dartek

Product instruction manual

PED 02-10

ELECTRIC DRILL

Safety Instruction

General Safety Warnings For Electric Tools

⚠ **Warning! Read all warnings and instructions.** Failure to follow the below warnings and instructions may result in electric shock, fire or serious injury.

Keep all warnings and instructions for future reference.

The term "electric tool" refers to utility power-driven (wired) electric tools or battery-driven (wireless) electric tools in all the following warnings.

a) Workplace Safety

1. Keep the workplace clean and bright. A disordered and dark workplace can cause accidents.
2. Do not operate electric tools in an explosive environment with flammable liquid, gas or dust. Sparks generated from electric tools can ignite dust or gas.
3. Keep children and bystanders away and operate electric tools. The operator will lose control of the tool if he is distracted.

b) Electrical Safety

1. The plug of electric tool must match with the socket. Never modify the plug in any way. Do not use any conversion plugs for electric tools that need to be grounded. Unmodified plugs and matching sockets will reduce the risk of electric shock.
2. Avoid human contact with grounded surfaces such as pipes, heat sinks and refrigerators. If your body is grounded, it will increase the risk of electric shock.
3. Do not expose electric tools to rain or humid environments. Water entering the electric tool will increase the risk of electric shock.
4. Do not abuse wires. Never use wires to carry, pull the electric tool or pull its plug. Keep wires away from heat source, oil, sharp edges or moving parts. Damaged or entangled cords will increase the risk of electric shock.
5. When using electric tools outdoors, use an external cord suitable for outdoor use. The cord suitable for outdoor use will reduce the risk of electric shock.
6. If it is unavoidable to operate electric tools in a humid environment, a residual current operated protective device (RCD) should be used. Using RCD will reduce the risk of electric shock.

Note: the term “Residual Current Operated Protective Device (RCD)” can be replaced by the term “Ground Fault Circuit Interrupter (GFCI)” and “Earth Leakage Circuit Breaker (ELCB)”.

c) Personal Safety

1. Stay alert, pay attention to what you are doing and stay awake when operating electric tools. Do not operate electric tools when you are tired, or when you are responding to drugs, alcohol, or treatment. Momentary negligence when operating electric tools can cause serious personal injury.
2. Use personal protective equipment. Always wear goggles. Safety devices, such as the use of dust masks, non-skid safety shoes, safety helmets, hearing protection and other devices under appropriate conditions can reduce personal injury.
3. Prevent accidental start. Ensure that the switch is in the off position when connecting the power supply and/or battery box, picking up or carrying tools. Putting a finger on a switch that has been turned on or inserting a plug while the switch is on may cause danger.
4. Before turning on the electric tool, remove all adjustment keys or wrenches. Wrenches or keys left on rotating parts of electric tools can cause personal injury.
5. Do not stretch your hands too long. Always pay attention to your footing and body balance. In this way, the electric tool can be well controlled in unexpected situations.
6. Dress appropriately. Do not wear loose clothes or accessories. Keep clothing, gloves and hair away from moving parts. Loose clothes, accessories or long hair may be caught in moving parts.
7. If devices for connecting with dust removal and dust collection equipment are provided, make sure they are well connected and used properly. Using these devices can reduce the danger caused by dust.

d) Use and Precautions of Electric Tools

1. Do not abuse electric tools, use appropriate electric tools according to the purpose. Choosing a properly designed electric tool will make your work more efficient and safer.
2. If the switch cannot turn on or turn off the power to the tool, the electric tool cannot be used. Electric tools that cannot be controlled by switches are dangerous and must be repaired.
3. Before making any adjustments, changing accessories or storing electric tools, the plug must be unplugged from the power supply and/or the battery box must be disconnected from the tool. This protective measure will reduce the risk of accidental starting of the tool.
4. Store unused electric tools out of the reach of children, and do not allow people who are not familiar with electric tools or those who do not understand these instructions to operate electric tools. Electric tools are dangerous in the hands of untrained users.
5. Maintain the electric tools. Check whether the moving parts are adjusted in place or stuck, check the damage of the parts and other conditions that affect the operation of electric tool. If damaged, the electric tool should be repaired before use. Many accidents are caused by poorly maintained electric tools.
6. Keep the cutting tools sharp and clean. Well-maintained tools with sharp cutting edges are not easy to jam and easy to control.
7. Use electric tools ~ accessories and tool bits, etc., in accordance with the instruction manual, considering the working conditions and the work to be performed. Using electric tools for operations that are inconsistent with their purpose may cause danger.
8. In general workplaces, class II tools should be used: if class I tools are used, protective measures such as residual current operated protective devices and isolation transformers with a rated residual operating current of no more than 30mA should be used in the electrical circuit.
9. Class II or III tools should be used in wet workplaces or workplaces with good electrical conductivity, such as on metal structures.

10. In the workplaces such as boilers, metal containers and pipelines, class III tools should be used or Class II tools of residual current operated protective device with a rated residual current of no more than 30mA should be set in the electrical circuit.
11. Safety isolation transformers for class III tools, residual current operated protective devices for class II tools, and power control boxes and power couplers for class II and III tools must be placed outside the workplace. When operating in a narrow workplace, someone should be guarded outside.
12. In working environments such as hot, humid, rain and snow, tools with corresponding protection levels should be used.
13. The green/yellow two-color wire in the power cord of class I tools can only be used as a protective earthing conductor (PE) under any circumstances.
14. The power cord of the tool shall not be arbitrarily extended or replaced. When the power supply is far away from the tool and the power cord is not enough, a coupler should be used for connection.
15. The plug and socket of the tool should be wired correctly according to the regulations, and the protective earth electrode in the plug and socket can only be connected to the protective earthing conductor (PE) separately under any circumstances. It is strictly forbidden to directly connect the protective earth electrode with the working neutral wire with a wire in the plug and socket.
16. Protective devices (such as shield, covers, etc.) of dangerous moving parts and components of tools must not be disassembled arbitrarily.

e) Repair

Send your electric tools to professional maintenance center and use the same spare parts for repairs. This will ensure the safety of the electric tools being repaired.

Electric Drill Safety Warning

1. Perform impact operation with earmuffs. Exposure to noise can lead to hearing loss.
2. Use auxiliary handle. Loss of control can cause personal injury.
   Note: This warning only applies to tools with auxiliary handles.
3. Tools should be properly supported before use. Due to the large output torque of the tool, it will lose control and cause personal injury if there is no proper support during operation.
4. When operating in the condition that the drilling accessory may touch the hidden wire or its own wire, the tool should be held through the insulating grip surface. When the drilling accessory touches a live wire, the exposed metal parts of the tool will be charged and the operator will receive an electric shock.
5. For stirrers, do not turn the tool on and off unless the stirring device is located in the mixing material. Failure to do so will result in loss of control and personal injury.

Usage and Specification

This product is a hand-held electric drill powered by a single-phase series motor.
This product is suitable for drilling metal, plastic, wood and other similar materials under general environmental conditions.
The performance and specifications of this product are shown in the table below:

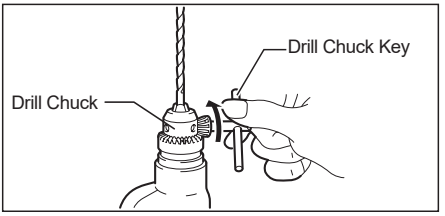
Model		PED 02-10
Rated voltage		220V ～
Rated frequency		50Hz/60Hz
Rated input power		450W
No-load speed		0-3500r/min
Maximum capacity for drilling hole	Steel	10mm
	Wood	25mm
Net weight		1.3kg

Note: The manufacturer reserves the right to change specifications without notice.

Operating Instruction

- **Installation or removal of drill bit**

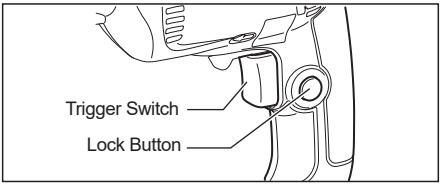
Note:
Be sure to turn off the tool power switch and pull out the plug before installing or removing the drill bit



Loosen the drill chuck by hand and insert the drill bit into it. After tightening the drill chuck by hands, insert the drill chuck key into three holes one by one, and tighten it clockwise. To remove the drill bit, just insert the key into one of the holes and loosen it counterclockwise.

- **Operation of switch**

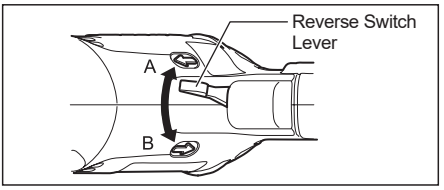
Note:
Before connecting power supply to the tool, make sure to check whether the trigger switch operates normally and whether it can return to the "OFF" position after releasing it.



Only push the trigger switch when starting the tool. The greater the pressure applied on the trigger switch, the faster the tool speed. Release the trigger switch to stop the tool.
For continuous operation, push the trigger switch and then press the lock button.
Push the trigger switch to the end and then release it to stop the tool from the locked position.

● Operate the reverse switch

Note:
- Make sure to confirm the direction of rotation before operation.
- Make sure to use the reverse switch after the tool is completely stopped. The tool may be damaged if the direction of rotation is changed before the tool has stopped.



This tool is equipped with a reverse switch to change the direction of rotation. The tool rotates clockwise when the reverse switch lever is pushed to ← (Side A); the tool rotates counterclockwise when the reverse switch lever is pushed to →(Side B).

● Hold the tool

Only hold the tool handle during operation.

● Drilling operation

Drill holes in the wooden plate

The woodworking drill of lead screw is used when drilling holes in the wooden plate. It is helpful to drill the plate by using this lead screw.

Drill holes in the metal plate

A sharp punch and hammer can be used to make a mark on the metal plate where you want to drill, in order to prevent the drill bit from slipping when starting to drill. Then drill holes by using the drill bit aligned with the mark.

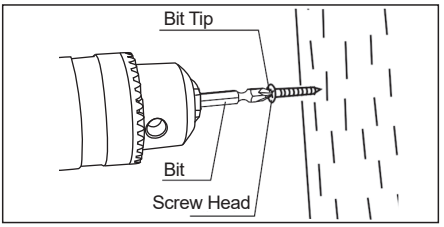
The lubricating oil is used when drilling holes in the metal. But the lubricating oil is not required when drilling the steel and brass plate.

Note:
- The drill speed cannot be increased by firmly holding the tool. Actually， the drill bit can be damaged by this excessive pressure, which is not benefit for the tool operation and will reduce the tool life.
- A great force is generated on the tool/drill when the holes is drilled through. Therefore, hold the tool tightly and be more careful when starting to drill holes through the workpiece.
- Make sure to clamp the small workpiece with a vise or similar clamping device.

● Screw tightly

Put the bit tip on the screw head and apply appropriate pressure to the machine. Start the machine slowly, and then gradually increase the speed. The screw can be tightened when the machine rotates clockwise, and the screw can be removed when the machine rotates counterclockwise.

Note:
The direction of rotation be changed only when the machine completely stops rotating, otherwise the machine will be damaged; make sure to confirm that the bit is inserted vertically into the screw head, otherwise the screw or bit may be damaged.



When tightening the wood screws, drill a middle hole first to make the screwing operation easier and prevent the workpiece from sliding.

Refer to the following table.

Wood Screw Nominal Diameter (mm)	Recommended Middle Hole Diameter (mm)
3.1	2.0-2.2
3.5	2.2-2.5
3.8	2.5-2.8
4.5	2.9-3.2
4.8	3.1-3.4
5.1	3.3-3.6
5.5	3.7-3.9
5.8	4.0-4.2
6.1	4.2-4.4

Inspection and Repair

1. The custodian must conduct a daily inspection when the tool is sent out or taken back: the user must conduct a daily inspection before use.

2. The daily inspection of the tool should include at least the following items:

a. Whether there is product certification mark and regular inspection conformity mark.
b. Whether the shell and handle are cracked or damaged.
c. Whether the connection of the protective earthing conductor (PE) is undamaged.
d. Whether the power cord is intact.
e. Whether the power plug is intact.
f. Whether the power switch is normal and flexible, and whether it is defective or broken.
g. Whether the mechanical protection device is intact.
h. Whether the rotating part of the tool rotates flexibly, briskly and without blocking.
i. Whether the electrical protection device is good.

3. The regular inspection should be conducted by a full-time personnel in the tool using unit.

3.1 Check at least once a year.

3.2 In areas with damp heat and frequent temperature changes or places with harsh operating conditions, the inspection cycle should be shortened accordingly.

3.3 Inspection should be carried out in time before plum rain season.

3.4 For regular inspection items of tools, the insulation resistance of the tools must also be measured. Insulation resistance should not be less than the value specified in Table 1. Insulation resistance should be measured with a 500v megameter.

Table 1

Measuring position	Insulation resistance/MΩ		
	Class I tools	Class II tools	Class III tools
Between live parts and housing	2	7	1

3.5 For tools that are regularly inspected and qualified, the inspection "Qualified" mark should be pasted on the appropriate part of the tool. The “Qualified” mark should be bright, clear, correct and include at least:
a) Tool number
b) Name of inspection unit or mark
c) Name of inspector or mark
d) Effective date

4. For tools that have been left unused for a long time, the insulation resistance must be measured before use. If the insulation resistance is less than the value specified in Table 1, it must be dried, and it can be used after passing the inspection and pasting the "Qualified" mark.
5. If the tool is damaged in insulation, the power cord sheath is broken, the protective earthing conductor (PE) falls off, the plug and socket are cracked, or the mechanical damage is detrimental to safety, repair it immediately. Do not continue to use until repaired.
6. Tool maintenance must be carried out by a maintenance unit approved by the original manufacturer.
7. The use unit and maintenance department shall not arbitrarily modify the original design parameters of the tool, and shall not use substitute materials that are lower than the performance of the raw materials and components that do not conform to the original specifications.
8. During maintenance, the insulating gaskets and sleeves in the tool must not be arbitrarily removed or missing, and the power cord of the tool must not be arbitrarily exchanged.
9. After the electrical insulation part of the tool is repaired, the dielectric strength test must be carried out according to the requirements of Table 2.

Table 2

Measuring position	Test voltage/V		
	Class I tools	Class II tools	Class III tools
Between live parts and housing: - Isolation from live parts only by basic insulation	1250	-	500
- Isolation from live parts by reinforced insulation	3750	3750	-

The waveform is an actual sine wave, and the test voltage with a frequency of 50 Hz is applied for 1 min without insulation breakdown or flashover.
The test transformer should be designed as follows: after the output voltage is adjusted to an appropriate test voltage value, when the output terminal is short-circuited, the output current is at least 200mA.

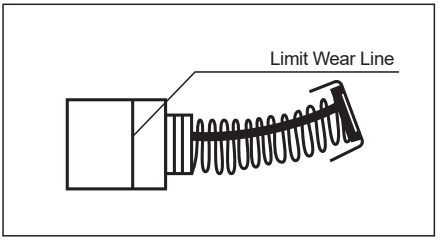
10. After the tools have been repaired, inspected and tested qualified, they should be pasted with a "Qualified" mark on the appropriate part: for tools that cannot be repaired or cannot meet the due safety technical requirements after repairs, they must go through the scrap procedures and take isolation measures.

In order to ensure the safety and reliability of the product, please send your electric tools to professional maintenance personnel for repair.
Please use our company's original accessories.

Maintenance and Service

Note:
Before doing inspection and maintenance work, be sure to turn off the switch and unplug the power plug.

- **Cleaning air vent**
  The air inlet and outlet of the tool must be kept clean. It should be cleaned regularly or cleaned at any time when blockage occurs.
- **Checking drill bit**
  If the drill bit is found to be worn, the drill bit should be replaced immediately or the drill bit should be sharpened again. Otherwise it will cause motor overload and reduce drilling efficiency.
- **Checking mounting screws**
  Frequently check whether the mounting screws are loose to avoid accidents.
- **Replacing carbon brush**
  Regularly check and replace the carbon brush. When it wears to the limit wear line, it needs to be replaced. Keep the carbon brush clean and make it slide freely in the brush holder. The two carbon brushes should be replaced at the same time.
  Open the casing with a screwdriver, take out the worn carbon brushes, insert new carbon brushes in the brush holder, and then close the casing.



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