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> VEVOR BS-0 5-Inch Indexing Head Instruction Manual

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Model: BS-0 5Inch | Brand: VEVOR

1. INTRODUCTION

The VEVOR BS-0 5-Inch Indexing Head is a precision tool designed for accurate angular division of workpieces in various machining operations. It is suitable for use with milling machines, drill presses, grinders, and boring machines, enabling operations such as drilling, cutting, boring, and spot flattening with high precision. Its robust cast iron construction ensures durability and stable performance for demanding industrial and workshop environments.

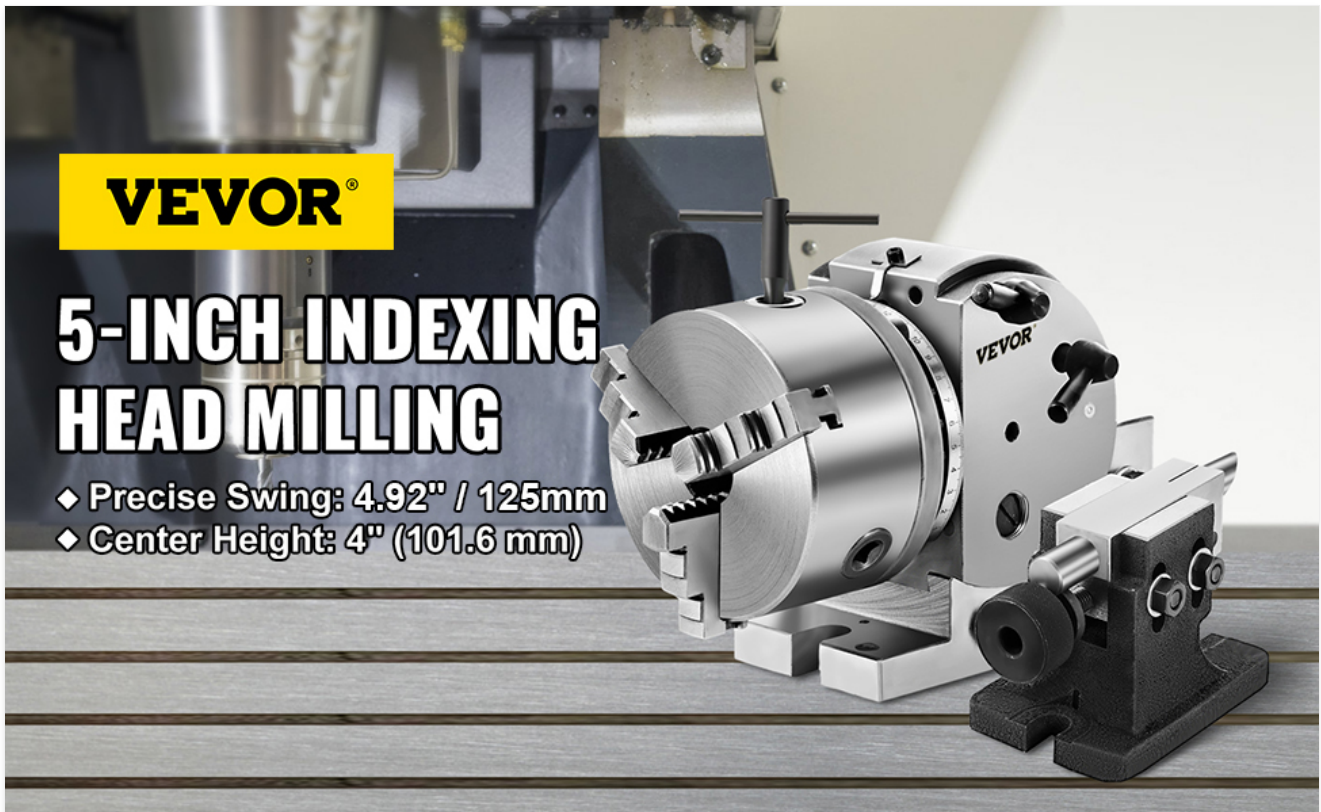


Figure 1: VEVOR BS-0 5-Inch Indexing Head with various machining applications.

2. SAFETY INSTRUCTIONS

To ensure safe operation and prevent injury or damage to the equipment, always adhere to the following safety guidelines:

- Always wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and hearing protection.
- Ensure the indexing head is securely mounted to the machine table before operation.
- Verify that the workpiece is properly clamped in the chuck or between centers.
- Keep hands, loose clothing, and long hair away from moving parts during operation.
- Do not exceed the recommended speed and feed rates for your machine and material.
- Disconnect power to the machine before making any adjustments, changing workpieces, or performing maintenance.
- Read and understand the machine tool's manual before operating the indexing head in conjunction with other machinery.

3. PRODUCT OVERVIEW AND COMPONENTS

The VEVOR BS-0 Indexing Head is constructed from durable HT200 cast iron, providing high stability and wear resistance for long-term use. Key components include the main body with an adjustable headstock, a 3-jaw chuck for workpiece clamping, an indexing plate mechanism for precise divisions, and a tailstock for supporting longer workpieces.



Figure 2: Details of the robust cast iron construction.

4. SETUP

- 1. Mounting the Indexing Head:** Securely attach the indexing head to the milling machine table using appropriate T-nuts and bolts. Ensure it is aligned correctly with the machine's axis.
- 2. Mounting the Tailstock:** Position the tailstock on the machine table, aligning its center with the indexing head's center. Secure it firmly using T-nuts and bolts.
- 3. Installing the Workpiece:**
 - For shorter workpieces, clamp them directly into the 3-jaw chuck.
 - For longer workpieces, mount them between the chuck and the tailstock center. Ensure the workpiece is concentric and held firmly to prevent movement during machining.
- 4. Adjusting the Headstock Angle:** The headstock can be tilted from 10° below horizontal to 90° vertical. Loosen the locking bolts, adjust to the desired angle using the graduated scale, and then tighten the locking bolts securely.



Figure 3: Adjustable headstock for various angular operations.

5. OPERATING INSTRUCTIONS

The indexing head allows for precise angular division of a workpiece. There are two primary methods: direct indexing and indirect indexing.

5.1 Direct Indexing

Direct indexing is used for simple divisions (e.g., 2, 3, 4, 6, 8, 12, 24 divisions) using the direct indexing plate, which typically has 24 holes.

1. Engage the direct indexing lever.
2. Rotate the chuck to the desired division, aligning the index pin with the corresponding hole on the direct indexing plate.
3. Disengage the index pin to allow rotation, then re-engage to lock the position for machining.

5.2 Indirect Indexing

Indirect indexing provides a wider range of divisions using the interchangeable indexing plates. The reduction ratio of the worm gear is 1:40 (40 turns of the crank equals one full rotation of the chuck).

1. **Select Indexing Plate:** Choose the appropriate indexing plate (A, B, or C) based on the desired number of divisions. Each plate has different hole circles.
2. **Calculate Turns:** Calculate the required number of full turns of the crank handle and the number of holes to move on the selected hole circle. The formula is: $(40 / \text{Desired Divisions}) = \text{Turns and Holes}$. For example, for 100 divisions: $40/100 = 2/5$. If using a 25-hole circle, move 10 holes ($2/5 * 25 = 10$).
3. **Position Crank Handle:** Insert the crank handle into the indexing mechanism.
4. **Perform Indexing:** Rotate the crank handle the calculated number of full turns and then move the index pin the calculated number of holes on the chosen hole circle.
5. **Lock Position:** Lock the index pin into the hole to secure the position for machining.
6. **Repeat:** Repeat for each division required.



Figure 4: High precision indexing plate and 3-jaw chuck.

5.3 Workpiece Support

For longer workpieces, the included tailstock provides essential support, ensuring stability and reducing vibration during machining operations.



Figure 5: Strong workpiece support with the tailstock.

6. MAINTENANCE

Regular maintenance ensures the longevity and accuracy of your VEVOR BS-0 Indexing Head.

- **Cleaning:** After each use, clean the indexing head and tailstock thoroughly to remove chips, dust, and coolant residue. Use a brush and a clean, dry cloth.
- **Lubrication:** Periodically apply a light machine oil to all moving parts, including the chuck jaws, indexing mechanism, and lead screws, to ensure smooth operation and prevent corrosion.
- **Inspection:** Regularly inspect the indexing head for any signs of wear, damage, or loose components. Tighten any loose bolts or screws.
- **Storage:** Store the indexing head in a clean, dry environment when not in use to protect it from rust and damage.

7. TROUBLESHOOTING

Refer to the following table for common issues and their solutions:

Issue	Possible Cause	Solution
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Issue	Possible Cause	Solution
Inaccurate divisions	Incorrect calculations for indirect indexing; Index pin not fully engaged; Workpiece slipping.	Verify calculations; Ensure index pin is fully engaged in the correct hole; Check for play in the mechanism and tighten if necessary; Securely clamp workpiece.
Difficulty rotating chuck or crank	Obstructions or debris; Lack of lubrication; Locking levers engaged unintentionally.	Clean mechanism; Apply lubrication to moving parts; Ensure all locking levers are disengaged.
Workpiece slipping in chuck	Chuck jaws not tight enough; Workpiece surface oily/greasy.	Tighten chuck jaws more securely; Clean workpiece surface; Consider additional support if needed.

8. SPECIFICATIONS

The following table outlines the key specifications for the VEVOR BS-0 5-Inch Indexing Head:

Feature	Value
Manufacturer	VEVOR
Product Dimensions (L x W x H)	41.91 x 24.89 x 24.13 cm
Net Weight	20 kg (approx. 44 lbs)
Model Number	5447
Size	5 Inch
Style	BS-0 5Inch
Included Components	Indexing Head, Tailstock, Indexing Plates
Batteries Required	No
Headstock Dimensions	24 x 19 x 16.5 cm (9.5" x 7.5" x 6.5")
Tailstock Dimensions	9 x 15 x 10 cm (3.5" x 6" x 4")
Swing	168 mm (6-1/2")
Center Height	10.16 cm (3-15/16")
Reduction Ratio	1:40
Headstock Taper	MT2



Figure 6: Product dimensions for the VEVOR BS-0 Indexing Head and tailstock.

9. WARRANTY AND SUPPORT

Warranty: This product is subject to a return policy of 30 days from the date of purchase, as per Amazon's policy. For specific warranty details beyond this period, please refer to the manufacturer's official documentation or contact VEVOR customer support directly.

Support: For technical assistance, spare parts, or further inquiries regarding your VEVOR BS-0 5-Inch Indexing Head, please visit the official VEVOR website or contact their customer service department through the provided channels.