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› VOLTZ 480W Mini Bench Drill Machine Model 5166A User Manual

## VOLTZ 5166A

# VOLTZ 480W Mini Bench Drill Machine Model 5166A User Manual

Model: 5166A | Brand: VOLTZ

## INTRODUCTION

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This manual provides essential information for the safe and efficient operation, maintenance, and troubleshooting of your VOLTZ 480W Mini Bench Drill Machine Model 5166A. Please read these instructions carefully before using the machine and retain them for future reference.

## SAFETY INSTRUCTIONS

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Always follow basic safety precautions to reduce the risk of fire, electric shock, and personal injury.

- **Work Area Safety:** Keep your 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. Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges, and refrigerators.
- **Personal Safety:** Always wear eye protection. Use hearing protection when operating noisy tools. Dress properly; avoid loose clothing or jewelry that can get caught in moving parts.
- **Tool Use and Care:** Do not force the power tool. Use the correct power tool for your application. Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools.
- **Secure Workpiece:** Always clamp or secure the workpiece firmly to the drill press table before drilling.
- **Proper Ventilation:** Ensure adequate ventilation when working with materials that produce dust or fumes.

## PRODUCT COMPONENTS

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Familiarize yourself with the parts of your VOLTZ Mini Bench Drill Machine.



**Figure 1: Main Components Overview**

This image displays the key parts of the drill machine, including the Cover Hood, Lever, Power Switch, Speed Control Switch, Scale Circle, Column, Chuck, and Cast Iron Base.

- **Cover Hood:** Protects internal mechanisms.
- **Lever:** Used to lower and raise the drill chuck.
- **Power Switch:** Controls the main power to the unit.
- **Speed Control Switch:** Adjusts the rotational speed of the drill.
- **Scale Circle:** Provides depth measurement for drilling.
- **Column:** The vertical support structure for the drill head.
- **Chuck:** Holds the drill bits securely.
- **Cast Iron Base:** Provides stability and a sturdy platform for the workpiece.

# High Precision Three Jaw Chuck

Make sure that the drill hole is in the center position, and the drill bit is stable and does not fall off



Clamping Range: 3-16mm

Figure 2: Three-Jaw Chuck Detail

This image shows a close-up of the high-precision three-jaw chuck, designed to securely hold drill bits with a clamping range of 3-16mm.

## SETUP AND ASSEMBLY

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Follow these steps to set up your drill machine for first use.

1. **Unpacking:** Carefully remove all components from the packaging. Verify that all included components are present: 1 allenki (hex key), 1 chuck opener, 1 rubber belt, and 2 carbon brushes.
2. **Placement:** Place the drill machine on a stable, level workbench or table. Ensure there is adequate space around the machine for safe operation and workpiece handling.
3. **Assembly (if required):** If the column and drill head are not pre-assembled, secure the column to the cast iron base and then attach the drill head assembly to the column according to the diagrams. Ensure all fasteners are tightened securely.
4. **Chuck Installation:** Insert the chuck onto the spindle taper. A firm tap with a rubber mallet may be needed to seat it properly.
5. **Power Connection:** Connect the power cord to a 220V AC power outlet. Ensure the power switch is in the "OFF" position

before plugging in.

## OPERATING INSTRUCTIONS

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Learn how to safely and effectively operate your bench drill machine.

### 1. Installing a Drill Bit

1. Ensure the machine is unplugged from the power source.
2. Open the chuck jaws using the chuck opener.
3. Insert the drill bit into the chuck, ensuring it is centered and seated firmly.
4. Tighten the chuck jaws securely using the chuck opener.

### 2. Adjusting Speed

The machine features an adjustable speed control switch (0-11000 RPM). Select the appropriate speed for your material and drill bit size. Lower speeds are generally used for larger drill bits and harder materials, while higher speeds are for smaller bits and softer materials.



**Figure 3: Speed Regulator Switch**

This image highlights the speed regulating switch, allowing for easy adjustment of the drill's rotational speed.

### 3. Drilling Operation

1. **Secure Workpiece:** Place the workpiece on the cast iron base and secure it firmly using clamps to prevent movement during drilling.
2. **Adjust Depth:** Use the scale circle to set the desired drilling depth.
3. **Power On:** Turn on the power switch.
4. **Lower Drill:** Slowly lower the drill bit into the workpiece using the operating lever. Apply steady, even pressure.
5. **Retract Drill:** Once the desired depth is reached, retract the drill bit from the workpiece.
6. **Power Off:** Turn off the power switch and wait for the chuck to stop rotating before removing the workpiece.



**Figure 4: Operating Handle and Depth Control**

This image illustrates the operating handle used to control the vertical movement of the drill, along with the stroke reference scale for precise depth adjustments.

## MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your drill machine.

- **Cleaning:** After each use, unplug the machine and clean off any dust, chips, or debris from the machine, especially around the chuck, column, and motor vents. Use a brush or compressed air.
- **Lubrication:** Periodically apply a light machine oil to moving parts such as the column and spindle to ensure smooth operation.
- **Chuck Care:** Keep the chuck jaws clean and free of debris. If the chuck becomes stiff, clean it thoroughly and apply a small amount of lubricant.
- **Carbon Brushes:** Inspect carbon brushes periodically. Replace them when they are worn down to approximately 1/4 inch (6mm) or if the motor performance degrades. (Replacement carbon brushes are included).

- **Belt Tension:** Check the rubber belt tension regularly. Adjust or replace the belt if it appears loose or worn.
- **Storage:** Store the drill machine in a dry, clean, and secure location, out of reach of children.

## TROUBLESHOOTING

Refer to this section for common issues and their solutions.

Problem	Possible Cause	Solution
Machine does not start	No power supply; Faulty power switch; Worn carbon brushes.	Check power connection and outlet; Inspect power switch; Replace carbon brushes.
Excessive vibration	Loose components; Unbalanced drill bit; Worn bearings.	Tighten all fasteners; Ensure drill bit is properly installed and not bent; Contact service if bearings are suspected.
Drill bit not cutting efficiently	Dull drill bit; Incorrect speed for material; Insufficient pressure.	Replace or sharpen drill bit; Adjust speed; Apply steady, appropriate pressure.
Chuck not holding bit securely	Chuck jaws dirty or worn; Bit shank not clean.	Clean chuck jaws and bit shank; Replace chuck if worn.

## TECHNICAL SPECIFICATIONS

Key technical details of the VOLTZ 480W Mini Bench Drill Machine.

Feature	Detail
Brand	VOLTZ
Model Number	5166A (480W Mini Bench Drill)
Power Source	Corded Electric
Voltage	220 Volts (AC)
Maximum Power	480 Watts
Amperage	1.6 Amps
Maximum Rotational Speed	11000 RPM
Number Of Speeds	2 (Adjustable)
Maximum Chuck Size	0.3 Inches (approx. 7.62 mm)
Drilling Capacity Wood	25 Millimetres
Drilling Capacity Metal	7.62 Millimetres
Material Type	Metal
Product Dimensions (L x W x H)	42L x 18W x 22H Centimeters
Item Weight	8.5 Kilograms
Included Components	1 allenki, 1 chuck opener, 1 pcs rubber belt, 2pcs carbon brush

# DIMENSION



**Figure 5: Product Dimensions**

This image provides a visual representation of the drill machine's dimensions, showing a height of 45cm/450mm and base dimensions of 21.5cm/215mm by 17cm/170mm.

## WARRANTY INFORMATION

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Specific warranty details are not provided in the product information. Please retain your purchase receipt as proof of purchase. For any warranty-related inquiries, please contact VOLTZ customer support.

## CUSTOMER SUPPORT

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For technical assistance, parts, or service, please contact VOLTZ customer support:

- **Manufacturer/Packer/Importer:** Voltz Tools, Plot No. 541 Nangli Sakrawati, New Delhi - 110043
- **Toll Free Number:** 1800-572-8672
- **Whatsapp:** 9625417892

• **Email:** [vcare@voltage.com](mailto:vcare@voltage.com)



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