This machine is equipped with a coolant system and a work light to enhance operational efficiency and visibility.

2. SAFETY INSTRUCTIONS

Always prioritize safety when operating any machinery. Failure to follow these instructions may result in serious injury or damage to the machine.

- **Read the Manual:** Understand all instructions and warnings before operation.
- **Personal Protective Equipment (PPE):** Always wear safety glasses, hearing protection, and appropriate work attire. Avoid loose clothing, jewelry, and long hair that can get caught in moving parts.
- **Work Area:** Keep the work area clean, well-lit, and free from clutter. Ensure adequate space around the machine.
- **Machine Stability:** Ensure the machine is securely anchored to the floor to prevent tipping or movement during operation.
- **Electrical Safety:** Connect the machine to a properly grounded 110V power supply. Do not operate with damaged cords or plugs. Disconnect power before performing maintenance or adjustments.
- **Secure Workpiece:** Always clamp the workpiece firmly to the table before drilling or milling. Never hold the workpiece by hand.
- **Tooling:** Use only sharp, clean, and correctly sized tooling. Ensure tools are properly installed in the spindle.
- **Emergency Stop:** Familiarize yourself with the location and operation of the emergency stop button.

- **Supervision:** Never leave the machine running unattended.
- **Maintenance:** Perform regular maintenance as outlined in this manual. Only qualified personnel should perform repairs.

3. PRODUCT COMPONENTS AND FEATURES

The VMD-828G is equipped with several key components designed for precision and ease of use.

3.1 Control Panel



Figure 2: Main control panel with power, direction, and emergency stop buttons.

The control panel houses the main power switch, forward/reverse controls for the spindle, drilling/milling/tapping mode selector, and the emergency stop button. Familiarize yourself with all controls before operation.

3.2 Gear-Driven Spindle and Speed Chart

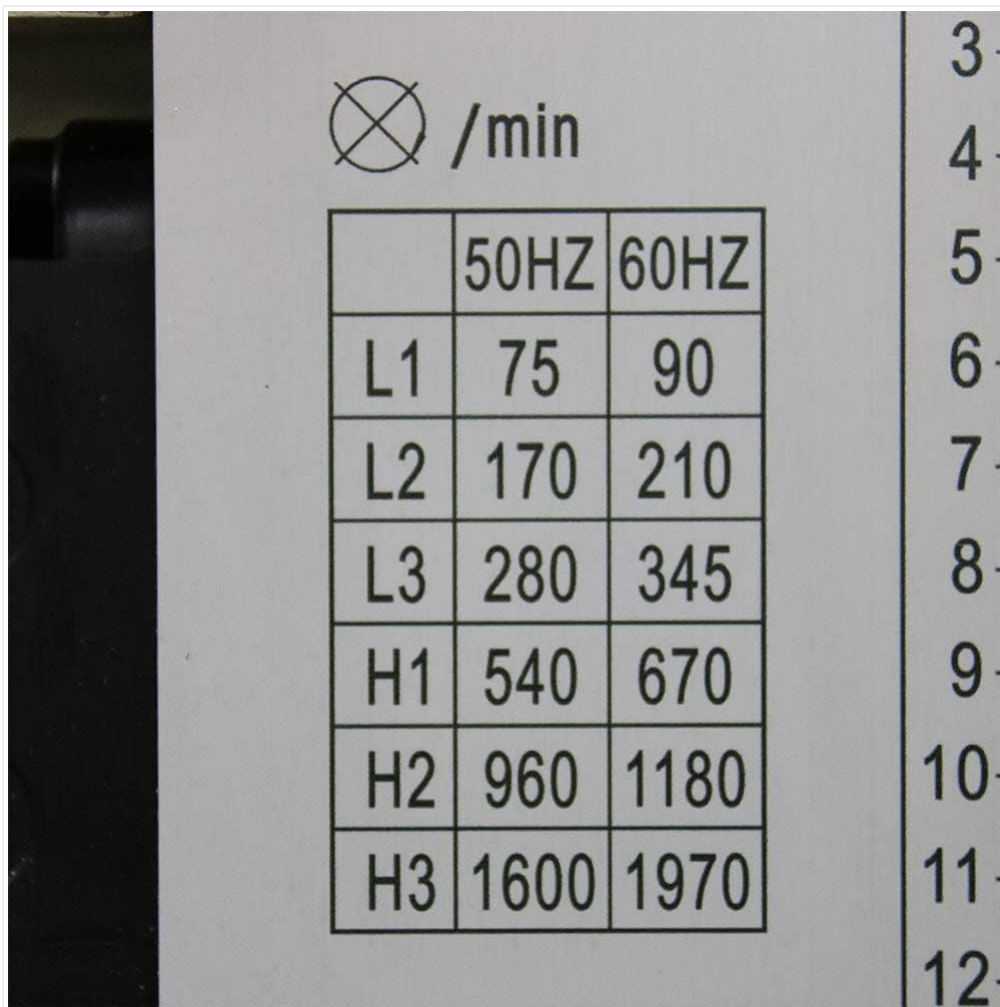


Figure 3: Spindle speed chart indicating RPMs for 50Hz and 60Hz power.

The VMD-828G features a gear-driven head, allowing for precise speed selection. The machine offers 6 distinct speeds: 90, 210, 345, 670, 1180, and 1970 RPM (for 60Hz operation). The speed chart on the machine indicates the appropriate gear settings (L1, L2, L3, H1, H2, H3) for each RPM.

3.3 Milling Table and Scales

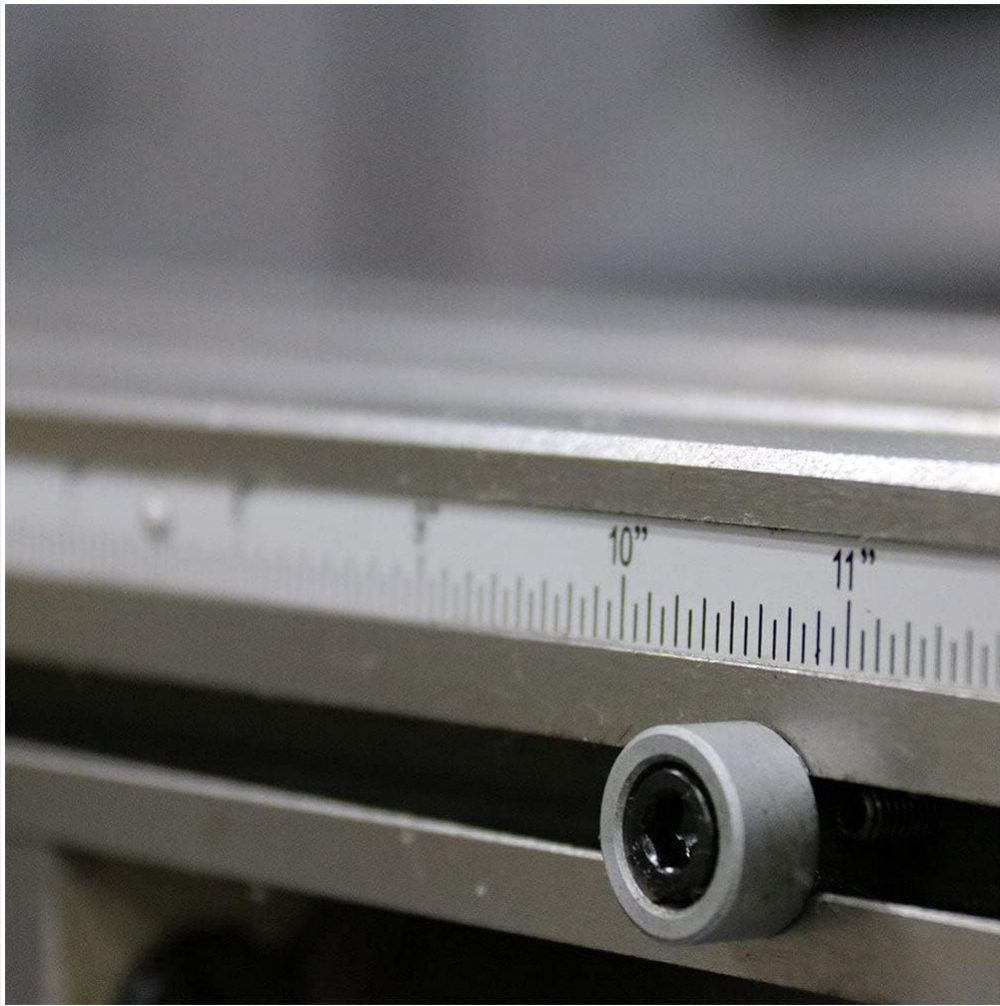


Figure 4: Close-up of the milling table with measurement scale.

The machine is equipped with a 29" x 8" milling-style table, providing ample space for various workpieces. Integrated scales assist in precise positioning and movement along the X and Y axes.

3.4 Depth Stop and Handwheel Dials

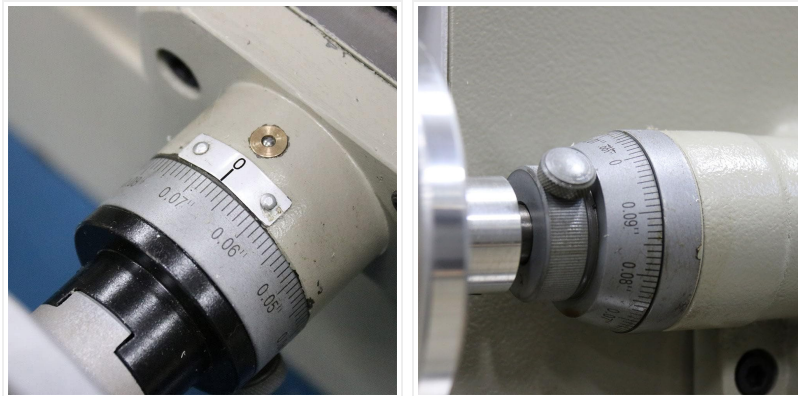


Figure 5: Left: Depth stop dial for precise drilling depth. Right: Handwheel dial for fine adjustments of table movement.

The machine includes a depth stop mechanism with a clear dial for accurate control over drilling depth. The handwheels for table movement are also equipped with precise measurement dials, allowing for fine adjustments during milling operations.

3.5 Head Tilt Mechanism



Figure 6: Angle scale for tilting the machine head.

The machine head can be tilted, allowing for angled drilling and milling operations. An integrated angle scale provides accurate measurement for precise adjustments.

4. SETUP AND INSTALLATION

Proper setup is crucial for the machine's performance and safety.

1. **Unpacking:** Carefully unpack all components. Inspect for any shipping damage. Report any damage immediately to the carrier and supplier.
2. **Placement:** Choose a level, stable surface capable of supporting the machine's weight. Ensure adequate clearance around the machine for operation and maintenance.
3. **Anchoring:** Securely anchor the machine to the floor using appropriate fasteners. This prevents movement during operation, especially when dealing with heavy workpieces or high forces.
4. **Electrical Connection:** Connect the machine to a dedicated 110V, properly grounded electrical outlet. Ensure the power supply matches the machine's requirements.
5. **Coolant System Setup:** Fill the coolant reservoir with appropriate cutting fluid. Ensure all hoses and nozzles are correctly connected and positioned.
6. **Lubrication:** Before first use, lubricate all moving parts as indicated in the maintenance section.

5. OPERATING INSTRUCTIONS

Follow these steps for safe and effective operation of your VMD-828G.

1. Preparation:

- Ensure the work area is clear and well-lit.
- Wear all necessary PPE.
- Select the appropriate cutting tool (drill bit, end mill, etc.) for your task.
- Install the cutting tool securely into the R8 spindle.
- Clamp the workpiece firmly to the milling table using appropriate clamps or a vise.

2. Speed Selection:

- Refer to the spindle speed chart (Figure 3) to determine the correct RPM for your material and tooling.
- Adjust the gear levers on the machine head to achieve the desired speed (L1, L2, L3, H1, H2, H3). Ensure the machine is off before changing gears.

3. Power On:

- Turn on the main power switch on the control panel.
- Select the desired mode: Drilling, Milling, or Tapping.

4. Operation:

- For drilling, use the quill feed handle to slowly lower the spindle into the workpiece. Use the depth stop for consistent hole depths.
- For milling, use the X, Y, and Z axis handwheels to position the workpiece relative to the cutting tool. Engage the spindle motor using the forward/reverse buttons.
- Apply coolant as needed using the coolant system.
- Maintain a steady feed rate appropriate for the material and cutting tool.

5. Power Off:

- Once the operation is complete, disengage the spindle motor.
- Raise the spindle clear of the workpiece.
- Turn off the main power switch.
- If an emergency occurs, press the red emergency stop button immediately.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your VMD-828G. Always disconnect power before performing any maintenance.

- **Daily:**
 - Clean the machine thoroughly, removing chips, dust, and coolant residue.
 - Wipe down all exposed metal surfaces to prevent rust.
 - Check coolant levels and replenish if necessary.
- **Weekly:**
 - Lubricate all sliding surfaces (ways, lead screws) with appropriate machine oil.
 - Inspect all electrical cords and connections for damage.
 - Check the tension of any belts (if applicable) and adjust if needed.
- **Monthly/Quarterly:**
 - Inspect the spindle for runout and excessive play.
 - Check and tighten all fasteners.
 - Clean the coolant system filter.
 - Inspect the gear mechanism for wear.
- **Lubrication Points:**



Figure 7: The machine column and rack require regular lubrication to ensure smooth vertical movement.

Ensure the column and rack, as well as the lead screws for the table, are regularly lubricated to prevent wear and ensure smooth operation.

7. TROUBLESHOOTING

This section provides solutions to common issues you might encounter. For problems not listed here, contact Baileigh Industrial support.

Problem	Possible Cause	Solution
Machine does not power on.	No power supply; Emergency Stop engaged; Circuit breaker tripped.	Check power cord connection; Release E-stop button; Reset circuit breaker.
Spindle does not rotate.	Motor overload; Incorrect mode selected; Gear not fully engaged.	Reduce load; Select correct mode (Drilling/Milling); Ensure gears are fully shifted.
Excessive vibration or noise.	Loose tooling; Unbalanced workpiece; Worn bearings; Insufficient lubrication.	Tighten tooling; Secure workpiece; Inspect and replace bearings if necessary; Lubricate moving parts.

Feature

Material

Feature

UPC

9. WARRANTY AND SUPPORT

Baileigh Industrial stands behind the quality of its products. For specific warranty details, please refer to the warranty card included with your purchase or visit the official Baileigh Industrial website. For technical assistance, parts, or service inquiries, please contact Baileigh Industrial customer support. When contacting support, please have your machine's model number (VMD-828G) and part number (1020692) ready.

Baileigh Industrial Contact Information:
(Please refer to your purchase documentation or the official Baileigh Industrial website for the most current contact details.)

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

