杜克EP2锂电电磨机说明书 英文版

尺寸:70x140mm

材质:128g铜板纸 方式:风琴折

颜色:Pantone Cool Gray 8C

EP2 Lithium Electric Grinder Tool
Instruction Manual

Products

1 Collet Nut
2 Spindle Lock
3 Rear Sink
4 Power Key/Gear Key
5 Gear Indication/Power Indicator
6 Types: Charging Port

Parameters

Model No	EP2
Net Weight	280g
Product Size	120*ø27mm
Rated Voltage	7.2V
Noload Speed	10000±2000r/min
Battery Type	Lithium battery
Battery Capacity	1100mAh

Accessories

Collet	3.2mm x 1(fully comes with) 3.175mm x 1 6.35mm x 1
Bits	3.175mm x 2
Grinding Heads	Sanding ring x 4 Diamond grinding head/carving wheel x 1,Shank diameter 3.175mm Diamond grinding head cylinder x 1,Shank diameter 3.2mm Red corundum grinding head cylinder x 1,Shank diameter 3.2mm Diamond grinding head ball x 1,Shank diameter 3.2mm Red corundum grinding head ball x 2,Shank diameter 3.2mm Diamond grinding head ball x 1,Shank diameter 3.2mm Diamond grinding head ball x 1,Shank diameter 3.2mm Corundum grinding head cylinder x 1,Shank diameter 3.2mm Corundum grinding head cylinder x 1,Shank diameter 3.2mm Red corundum grinding head Teshape x 1,Shank diameter 3.2mm
Cutters	Diamond grinding head ball x 1,Shank diameter 3.175mm Diamond grinding head cone x 1,Shank diameter 3.175mm Diamond grinding head cylinder x 1,Shank diameter 3.175mm
Brushes	Nylon brush x 1,Shank diameter 3.2mm Diamond brush x 1,Shank diameter 3.2mm Diamond dish brush x 1,Shank diameter 3.175mm
Diamond Abrasive Needles	Diamond abrasive needle x 3,Shank diameter 3.2mm
Hook Fastening Wheels	Wool wheel x 4 Wool grinding head x 1,Shank diameter 3.2mm Wool wheel mandrel x 1,Shank diameter 3.175mm
Cutting Blades	Diamond cutting blade x1 Stainless steel saw blade x1 Alloy cutting blade x1 Saw blade connecting rod x2,Shank diameter 3.2mm
Lever	Lever x1
Charging Cable	Charging cable x1

Operation Guide

⚠ **Note: Please read the instructions carefully before using the machine.**

1.Effective use

i. Please charge the battery before first use.

ii. Before operation, check whether the charger plug is fully into the power outlet, the power indicator 'C' will light up and show the charging status.

iii. **Note:**

The power indicator light is flashing, the battery is charging;

The indicator stops flashing, battery charging is complete.

⚠ **Note: We recommend using a 2A, 10W or higher charger device for charging.**

2. Installation

⚠ **Note: Before installing an accessory, be sure that you have turned off the power to the product.**

(Attachment Installation)

1. Insert the collet (A) and collet nut (B) and hold it in place, at this point the collet sleeve (C) can be loosened and the accessory can be fitted, finally the wrench included in the package is used to tighten the collet nut (B), the bottom surface of the collet sleeve (C) is ensured that the accessory is fully fitted.

2. Whenever possible, replace the fitting by inserting it into the collet to minimize unbalance.

⚠ **Note: Do not press the spindle lock button while the motor is running.**

3.Operation

1. Long press the power button ① to turn on the machine, and it will automatically enter 5 gear after turning on the machine;

2. Short press the power button ① to change the gear, you can adjust the speed of the product;

⚠ **Note: Do not put the product down while the motor is still running.**

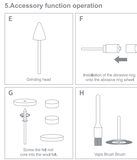
3. Do not grind the product on dusty surfaces, dust particles may enter the machine and thus affecting the operation of the switch. If the switch does not function after being used, the motor will be burned.

4. When the product enters the protection state, it will stop working for 10 seconds, the user can reboot the machine to continue to use.

4.Correct holding position

1.For precision work (engraving), 2.For rough work (grinding) use, 3.When you need to use a tool
use the pencil grip type tool. the casting knife grip type tool. perpendicular to the work surface,
using a cut-off wheel, use the
two-hand cut-off grip style tool.

5.Accessory function operation



6. Optimal use of combination tools and their attachments

⚠ **Note: For proper use of the attachment, use the correct speed. See the table below for speed tight recommendations for different materials.**

Attachment gear setting

Carbide Burrs	Recom-mended	Description of Material	Cards	Wood	Plastic	Bone	Hardened Steel	Mold Steel	Alumi-num	Glass Fiber
Sanding Bands	1	Sanding Band	1-5	1-5	1-5	4-5	4-5	4-5	4-5	4-5
Stone Grinding Heads	2	Abrasive Wool	3-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5
	3	Abrasive Wool Mandrel	3-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5
	4	Cylinder	3-5	1-4	1-4	1-4	1-4	1-4	1-4	1-4
Drilling	5	Drill Bit	4-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5
Carving	6	Diamond Drill Bit	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Cutting	7	Cutter	3-5	3-5	3-5					
		Diamond Cutting Blade				4-5	4-5	4-5	4-5	4-5
		Saw Blade				4-5	4-5	4-5	4-5	4-5
Chuck		For accessories with a diameter of 3.2(3mm),Chuck,Sleeve								
Mandrel		Lever	Mounting/dismounting accessories							
		Cutting Blade Rest Cone	Connecting Rubber Diamond Grinding Blades / Sandpaper / Diamond Saw Blades / Cutting Blades / Grinding Blades							
		Sanding Disc Fastening Screw	Connecting sandpaper rings							
Steel Shaft		1	2	3	4	5				
Speed		10000±10%RPM	10000±10%RPM	10000±10%RPM	22000±10%RPM	28000±10%RPM				

Warranty and Maintenance

Your power tool does not require additional lubrication or other maintenance. Do not use any cleaning agents to clean the tool. Only clean the tool with a dry cloth. Store your tools in a dry environment and keep the motor vents clean. Try not to use your tool in a dusty environment.

Environmental Protection

In order to respond to environmental protection, damaged machines, accessories and packaging materials must be sorted and disposed of in detail to facilitate recycling.

Declaration of Hazardous Substances in Products

Part Name	Hazardous substances					
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)
Housings	O	O	O	O	O	O
Switch	O	O	O	O	O	O
Battery Cell	O	O	O	O	O	O
Batteries	×	O	O	O	O	O
Motor	×	O	O	O	O	O
Circuit Board	×	O	O	O	O	O
Brass Parts	×	O	O	O	O	O
Flexible Cables	×	O	O	O	O	O
Packaging or Fulfilling Materials	O	O	O	O	O	O
Other Accessories	O	O	O	O	O	O

O: Indicates that the content of the hazardous substance in all homogeneous materials of the component is below the limit requirement specified in GB/T 26572.

×: Indicates that the content of the hazardous substance in at least one homogeneous material of the component exceeds the limit requirement specified in GB/T 26572.

(Note: Within the technical scope of the technology, some of the harmful substances in the products listed above exceed the limit value, but they are exempted from the restrictions in accordance with EU directives, so please feel free to use them within the period of environmental protection.)

General Safety Warning for DC Power Tools

⚠ **Warning! Read all safety warnings, instructions, illustrations and specifications with this power tool.**

Failure to follow the instructions listed below can result in electric shock, fire and/or serious injury.

Keep all warnings and instructions for reference.

The term 'power tool' in this warning refers to either mains-powered (corded) power tools or battery-powered (cordless) power tools.

(a)Workplace safety

1) Keep work area clean and bright.

Cluttered and dark areas invite accidents.

2) Do not operate power tools in explosive environments such as flammable liquids, gases or dust.

Sparks from power tools may ignite the dust or fumes.

3) Keep children and bystanders away when operating a power tool.

Distractions can cause you to lose control.

(b)Electrical safety

1) Power tool plugs must be mated to sockets. Plugs must never be modified in any way.

No adapter plugs can be used for power tools that require grounding. An unmodified plug and matching socket will reduce the risk of electric shock.

2) Avoid body contact with grounded surfaces such as pipes, heat sinks and refrigerators.

There is an increased risk of electric shock if your body is grounded.

3) Do not expose power tools to rain or moisture.

Water entering a power tool will increase the risk of electric shock.

4) Do not misuse soft cords. Never handle, pull or unplug a power tool with a cord. Keep the cord away from heat sources, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.

5) When using power tools outdoors, use an extension cord suitable for outdoor use.

Cords suitable for outdoor use will reduce the risk of electric shock.

6) If it is not possible to avoid operating power tools in wet environments, use a power supply protected by a residual current device (RCD). the use of RCD will reduce the risk of electric shock.

The product contains certain hazardous substances, its environmental protection use period is marked with the environmental protection use period logo in the product, the product in the best, hazardous substances or elements will not be leaked or mutation, the use of the product will not cause serious pollution of the environment or the user's person, properly caused by the extreme damage, you can not ensure that use, beyond the environmental protection use period.

Note: The environmental protection use period is only for the product in the safe use period, especially different from the use period that is limited based on factors such as electrical performance safety and electromagnetic safety. The 'Exceed-Family Use Period' is also not a warranty period for the product.

Description:

1. Switches: Contacts contain cadmium;
2. Batteries: lead in the solder of the circuit board in the battery;
3. Motors: lead in the solder;
4. Motors: lead in the copper brush holders and lead in the oily bearings of brushed motors;
5. Copper inserts: lead in the copper inserts in the terminal block and in the copper inserts used to fix the housing.

(c)Personal safety

1) Stay alert, pay attention to what you are doing and stay awake when operating a power tool. Do not use a power tool while you are tired, or when you have been under the influence of drugs, alcohol or treatment.

A moment of inattention while operating power tools can result in serious personal injury.

2) Use personal protective equipment. Always wear goggles.

Protective equipment such as dust masks, non-skid safety shoes, hat/helmets, hearing protection, etc., when appropriate, can reduce personal injury.

3) Prevent accidental starting. Ensure that the switch is in the OFF position before connecting to power source and/or battery pack, picking up or carrying the tool.

Fingers on the switch or handle while carrying the tool or energizing the switch while it is on invites accidents.

4) Remove adjustment keys or wrenches before turning power tool ON.

A wrench or key left on the rotating part of the power tool can cause personal injury.

5) Do not overextend your hand. Always be aware of your footing and balance, this will allow better control of the power tool in the event of an unexpected.

6) Dress appropriately. Do not wear loose clothing or jewelry.

Keep your hair and clothing away from moving parts. Loose clothing, jewelry or long hair can be caught in moving parts.

7) If devices are provided for connection to dust removal and dust collection equipment, make sure they are properly connected and used.

The use of dust collection can reduce dust-related hazards.

8) Do not neglect the safety guidelines for tools because of the familiarity that comes from using them frequently.

A careless action can cause serious injury in an instant.

(d)Power tool use and precautions

1) Do not use power tools reluctantly, but use the right power tool for the application.

Selecting the right power tool that is designed according to the rated value will work better and safer at the rated speed.

2) If the switch does not turn the power on or off, the power tool cannot be used. Power tools that cannot be controlled by a switch are dangerous and must be repaired.

3) The power tool must be unplugged from the mains and/or the battery pack (if removable) must be removed before any adjustments are made, accessories are changed, or the power tool is stored.

This protective safety measure reduces the risk of accidental starting of the power tool.

4) Store unused power tools out of the reach of children and do not allow people who are unfamiliar with power tools or with our instructions to operate the power tool.

Power tools are dangerous in the hands of untrained users.

5) Maintain power tools and their accessories. Check that moving parts are not misaligned or jammed, that parts are not broken and that there are no other conditions that affect the operation of the power tool. If damaged, repair the power tool before use.

Many accidents are caused by poorly maintained power tools.

6) Keep cutting tools sharp and clean.

Properly maintained cutting tools with sharp cutting edges are less likely to jam and are easier to control.

7) Select power tools, accessories, tool bits, etc, in accordance with the instructions, and taking into account the operating conditions and the work to be performed.

Use of power tools for operations that are not compatible with their intended purpose could result in a hazardous situation.

8) Keep handles and gripping surfaces dry, clean and free of grease.

In the event of an accident, a slippery handle will not ensure a secure grip and control of the tool.

(e) Battery-type tool use and precautions

1) Use only the charger specified by the manufacturer for charging.

There is a risk of fire if the charger for one battery pack is used for other battery packs.

2) Use only power tools equipped with a dedicated battery pack.

The use of any other battery packs may create a risk of injury and fire.

3) When the battery pack is not in use, keep it away from other metal objects such as paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another.

A short circuit at the end of the battery pack may cause burning or fire.

4) Under abusive conditions, liquids may be ejected from the battery pack; avoid contact with it. If contact accidentally occurs, flush with water. If liquid contacts the eyes, seek medical assistance as well. Liquid ejected from the battery may cause irritation or burns.

5) Do not use a battery pack or tool that is damaged or modified.

Damaged or modified battery packs may present unpredictable results that could lead to fire, explosion or risk of injury.

6) Do not expose a battery pack or tool to fire or excessive temperature.

Exposure of the battery pack to fire or high temperatures above 130°C may result in an explosion.

(f)Maintenance

1) Have the power tool repaired by a professional repairer using the same spare parts.

This will ensure the safety of the power tool being serviced.

2) Never repair a damaged battery pack.

Battery pack repair may only be repaired by the manufacturer or its authorized service personnel.

Additional safety instructions

General safety warning for sanding, sanding, wire sanding, polishing or cutting off operations:

(a) This power tool is intended to perform the function of a sander, sanding machine, wire brush, polisher or cutoff tool. Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to understand all instructions listed below will result in electric shock, fire and/or serious injury.

(b) It is not recommended that small a tool recommended by the tool manufacturer causes a risk of injury.

Otherwise the attachment may be fitted to your power tool and it will not guarantee safe operation.

(c) The rated speed of the attachment must be at least equal to the maximum speed marked on the power tool. Attachments operating above their rated speed can burst and cause injury.

(d) The outside diameter and thickness of the attachment must be within the rated capacity of the power tool.

Incorrectly sized attachments cannot be adequately guarded or controlled.

(e) Grinding wheels, flanges, backing pads, or any other accessory must have a bore sized for mounting to the spindle of the power tool.

Accessories with bores that do not match the mounting hardware of the power tool will operate eccentrically and cause loss of control.

(f) Do not use damaged attachments. Inspect attachments before each use, such as abrasive wheels for chips and cracks, backing pads for cracks, tear or excessive wear, wire brushes for looseness or broken wires. If a power tool or attachment is been dropped, check for damage or install an undamaged attachment. After inspecting and installing an attachment, position yourself and bystanders away from the plane of the rotating attachment and run the power tool at no load speed for one minute.

Damaged attachments will usually shatter during this test.

(g) Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. When appropriate, wear dust mask, hearing protection, gloves, and a workshop apron that will protect small abrasive or workpiece fragments. Eye protection must be capable of stopping flying debris generated by various operations. Dust masks or mouthpieces must be able to filter particles generated by the operation.

Prolonged exposure to high intensity noise can cause deafness.

(h) Keep bystanders at a safe distance from the work area. Anyone entering the work area must wear personal protective equipment. Fragments of workpiece or of a broken attachments may fly out and cause injury to bystanders immediately behind the operating area.

(i) Hold power tools by insulating g the wire can electrify exposed metal parts of the power tool and electrocute the operator.

(j) Hold the power cord away from the rotating accessory.

If you lose control, the cord may be cut or snagged and make it possible for your hand or arm to become entangled in the rotating accessory.

(k) Do not lower the power tool until the attachment has completely stopped moving.

The rotating attachments may grab surfaces and pull on the power tool and cause you to lose control of the tool.

(l) Do not run the power tool while carrying it by your side.

Accidentally touching the rotating attachment could entangle your clothing, pulling the attachment into your body.

(m) Clean power tool vents frequently.

Motor fans can draw dust into the housing, and excessive metal powder can cause electrical hazards.

(n) Do not operate power tools near flammable materials.

Sparks may ignite these materials.

(o) Do not use attachments that require liquid coolants.

Using water or other coolants may cause electrical shock.

Further safety instructions for all operations

Backlash and Relevant Warnings

Bounce is a sudden reaction force caused by a jammed or entangled rotating accessory, such as a grinding wheel, sanding belt, wire brush, etc. Jamming or entanglement causes a rapid stoppage of the rotating attachment and subsequent movement of the uncontrolled power tool in the opposite direction of the rotation of the attachment at the point of jamming. For example, if a grinding wheel is entangled or jammed in the workpiece, the edge of the wheel that extends into the jamming point may enter the surface of the material and cause the wheel to climb out or eject. The wheel may jump toward or away from the operator, depending on the direction of the wheel's movement at the point of jam. The grinding wheel may also shatter under these conditions.

Stunning is the result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking the proper precautions as given below:

a) Maintain a firm grip on the power tool and your body and arms are in the correct position to resist the bouncing forces. If an auxiliary handle is available, always use it for maximum control over bounce or torque reversal time or countermeasure of reaction.

If proper precautions are taken, the operator can control the counter moment or reaction force.

b) Never put your hand close to the rotating attachment.

The attachment may bounce back against the hand.

c) Do not position your body in the area where the power tool will move.

The rebound will drive the tool against the direction of wheel movement at the point of entanglement.

d) Use special care when working on sharp corners, edges, etc. Avoid bouncing and entanglement of attachments. Avoid bouncing and tangling of attachments.

Sharp corners, edges and bouncing have a tendency to entangle rotating attachments and cause uncontrolled bouncing.

e) Do not attach saw chains, wood carving blades or band saw blades. These saw blades produce frequent bouncing and materials.

Additional safety instructions for sanding and cutting operations

Specialized safety warnings for grinding and abrasive cutting operations:

(a) Use only the type of grinding wheel recommended for the power tool and a guard specifically designed for the grinding wheel selected.

Grinding wheels for which the power tool was not designed cannot be adequately guarded and are unsafe.

(b) The guard must be securely fixed to the power tool and positioned for maximum safety, so the least amount of grinding wheel is exposed to the operator. A guard helps protect the operator from broken wheel fragments, accidental contact with wheels and sparks that could ignite clothing.

(c) Wheels are for recommended applications. For example: do not grind with the side of a cutoff wheel.

Abrasive cutting wheels are designed for peripheral grinding, side forces applied to these wheels may cause them to shatter.

(d) Always use undamaged wheel flanges of the proper size and shape for the selected wheel. A properly fitted wheel flange supporting the wheel reduces the possibility of wheel breakage.

Cutting wheel flanges can be different from wheel flanges.

(e) Do not use worn grinding wheels from larger size power tools.

A wheel designed for larger power tools is unsuitable for the high speed conditions of smaller size tools and may burst.

Additional safety instructions for cutting operations

Additional specialized safety warnings for wheel cutting operations:

(a) Do not "blow" the cutting wheel or apply excessive pressure. Do not attempt to cut too deeply.

Overloading the cutting wheel increases the load on the wheel during cutting, tends to tangle or jam, and increases the likelihood of backlash or wheel burst.

(b) Do not turn your body toward the rotating grinding wheel or stand behind it. When the wheel is moving away from your body at the point of operation, the possible rebound can cause the rotating wheel and power tool to impact you directly.

(c) When the cutting wheel is jammed or cuts are interrupted for whatever reason, turn off the power tool and hold the tool still until the grinding wheel comes to a complete stop.

Never attempt to disengage the cutting wheel from the cut while the wheel is in motion, otherwise kickback may occur. Investigate and take corrective actions to eliminate the cause of wheel jamming.

(d) The cutting operation must not be restarted on the workpiece. Allow the wheel to reach full speed and carefully re-enter the cut. If the power tool is restarted on the workpiece, the edge of the wheel will climb, ejecting from the workpiece.

(e) Support panels or oversized workpieces minimize the risk of wheel jamming and bouncing. Large workpieces sag under their own weight. Supports must be placed under the workpiece near the cut line and on both sides of the wheel on the edge of the workpiece.

(f) Use extreme caution when making "blind cuts" into walls or other blind areas. An exposed live wheel may cut into gas or water pipes, electrical wires, or objects that can cause kickback.

Additional safety instructions for sanding operations

Safety warnings specific to sanding operations:

(a) Do not use excessively oversized sanding paper. Follow the manufacturer's recommendations when selecting sanding disc paper. Large sanding disc paper that exceeds the sanding pad (less) poses a risk of laceration, entanglement, tearing of the disc or kickback.

Additional safety instructions for polishing operations

Safety warnings specific to polishing operations:

(a) Do not allow any loose abrasive polishing felt bag or attached cord to rotate. Direct or adjust it Above attention level.

Loose and rotating attached cords can entangle fingers or snag on the workpiece.

Additional safety instructions for wire brush operation

Safety warnings specific to wire brush operation:

(a) Be aware that the wire strands can be thrown out with the brush even during normal operation. Do not overstress the wire by placing excessive loads on the wire. The wire strands can easily penetrate light clothing and/or skin.

(b) If a guard is recommended for the wire brush, do not allow the guard to interfere in any way with the wire wheel or brush. The diameter of the wire wheel or brush will increase, under work load and centrifugal forces.

Safety warning about the tool's built-in battery

This tool has a built-in battery, so please be careful of the following when using the tool:

(a) It is prohibited to disassemble, open or shred the tool.

(b) Prohibit exposure of the tool to heat or flame, Avoid storing in direct sunlight.

(c) Do not short-circuit the exposed terminals of the tool, Do not store multiple tools in a box or drawer in a way that causes the terminals to be short-circuited by each other or being short-circuited by other metal objects.

(d) Do not subject the tool to mechanical shocks.

(e) If the battery leaks and the liquid gets on the skin, the leaked liquid to come into direct contact with the skin or eyes, If contact occurs, flush the skin with plenty of water and seek medical attention.

(f) Do not use a charger that is not specific to the device.

(g) Keep tools away from children.

(h) Do not use damaged or worn-out tools or batteries.

(i) Store the tool dryer and dry.

(j) If the charging warmth of the tool becomes dirty it should be wiped with a clean, dry cloth.

(k) The tool should be charged before use, When charging use the correct charger and charge in accordance with the requirements of the correct instructions in the equipment instruction manual for charging.

(l) Do not charge the tool for long periods of time when not in use.

(m)After prolonged storage, the tool needs to be subjected to several charge-discharge cycles to maintain battery performance. Fully charge the battery before use.

(n) Keep the original instruction manual of the product for future reference.

(o) Handle the battery properly.

Wakers Shenzhen Kfutter Precision Machinery Technology Co,Ltd
Service call:4004589588
Web: www.atuman.com
E-mail: Kfutter2020@outlook.com
Manufacturer：2/F, Baoxin Three Building, Minqiang Community, Minzhi Street, Longhua District, Shenzhen.
Commissioned producers：Henan Kfutter Precision Machinery Technology Co., Ltd.
Manufacturer's address：Building D, standard workshop, southwest corner, intersection of Xingpai Avenue and Ruihe Avenue, Yicheng District, Zhumadian City, Henan Province, China.