

Cordless Low Profile Magnetic Drilling Machine

EBM.36+LP/P-18V



Congratulations on purchasing this premium magnetic drilling machine. At EUROBOOR we strive to exceed our customers' expectations by developing and providing premium and innovative portable drilling and cutting solutions. We believe that a professional like you must be able to rely on a professional supplier. Which has led us to become a major player in the industrial world, with our own factory and several offices worldwide. All because we have always listened to our customers and to the demands from the market.

Our vision is focused on developing innovative portable tools that add value for our customers and facilitate them in their daily work. We never lose sight of sustainability, time savings and cost savings.

Enjoy your new machine!

Before operating your new magnetic drilling machine, please first read all instructions. You find the instructions in this manual and on the warning label on your machine. With proper use, care and maintenance your machine will provide you with years of premium drilling performance.

TO REDUCE THE RISK OF INJURY USER MUST READ AND UNDERSTAND ALL INSTRUCTIONS

To view all our offices and their contact information please visit: www.euroboor.com

The original manual has been produced in the English language. If any discrepancies should occur in translations, reference must be made to the original version for clarification.

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1. Safety

1.1. General safety instructions

Do not use this power tool before you have thoroughly read and completely understood this manual, specifically the “General safety instructions” and “Specific safety information”, including the figures, specifications, safety regulations and the signs indicating DANGER, WARNING and CAUTION.



WARNING: *When using this power tool, basic safety precautions should always be followed to reduce the risk of fire, electrical shock and personal injury.*

Please also observe the relevant national industrial safety regulations. Non-observance of the safety instructions can lead to an electric shock, burns and/or severe injuries.

This manual should be kept for later use and enclosed with the magnetic drilling machine, should it be passed on or sold.

The term “power tool” and “machine” in this user manual refers to your AC-powered (corded) power tool or battery-powered (cordless) power tool.

Work area

1. Keep your work area clean and well lit. Cluttered and dark work areas increase the chance of accidents;
2. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. The power tool may create sparks which could ignite the dust or fumes;
3. Keep bystanders, children and visitors away while operating power tool. Distractions can cause you to lose control.

Electrical safety

1. Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs;
2. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded;
3. Do not expose power tools to rain or wet conditions. Water entering the power tool will increase the risk of electric shock;
4. Do not abuse the cord. Never use the cord to carry the power tool or pull the plug from an outlet. Keep the cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock;
5. When operating power tools, use an extension cord suitable for outdoor use, this reduces the risk of electric shock;
6. If operating power tools in a damp location is unavoidable, use a residual current device (RCD), this reduces the risk of electric shock.

Personal safety

1. Stay alert, watch what you are doing and use common sense when using a power tool. Do not use a power tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating a power tool may result in serious personal injury;
2. Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts;
3. Avoid accidental starting. Be sure the switch is off before plugging the power tool in. Carrying a power tool with your finger on the switch or plugging in a power tool that has the switch on increases the chance of accidents;
4. Never place hands, fingers, gloves or clothing near drilling area or rotating tool parts;
5. Remove adjusting keys or switches before turning the power tool on. A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury;
6. Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control of the power tool in unexpected situations;
7. Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat and hearing protection must be used for optimal safety;
8. Always use supplied safety belt during any work on non-horizontal surfaces. Power tool may release from surface.



WARNING: *Wear ear and eye protection when using this power tool.*

Power tool use and care

1. When using this power tool on non-horizontal surfaces, you must use cutting paste. Do not use oil because the oil can drip into the motor unit and battery pack;
2. While operating this power tool, the cutting tool must be cooled and lubricated with high quality cutting lubricants;
3. Always remove the slug from the cutting tool after operation.



WARNING: *The metal slug can be sharp and very hot!*

4. Use clamps or other practical solutions to secure and support the workpiece to a stable platform. Do not use the power tool when the switch does not turn it on or off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired;
5. Disconnect the plug from the power source or removing the battery pack before making any adjustments, changing accessories or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally;
6. Store your power tool out of reach for children and other untrained persons. This power tool are dangerous in the hands of untrained users;
7. Maintain your Power tool with care. Keep cutting tools sharp and clean. Properly maintained tools, with sharp cutting edges are less likely to break and are easier to control;
8. Check for misalignment of moving parts, breakage of parts and any other condition that may affect the operation. If you detect damage have the power tool serviced before use. Many accidents are caused by poorly maintained tools;
9. Only use accessories that are recommended by EUROBOOR for your power tool model. Accessories that are suitable for one power tool may become hazardous when used on another one.

Battery use and care

1. Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
2. Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
3. When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
4. Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. 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 batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
6. Do not expose a battery pack or tool to fire or excessive temperature. Exposure to fire or temperature above 130 °C may cause explosion.
7. Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions. Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

Service

1. Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in risk of injury;
2. When servicing a tool, use only identical replacement parts. Follow instructions in the maintenance section of this manual. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury;
3. EUROBOOR offers Armature kits containing official EUROBOOR spare parts suitable for your magnetic drilling machine.

1.2. Specific safety information for drilling

- Keep your fingers away from the drilling area;
- Avoid touching the slug that is automatically ejected by the pilot pin when the working procedure is finished. Contact with the slug when it is hot, or if it falls, can cause personal injuries;
- Always use the safety guard. Before switching on the power tool, ensure that the guard is closed securely;
- Always use the safety belt;
- This power tool is suitable for use on steel with a thickness starting from 6 mm, with zero air gap between the magnet core surface and the mounting surface. Curvature, coats of paint and surface irregularities will create an air gap. Keep the air gap to a minimum;
- Always place the power tool on a flat surface;
- Do not clamp this power tool on small or irregular shaped objects;
- Always place this power tool on a surface that is clear of shavings, chips, swarf and surface dirt;
- Keep the magnet clean and free of debris and swarf;
- Do not switch on the power tool before checking whether the magnetic base has been tightened firmly to the mounting surface;
- Adjust the power tool so that cutter does not extend into the workpiece before drilling. Do not perform any design, assembly or construction activities on the workpiece while the power tool

is switched on;

- Before switching on the power tool, make sure all accessories have been mounted correctly;
- Do not switch on the power tool until it has been mounted and installed according to all above mentioned instructions;
- Always use the recommended speed for the accessories and material you are working with;
- Do not use the power tool on the same workpiece on which electric welders are working;
- Only use an appropriate cutting lubricant. EUROBOOR offers a wide range of well-considered cooling and lubrication products to match your requirements;
- Do not use liquid cutting fluids while drilling vertically or overhead. Dip the cutter in cutting paste or apply an appropriate spray for these applications;
- Do not pour cutting fluid into the reservoir while it is mounted in the bracket. Do not allow cutting fluid to enter the drill motor;
- Before use, ensure movable safety guard operates properly;
- In case of a jammed cutter, turn off the power tool, disconnect it from the power supply and then remove the reason for the jam before turning on the power tool again.

Residual risk

In spite of following the relevant safety regulations and their implementation, certain residual risks cannot be avoided. These are:

- Impairment of hearing;
- Risk of personal injury from flying particles;
- Risk of burns due to accessories becoming hot during operation;
- Risk of personal injury due to prolonged use.

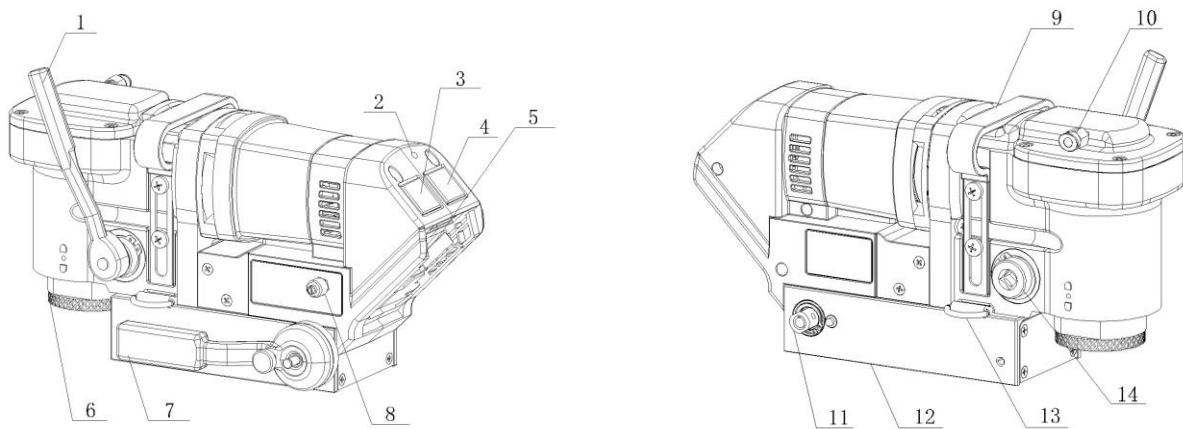
Always try to reduce these risks as much as possible.

2. Description

2.1. Intended use

This cordless magnetic drilling machine is intended for commercial use as a drilling machine for drilling materials with a magnetizable surface using annular cutters, twist drills and for countersinking in a weather-protected environment using the application tools and accessories recommended by EUROBOOR. The magnetic drilling machine can be used horizontally, vertically or overhead.

2.2. Description and features



[image 2-1]

- | | |
|-------------------------|--|
| 1. Ratchet feed handle | 8. Speed control knob |
| 2. Magnet Led indicator | 9. Carrying handle |
| 3. Motor-on switch | 10. Cutter lubrication connector |
| 4. Motor off switch | 11. Right axle for magnet switch lever |
| 5. Battery bay | 12. Permanent magnet |
| 6. Output shaft | 13. Ring for safety strap |
| 7. Magnet switch lever | 14. Right axle for ratchet feed handle |

2.3. Case content

- 1x EBM.36+LP/P-18V machine
- 1 x safety guard
- 1 x ratchet feed handle
- 1 x hex key 3 mm
- 1 x hex key 4 mm
- 1 x lubrication system
- 1 x safety strap
- 1 x extension rod
- 1 x user manual
- 1 x battery charger
- 1 x 5.0Ah battery pack
- 1 x 9.0Ah battery pack
- 1 x safety ear protection
- 1 x safety goggles
- 1 x safety gloves

2.4. Serial number

The serial number is mentioned on the machine three times: engraved on the frame, engraved on the magnet and on the serial no. sticker on the motor housing. Additional serial no. stickers are provided with the machine for your administration.

The serial number will help you, your dealer and EUROBOOR to validate and identify the machine.

For example:

1002003001

breaks down to:

36P 24 03 001

Machine series

Year of manufacture

Month of manufacture

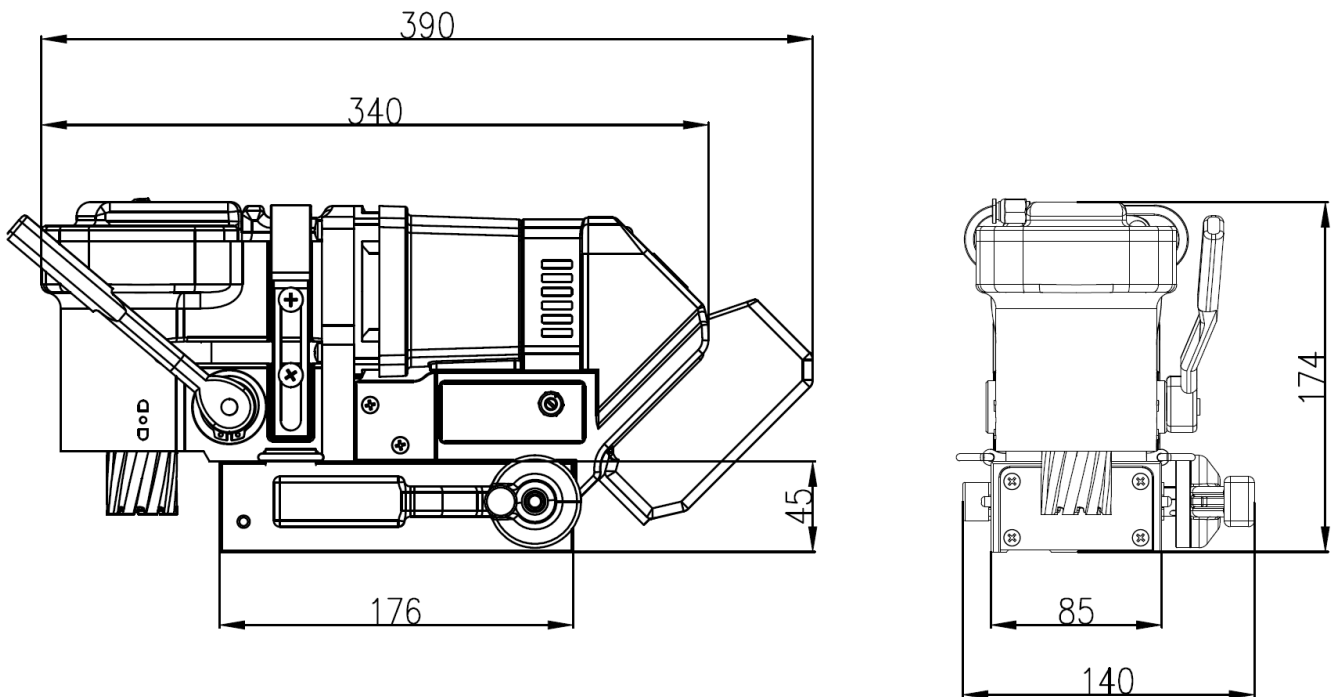
Identification number

2.5. Technical data

	Metric	Imperial
Annular cutting	Ø 12 - 36 mm	Ø 7/16" - 1 7/16"
Twist drilling	Ø 1 - 14 mm	Ø 1/16" - 9/16"
Countersinking	Ø 10 - 40 mm	Ø 3/8" - 1 9/16"
In-corner drilling (centre to edge)	0° = 50 mm	0° = 1 31/32"
	45° = 60 mm	45° = 2 23/64"
	90° = 53 mm	90° = 2 3/32"
Length	340 mm	13 25/64"
Width	140 mm	5 33/64"
Height	167 mm	6 9/16"
Stroke	40 mm	1 9/16"
Weight	11.3 kg	24.9 lbs
Magnet (l x w x h)	176 x 85 x 45 mm	6 15/16" x 3 11/32" x 1 25/32"
Magnetic force	663 kg	1,462 lbs
Total power	1,000 W	55A
Speed (no load)	270 - 430 rpm	270 - 430 rpm
Spindle (Weldon)	19.05 mm	3/4"
Voltage	18v	18v

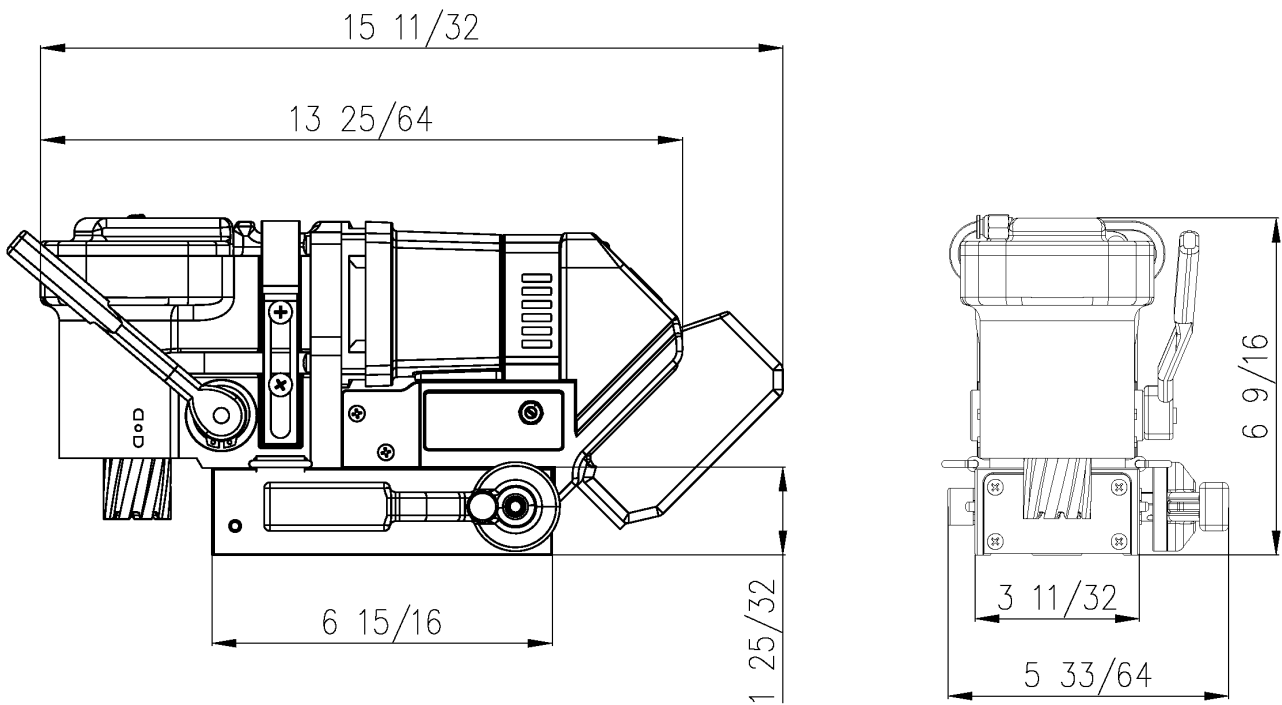
*For tapping M12 threads, we recommend pre-drilling with a diameter of 10.5 mm

Dimensions (mm)









[image 2-2]







Dimensions (inches)



[image 2-3]

2.6. Symbols

Symbol	Term, meaning	Explanation
	Read documentation	Be sure to read the documentation in this user manual and specifically the “General safety instructions” and “Specific safety information”
	Wear ear protection	Use ear protection during operation
	Wear eye protection	Use eye protection during operation
	Indoor use only	To identify electrical equipment designed for indoor use
	Double Insulation	An insulation comprising both basic insulation and supplementary insulation
	Danger/warning/caution	Read and apply the information in the adjacent text!

Symbol	Term, meaning	Explanation
	European conformity	Conformity with EEA machine regulations
	Class of protection I	Product with basic insulation and exposed (touchable) conductive parts additionally connected to the protective earth conductor
	Electromagnetic Compatibility	Able to function acceptably in its electromagnetic environment
	International Electrotechnical Commission	Conformity with international electrotechnical safety standards
	ISO9001	Certified in accordance with ISO9001:2015 quality management system
	UL	Certified by Underwriters Laboratories (UL), a recognized laboratory for safety testing approved by US federal agency OSHA
mm	Millimeter	Unit of measure for the dimensions
"	Inch	Unit of measure for the dimensions
kg	Kilogram	Unit of measure for the mass
lbs	Pound	Unit of measure for the mass
V	Volt	Unit of measure for the electric voltage
A	Ampere	Unit of measure for the electric current intensity
W	Watt	Unit of measure for the output
rpm	Revolutions per minute	Unit of measure for the revolutions

2.7. Environmental



Separate collection. This product must not be disposed of with normal household waste.



Separate collection of used products and packaging allows materials to be recycled and used again. Re-use of recycled materials helps prevent environmental pollution and reduces the demand for raw materials.

Local regulations may provide for separate collection of electrical products from the household, at municipal waste sites or at the retailer when you purchase a new product.

3. Preparation & adjustment

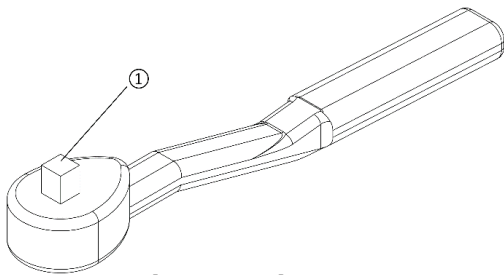
3.1. Assembly



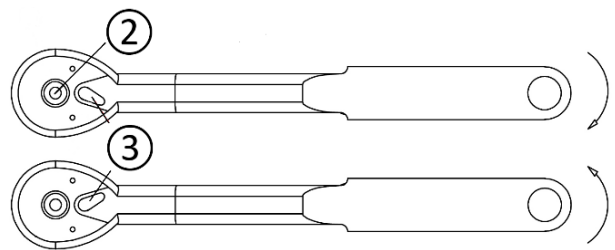
WARNING: To reduce the risk of injury, remove the battery pack from the power tool before installing and removing accessories before adjusting or changing set-ups or when making repairs. Be sure all switches are in the OFF position. An accidental start-up can cause injury.

Fitting the ratchet feed handle

1. Take the ratchet feed handle, and line the square up with the square opening in the machine feed axle (image 3-1);
2. Push the ratchet feed handle in the machine feed axle while pressing the release button on the ratchet feed handle (image 3-3). You can place the feed handle in a position that best matches your drilling set-up;
3. To change the rotation direction of the ratchet feed handle, you can switch the small lip on the ratchet feed handle (image 3-2):
 - a. To move the ratchet feed handle in clockwise direction, switch the lip to the left;
 - b. To move the ratchet feed handle in counter clockwise direction, switch the lip to the right;

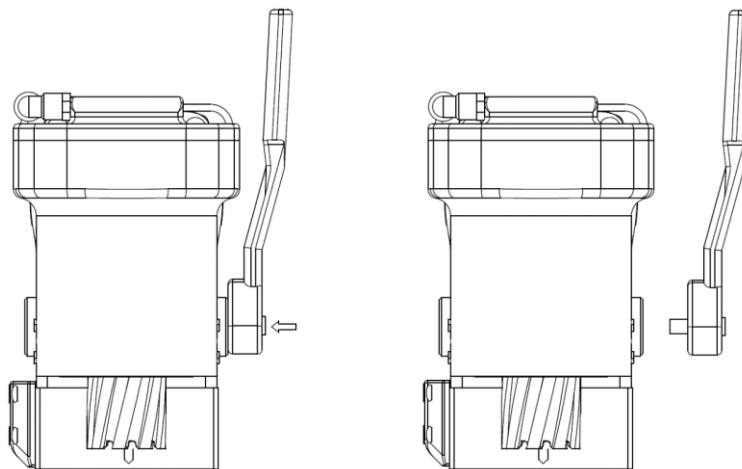


[image 3-1]



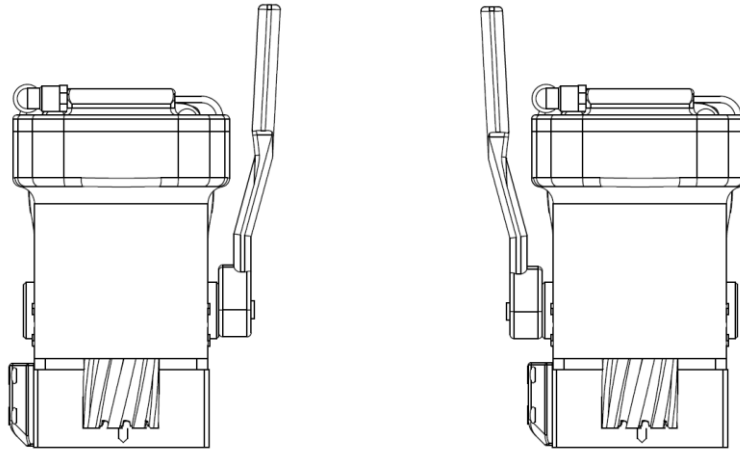
[image 3-2]

4. To release the ratchet feed handle from the machine, press the release button on the ratchet feed handle and pull it away from the machine;



[image 3-3]

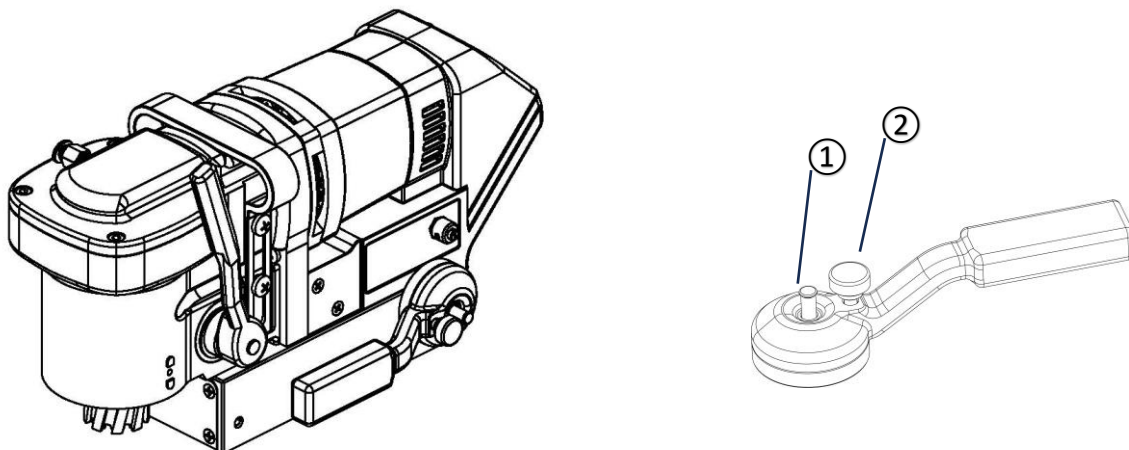
5. It is possible to position the ratchet feed handle on either side of the machine. Method of fitting and releasing (steps 1. to 4.) is always the same.



[image 3-4]

Releasing and fitting the magnet switch lever

1. To fit the magnet switch lever on the machine, pressing and holding the ① button while fitting.
2. To release the magnet switch lever from the machine, pressing and holding the ② button while releasing.
3. It is possible to position the magnet switch lever on either side of the machine. Method of fitting and releasing (steps 1. to 2.) is always the same.

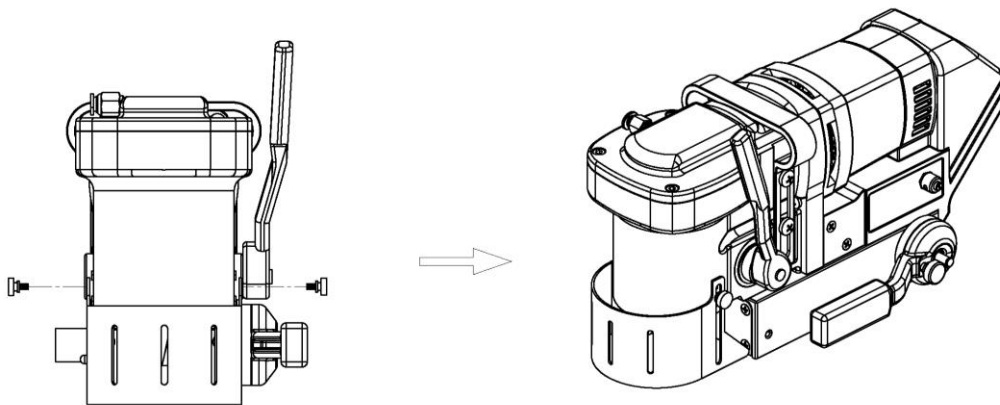


[image 3-5]

Mounting the safety guard

The safety guard protects against chippings and accidental contact and must always be mounted before operation.

1. Place the drill guard in front of the machine. Make sure the long slots on the side clip over the small humps protruding from the gearbox body.
2. Fit the two thumbscrews in the designated holes, and tighten by hand. Make sure the drill guard is fitted firmly, but don't overtighten the screws.



[image 3-6]

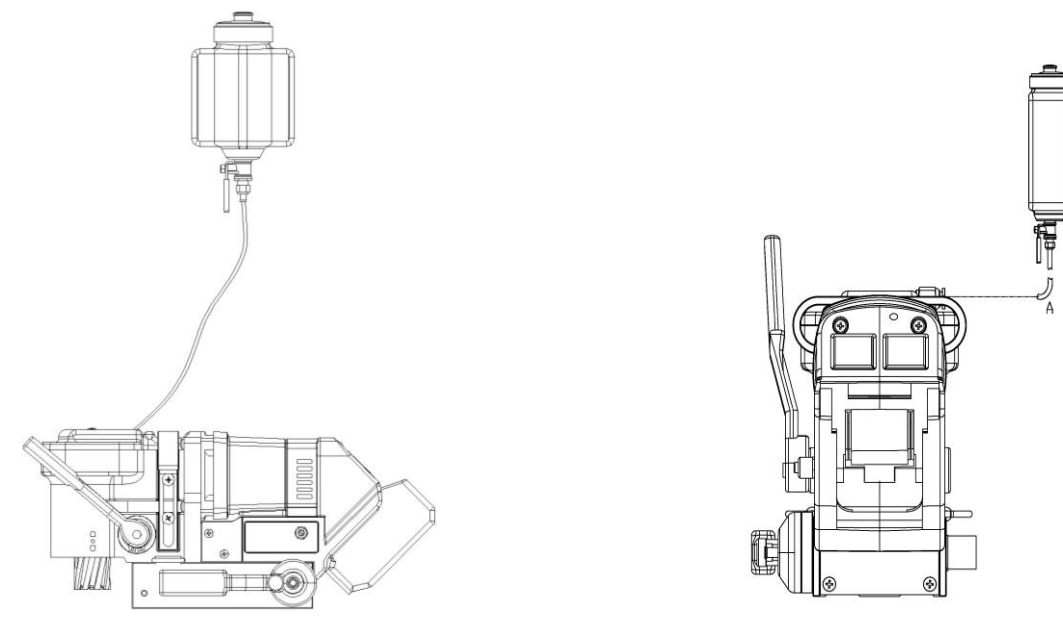


WARNING: Always use the safety guard.

Fitting the lubrication system

The lubrication system can only be used for horizontal drilling (the drill being used vertically).

1. The lubrication tank is equipped with an extra-long hose. This hose can be cut to the desired length;
2. The tank is equipped with a magnet at the back. This makes it possible to place the tank against any ferro product;
3. Connect the hose to the magnetic drilling machine by pushing it firmly into the connector.



[image 3-7]

4. To disconnect the hose, press the blue ring on the connector and gently pull out the hose.

In order to use the lubrication system, it must be filled with a sufficient amount of cutting fluid.

1. Make sure the flow regulator is closed;
2. Unscrew the cap;
3. Fill the container with cutting fluid;
4. Screw the cap back on.



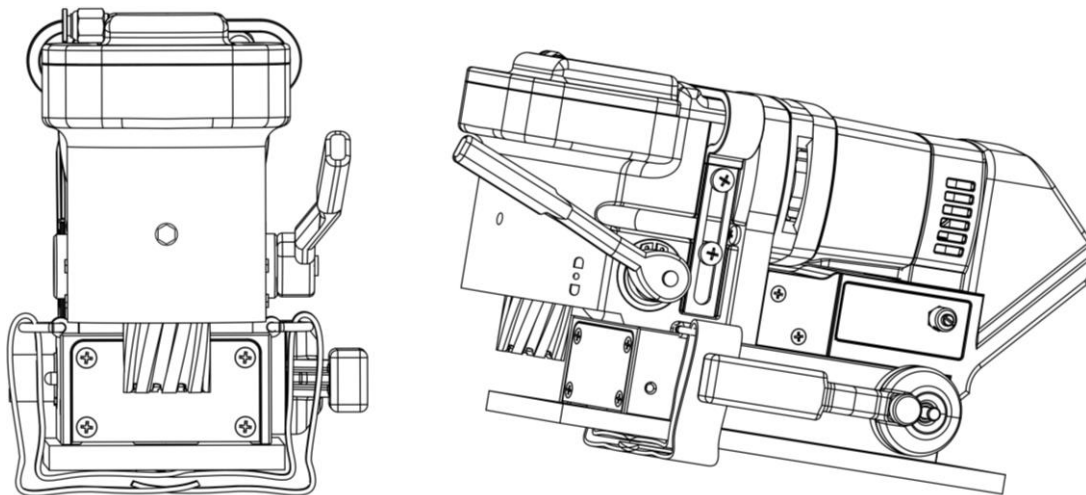
WARNING: Do not use the lubrication system in vertical or overhead drilling applications. Instead use EUROBOOR spray or cutting paste.

Fitting the safety strap

The safety strap should always be used during operation. Use of the safety strap limits the risk of personal injury when for some reason the magnet comes loose from the workpiece (such as loss of power supply). In no way does the use of the safety strap clear the operator from following other safety and operating instructions.

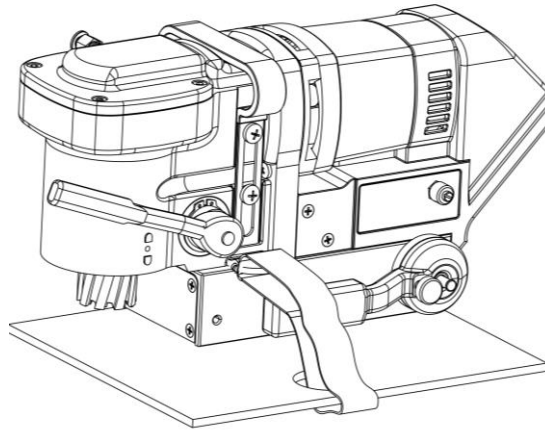
The safety strap can be used in two different ways:

1. On a narrow workpiece you can loop the strap through the two D-rings and underneath the workpiece. Pull the strap through its buckle and make sure the strap is tight all-around;



[image 3-8]

2. On a larger workpiece you can loop the strap through one D-ring and an available opening in the workpiece itself. Pull the strap through its buckle and make sure the strap is tight all-around.



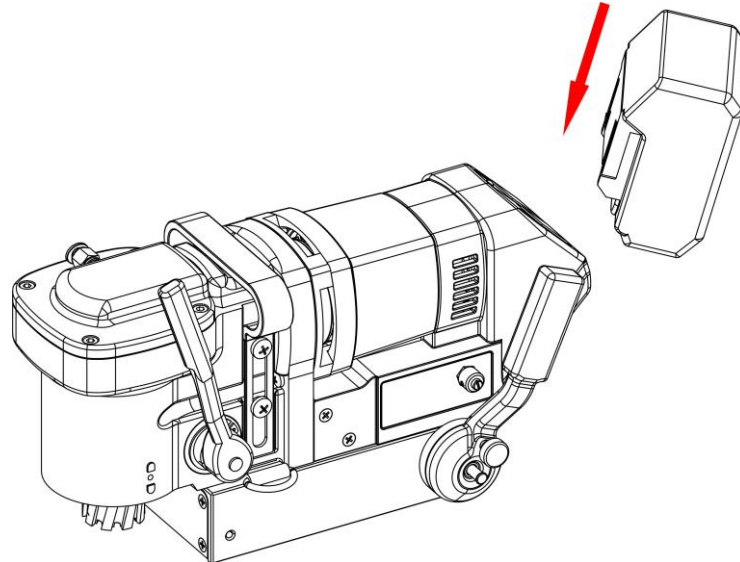
[image 3-9]



WARNING: Always use the safety strap when drilling vertically and/or up-side-down. The safety strap does not replace the magnetic force of the magnetic drilling machine: it is simply used to secure against falling in the event of a magnet malfunction.

Install&remove the battery pack

1. Battery pack should be installed per illustration, Insert it all the way until it locks in place with a little “click”;
2. To remove the battery pack, press the white unlocking-button on the front of battery and then pull out the battery from its position.



[image 3-10]



CAUTION: Do not install the battery cartridge forcibly. If the battery pack does not slide in easily, it is not being inserted correctly

3.2. Prior to use

- ✓ Please make sure that the contacting surface for the permanent magnet base is level, clean and rust free. Remove any varnish or primer. When working on materials that are not magnetizable, suitable fixation devices, obtainable as accessories from EUROBOOR, e. g. suction plate, vacuum plate or pipe-drilling machine must be used.
- ✓ When working on steel materials with a material thickness of less than 6 mm, the workpiece must be reinforced with an additional steel plate in order to guarantee the magnetic holding force.
- ✓ Check the machine for possible damage; Before using the machine, you must carefully check the protective components or slightly damaged components to ensure they are operating perfectly and as intended.
- ✓ Check that moving parts are in perfect working order, do not jam and check whether the parts are damaged. All parts must be correctly installed and fulfill all conditions necessary to ensure perfect operation of the machine.
- ✓ Damaged protective components must be repaired or replaced according to specifications by EUROBOOR or any authorized EUROBOOR dealer.

DO NOT use under wet conditions or in presence of flammable liquids or gases.

DO NOT let children come into contact with the machine. Supervision is required when inexperienced operators use this machine.

Useful tips

- Try a few simple projects using scrap material until you develop a “feel” for the magnetic drilling machine;
- Let the machine run in for a period of eight to ten hours before starting with big operations. Do not load the machine too much during this run-in period;
- Never use the machine with serious overload;
- Keep the machine clear from moisture at all times to protect the machine, yourself and others

4. Using the machine



WARNING: Always observe the safety instructions and applicable regulations.



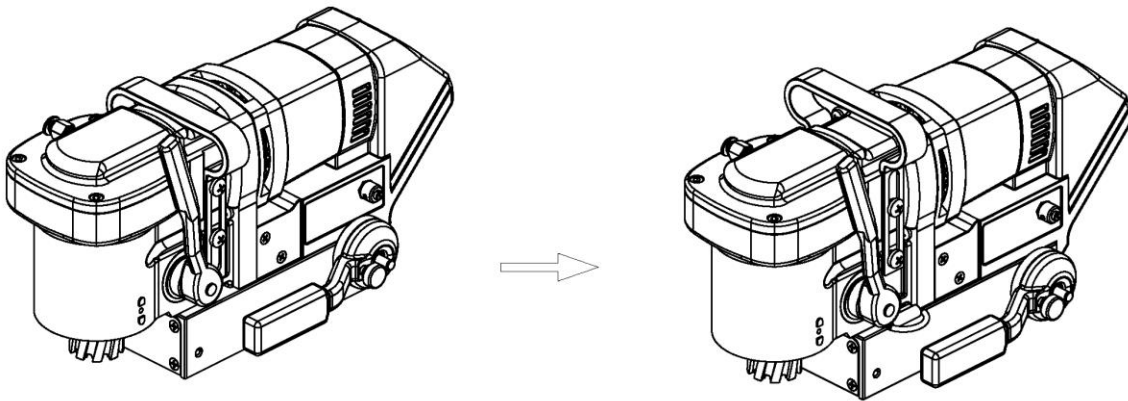
WARNING: To reduce the risk of serious personal injury, remove the battery pack from the machine before making any adjustments or removing/installing attachments or accessories.

4.1. Carrying handle

This machine is designed to be carried by hand only, with the use of the integrated retractable carrying handle. Always check if the 4 screws holding the carrying handle in place are still firmly tightened prior to carrying the machine.

- 1) To extract the carrying handle, gently pull it up at both ends simultaneously (image 4-1);
- 2) The machine should be carried with one hand only, with 4 fingers (all other than the thumb);
- 3) To retract the carrying handle, gently push it down. Be careful not to get any body parts stuck.

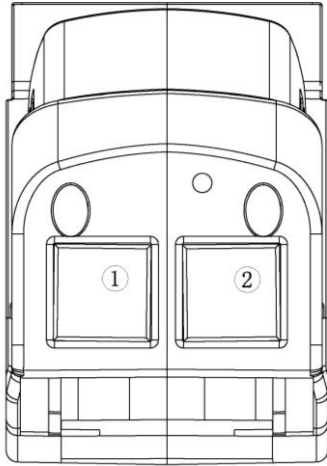
It is advised to have the carrying handle retracted during operation, as it increases clearance around the machine.



[image 4-1]

4.2. Control panel

The control panel on your magnetic drilling machine is designed for maximum ease of use and safety.



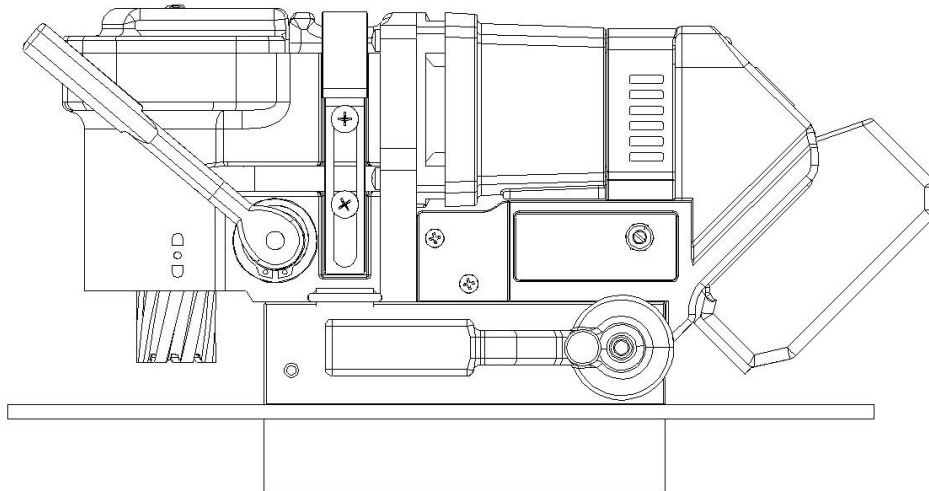
1. Motor On switch(Green)
2. Motor Off switch(Red)

[Image 4-2]

4.3. Permanent magnetic base

Make sure the cordless magnetic drilling machine is placed on a smooth, clean, level and solid surface without any objects or debris to guarantee maximum adhesion.

The workpiece must at least be 6 mm (1/4") thick for the magnet to stick and to drill safely. In case the workpiece is between 3 mm (1/8") and 6 mm (1/4"), make sure to make a proper base to create a good magnetic field as shown below.



[image 4-3]

When the base is not able to create a good enough magnetic holding force, this may be caused by:

- Surface not being flat;
- Workpiece is not magnetizable (e.g. aluminum);
- Workpiece is coated or painted;
- Workpiece is not thick enough.
- The permanent magnet has been demagnetized

In this situation the magnet LED indicator will not light up green. Make sure to solve any of these matters before proceeding in any way and creating unsafe situations.

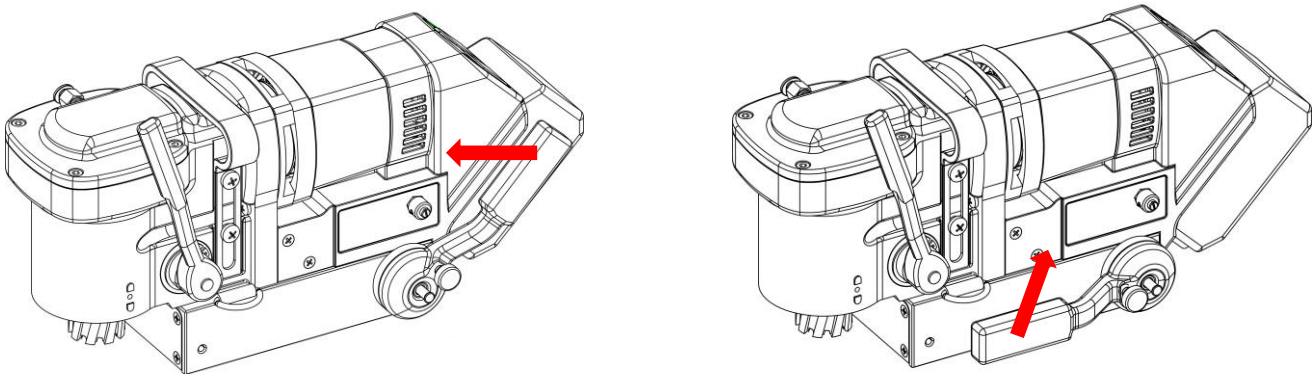


WARNING: *Do not use this machine when magnet LED indicator is off. Magnet may not generate sufficient holding force.*

We want to point out that above mentioned precautions and indicators do not guarantee that the magnet will not release from the material. EUROBOOR accepts no liability when it comes to the magnet indicator not functioning or functioning poorly.

Make sure that the magnet attaches tightly to the work piece before turning on the motor unit of the magnetic drilling machine.

4.4. Switching magnet ON/OFF



[image 4-4]

- **Activating** the magnetic holding force by rotating the magnet switch lever counter-clockwise, the magnet LED indicator lights up in green, to indicate that the magnetic holding force is sufficient for drilling.
- **Inactivating** the magnetic holding force by rotating the magnet switch lever clockwise, the magnet LED indicator goes off, to indicate that the magnetic holding force is off.



WARNING: Do not place the permanent magnet base on hot surfaces, it could reduce the magnetic holding force and may result in permanent demagnetization of the magnet.

4.5. Switching motor ON/OFF

The motor unit can only be switched ON when the magnet LED indicator is activated. To switch the motor ON, press the green button with marking "On". To switch the motor OFF, press the red button with marking "Off".

4.6. Motor speed control

The speed control knob (potentiometer) allows you to electronically control the speed of the motor (in both clockwise and counter clockwise direction):

- The indicator of the potentiometer in bottom left corner is minimum speed;
 - The indicator of the potentiometer in bottom right corner is maximum speed;
- Be careful not to overturn the knob.

4.7. Tool lubrication

Horizontal applications

In order to use the lubrication system, the tank must be filled with a cutting lubricant:

1. Make sure the flow regulator is closed;
2. Unscrew the cap;
3. Fill the container with cutting lubricant;
4. Screw the cap back on.

5. Adjust the fluid flow as required using the flow regulator;
6. Add more cutting lubricant when the shavings (metal chips) become blue.

Vertical and overhead applications

Dip the cutter in cutting paste or apply an appropriate spray.



WARNING: Do not use the lubrication system in vertical or overhead drilling applications. Instead use EUROBOOR cutting paste or spray.

Make sure to use only suitable cutting lubricants. EUROBOOR offers a wide range of cutting lubricants for all tool and material combinations. Proper lubrication will help you create better and faster results, and extend the lifetime of your tools.

4.8. GYRO-TEC safety

This EUROBOOR magnetic drilling machine is equipped with GYRO-TEC safety functionality. It features a gyroscopic sensor which detects acceleration and displacement in any direction. Whenever the machine recognizes a sudden or unwanted movement the motor will be shut down automatically by the machine's electronics. This safety functionality offers protection to the user in various circumstances, such as:

- Sudden loss of magnetic force while in operation;
- Excessive vibration caused by incorrect drilling procedure, worn-out cutting tools, etc;
- Sudden displacement of the workpiece to which the magnetic drilling machine is attached.

By the motor shutting down automatically, risk of damaging or hurting the machine, tools, workpiece and operator is reduced.

Every time the motor is started, the machines electronics need a moment to run a systems check and initiate the safety system. The GYRO-TEC safety feature engages 3 seconds after the motor is started.

It is very important to note that this functionality raises the safety level, but does not prevent the operator from using the machine incorrectly. The operator should always follow instructions described in this manual and take all necessary safety precautions.

5. Working with drilling accessories

5.1. Annular cutters

Annular cutters only cut material at the periphery of the hole, rather than converting the entire hole to shavings. As a result, the energy required to make a hole is lower than for a twist drill. When drilling with an annular cutter, it is not necessary to drill a pilot hole.



WARNING: Do not touch the cutter or the parts close to the cutter immediately after operation, as they may be extremely hot and cause burns to the skin. Ensure nobody is in the work area where the metal core (slug) is ejected.

Drilling conditions

The ease with which material can be drilled depends on several factors including tensile strength and abrasion resistance. Whilst hardness and/or strength is the usual criterion, wide variations in machinability can exist among material showing similar physical properties.

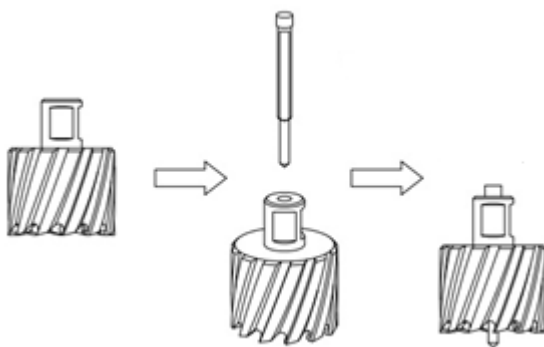
The drilling conditions are dependent on requirements for tool life and surface finish. These conditions are further restricted by the rigidity of the tool and the workpiece, lubrication and machine power available. The harder the material, the lower the cutting speed.

Some materials of low hardness contain abrasive substances leading to rapid cutting edge wear at high speeds. Feed rates are governed by rigidity of set-up, volume of material to be removed, surface finish and available machine power.

Drilling a hole

Now that you have read the information and safety recommendations above, you are ready to actually start drilling. Follow these 13 steps for best drilling result:

1. Install the annular cutter:
 - Place the pilot pin into the cutter;



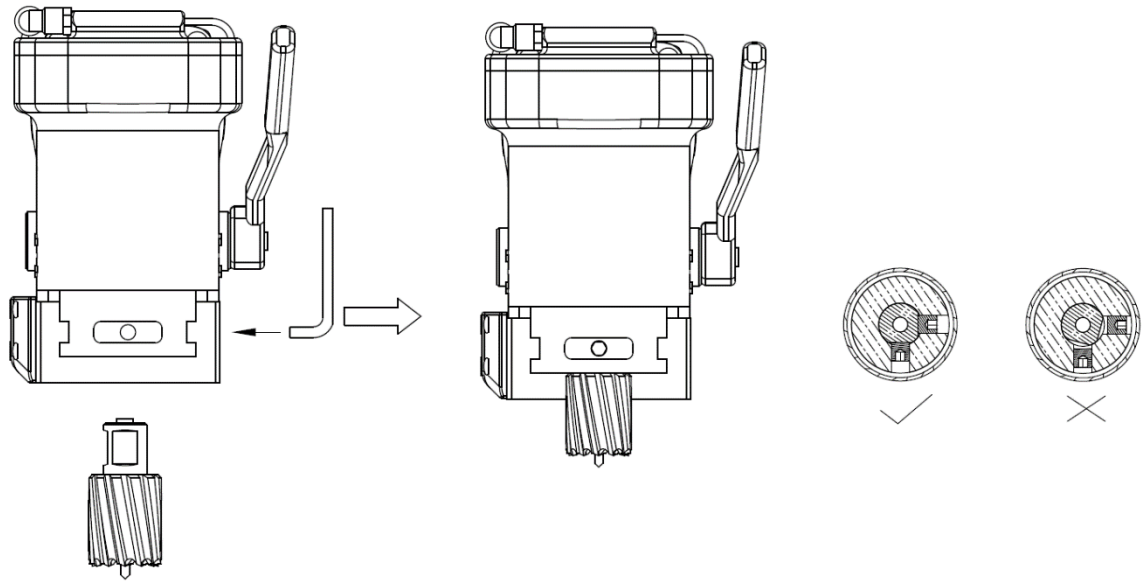
[image 5-1]



WARNING: Make sure the machine is still disconnected.



WARNING: Always protect your hands against the sharp cutter!



[image 5-2]

- Align the flat faces on the cutter shank with the screws in the tool holder;
 - Make sure the cutter shank is entered fully and correctly;
 - Tighten the screws with the provided 4 mm Allen key;
2. Precisely mark the center of the hole;
 3. Use the pilot pin to position the machine in the correct position, with the tip of the pilot pin to meet the marked center of the hole;
 4. Switch on the magnet and verify that the drill is in the right position and that the machine is pushed tight against the work piece;
 5. Put open the valve of your lubrication system to release the oil;
 6. Switch the motor on and allow it to run at the required speed;
 7. Start moving the ratchet feed handle towards the front of the machine, pushing down the output shaft and annular cutter;
 8. Apply a regular pressure while drilling. The drilling performance does not improve by putting more pressure on the machine. Too much pressure will overload the motor and your annular cutter will be worn sooner;
- A continuous, non-discoloured iron swarf is a sign of correct drilling speed and a well-cooled, sharp cutter. Let the cutter do the job and give it time to cut the metal!***
9. Adjust the oil supply when necessary;
 10. Apply less pressure when the drill cuts through the material. The slug will be pushed out of the cutter by the pilot pin;
 11. Move the ratchet feed handle back until the output shaft is in its highest position and switch off the motor unit;
 12. Remove the burrs, metal chips and clean the cutter and surface without getting injuries;

13. To remove the annular cutter, loosen the screws in the tool holder with the provided 4 mm Allen key.



WARNING: *The cutter and metal slug can be sharp and very hot!*

5.2. Weldon twist drill

Only use 19.05 mm (3/4") Weldon shank twist drills. For fitment and removal, follow instructions as provided in paragraph 5.1 Annular cutters.

5.3. Countersinks

The machine can also be used for reaming or countersinking. Use twist drills or separately available EUROBOOR countersinks with 19.05 mm (3/4") Weldon shank and a wider diameter range:

- SCE.25 for \varnothing 10 - 25 mm (3/8" - 1")
- SCE.40 for \varnothing 10 - 40 mm (3/8" - 1 9/16")

For installation follow the steps mentioned in previous paragraphs.

6. Battery pack and charger

6.1. Battery pack

Read all instructions. Failure to follow all instructions listed below may result in, fire and/or injury.

- Remove the battery pack from the machine before any adjustments, conversions or servicing are performed.
- Before fitting the battery pack, make sure that the machine is switched off.
- Do not open the battery packs
- Do not place the battery pack or cells on or near fires, heaters, other high temperature locations, or apply heat to the battery.
- Do not pierce the battery with any sharp objects, strike the battery with a hammer, tools, or heavy objects, step on the battery pack, or otherwise damage the outer casing.
- Do not subject the battery pack to strong impacts or shocks.
- Do not expose the battery to water or any other type of liquid, or allow the battery to get wet.
- Do not leave the battery in direct sunlight, and avoid storing spare battery packs inside cars in extreme hot weather. Doing so may cause the battery to generate heat, rupture, or ignite. Using the battery in this manner may also result in a loss of performance and a shortened life expectancy. When a battery becomes too hot, the built-in protection circuitry is activated, preventing the battery from charging further. Heating the battery can destroy the safety devices, and can cause additional heating, rupture or ignition of the battery cells.
- Never short-circuit, reverse polarity, disassemble, damage or heat the battery pack over 100°C (212°F).
- If an exposed lithium-ion battery does start a fire, it may burn even more violently if it comes into contact with water or even the moisture in the air. **DO NOT THROW WATER ON A BURNING LI-ION BATTERY!** A class C fire extinguisher must be used.
- Do not use the Battery Pack if the Battery Pack casing is broken or if a Battery Pack emits an unusual odor, smoke, or excessive heat or leaks any substance. Avoid contact with any substance seeping from the Battery Pack.
- The cells within the Battery Packs contain toxic substances. Do not attempt to open Battery Packs. Do not insert any object into the Battery Packs or use any device to pry at the Battery Pack casing. If you insert an object into any of the Battery Packs' ports or openings you could suffer electric shock, injury, burns, or cause a fire. Attempting to open the Battery Pack casing will damage the casing and could release toxic and harmful substances, and will render the pack unusable.
- If battery fluid leaks out and comes into contact with your skin, rinse immediately with plenty of water. If battery fluid leaks out and comes into contact with your eyes, wash them with clean water and seek medical attention immediately
- As with all rechargeable batteries, do not charge near flammable materials.
- Do not disassemble or modify the battery pack. The battery contains safety and protection devices which, if damaged, may cause the battery to generate heat, rupture or ignition.
- Any modification may damage the battery pack or cells and will invalidate any warranty claim.
- If you happen to get any electrolyte from the cells on your skin, wash thoroughly with soap and water. If in your eyes, do not rub. Rinse thoroughly with water and seek medical
- **Obey your local regulations relating to disposal of battery**

BATTERY PROTECTION FEATURES

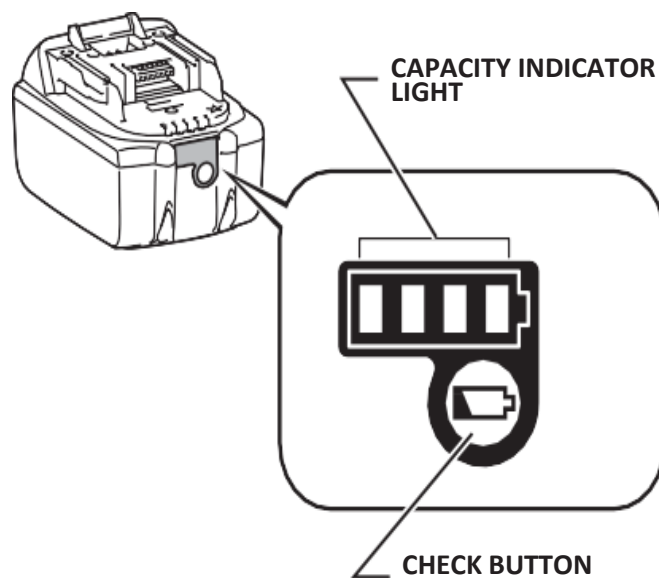
EUROBOOR 18V lithium-ion batteries are designed with features that protect the lithium-ion cells and maximize battery life. Under some operating conditions, these built-in features may cause the battery and the tool it is powering to act differently from nickel-cadmium batteries.

During some applications, the battery electronics may signal the battery to shut down, and cause the tool to stop running. To reset the battery and tool, press off-switch first, and then press on-switch to restart the machine. If fail to reset the battery and tool by applying above steps, the battery pack is depleted.

NOTE: To prevent further shut down of the battery, avoid forcing the tool.





BATTERY CAPACITY INDICATOR

By pressing the check button on the battery pack ,the user can check the remaining battery capacity by observing the indicator light.



[image 6-1]

Depending on the status of indicator light, the remaining capacity of battery can be read easily by the user:

STATUS OF INDICATOR LIGHT	REMAINING CAPACITY
	75%-100%
	50%-75%
	25%-50%
	0-25%

[image 6-2]

Note: Depending on the ambient temperature, the indication may differ slightly from the real battery capacity.

6.2. Battery Charger

Read the instructions listed below, Failure to follow them may result in fire and/or injury.

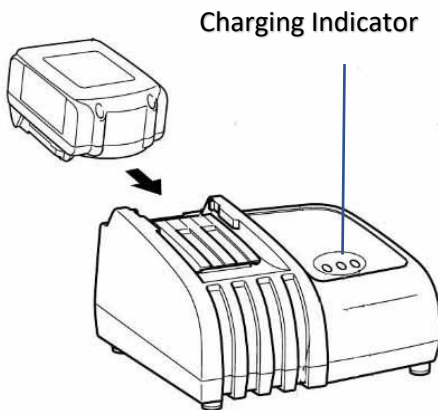
- Protect the battery charger from rain and moisture. Water penetration in a battery charger increases the risk of electric shock
- Do not charge other batteries. The battery charger is suitable only for charging matched lithium-ion batteries within the listed voltage range, otherwise there is danger fire and explosion.
- Keep the battery charger clean. Contamination may increase the risk of electric shock
- Before using, always check the charger, cable and plug. If defects are detected, do not use the charger; never open the charger.
- Have it opened and repaired only by qualified personnel who will use original spare parts. Damaged chargers, cables and plugs increase the risk of electric shock.
- Do not operate the charger on easily inflammable surface (e.g. paper, textiles, etc.) or combustible surroundings. The heating of the charger during charging may cause a fire.
- Plug the charger within the listed voltage range on the charger.
- Unplug the charger from the electrical outlet before attempting any maintenance or cleaning.
- Disconnect charger from the power supply when not in use. This will reduce the risk of electric shock or damage to the charger.
- This appliance is not intended for use by person (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Children should be supervised to ensure that they do not play with the appliance.
- Once the power cord is damaged, do not change it yourself, return it to Euroboor dealer or ask a qualified person for help.



WARNING: Do not charge non-rechargeable batteries.

Battery charging

Note: This battery charger is for charging Euroboor-battery pack. Never use it for other purposes or for other manufacturer's batteries.



1. Plug the charger into the proper AC source, the green charging indicator will light up and blink repeatedly.
2. Insert the battery pack into the charger until you hear a slight "click", the music comes out and the red charging indicator lights up, to indicate that the battery pack has been correctly fitted.
3. With finish of charge, the charging indicator will change from red one to green one and the music comes out again, to indicate that the battery pack has been fully charged.
4. After fully-charge, press the battery release button and then remove the battery pack from the charger and unplug the charger.

Battery Charging indicator

The following sheet shows the charged status of battery

Symbol on charger	Status	Meaning
	GREEN BLINKING	Plug in
	RED ON	Charged condition 0-80%
	RED, GREEN ON	Charged condition 80%-100%
	GREEN ON	Fully charged
	Not available	
	RED, GREEN BLINKING	Defective battery or charger

Note: The battery is equipped with an NTC temperature control which allows charging to be only available within a temperature range of 5°C (41F) - 40°C (104F). A long battery service life will be achieved in this manner.

7. Maintenance

Your EUROBOOR magnetic drilling machine has been designed to operate over a long period of time. Continuous satisfactory operation depends upon proper tool care and regular cleaning.



CAUTION: To reduce the risk of injury, turn the machine off and remove the battery pack from the machine before installing and removing accessories, before adjusting or changing set-ups or when making repairs. Be sure the switch is in the OFF position. An accidental start-up can cause injury

Just as every magnetic drilling machine with moving parts, your EUROBOOR magnetic drilling machine also needs regular maintenance service. A few recommendations follow :

Visually check the machine for damage

The machine must be checked before operating for any signs of damage that will affect the operation of the machine. If the machine appears to be damaged it should not be used. Failure to do so may cause injury.

Cleaning

- Clean all dirt, dust, metal chips and burrs of your magnetic drilling machine;
- Blow dirt and dust out of the main housing with dry air as often as dirt is seen collecting in and around the air vents. Wear approved eye protection and an approved dust mask;
- Never use solvents or other harsh chemicals for cleaning the non-metallic parts of the tool. These chemicals may weaken the materials used in these parts. Use a cloth dampened only with water and mild soap. Never let any liquid get inside the tool; never immerse any part of the tool into a liquid.

Operation of the machine

The machine's operation must be checked to ensure that all components are working correctly. Replace any defective parts immediately. This prevents properly functioning parts from being damaged.

Check permanent magnetic base

Before every operation the magnetic base should be checked to make sure that the base is flat and there is no damage present. An uneven magnet base will cause the magnet to hold not as efficiently and may cause injury to the operator. When the machine is put out of use for a long period, apply a small amount of machine oil to the underside of the magnetic base for rust protection. Clean the magnetic base again with next use

Repair, modification and inspection

Repair, modification and inspection of EUROBOOR magnetic drilling machines must be done by EUROBOOR or an EUROBOOR authorized dealer. The spare parts list will be helpful if presented with the machine to the EUROBOOR dealer for service when requesting repair or other maintenance.

EUROBOOR machines are constantly being improved and modified to incorporate the latest technological advancements. Accordingly, some parts (i.e. part numbers and/or design) may be changed without prior notice. Also, due to EUROBOOR's continuing program of research and development, the specifications of machines are subject to change without prior notice.



WARNING: *Since accessories, other than those offered by EUROBOOR, have not been tested with this machine, use of such accessories with this tool could be hazardous. To reduce the risk of injury, only EUROBOOR recommended accessories should be used with this machine*

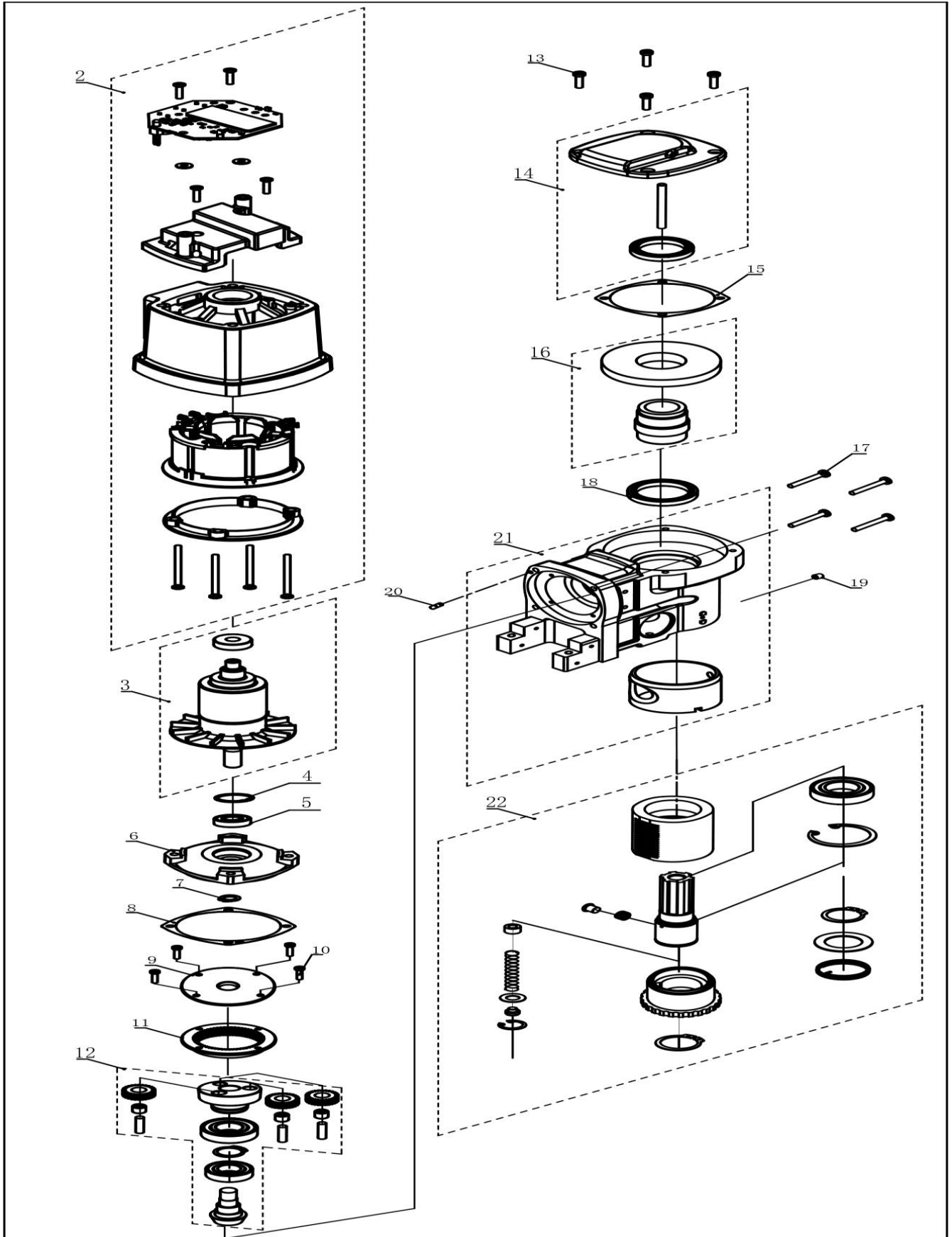
Consult your dealer for further information on the appropriate accessories.

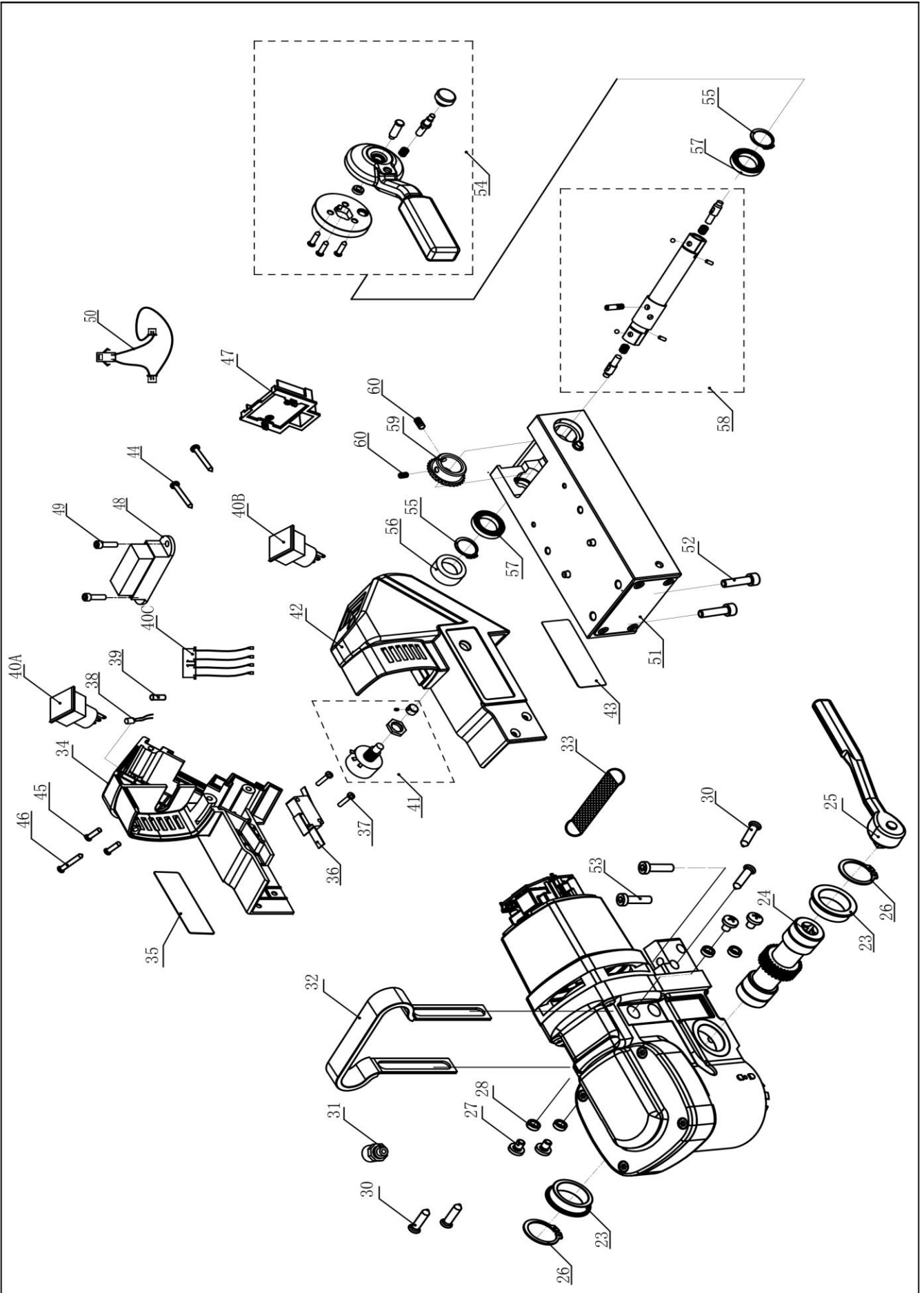
8. Trouble shooting

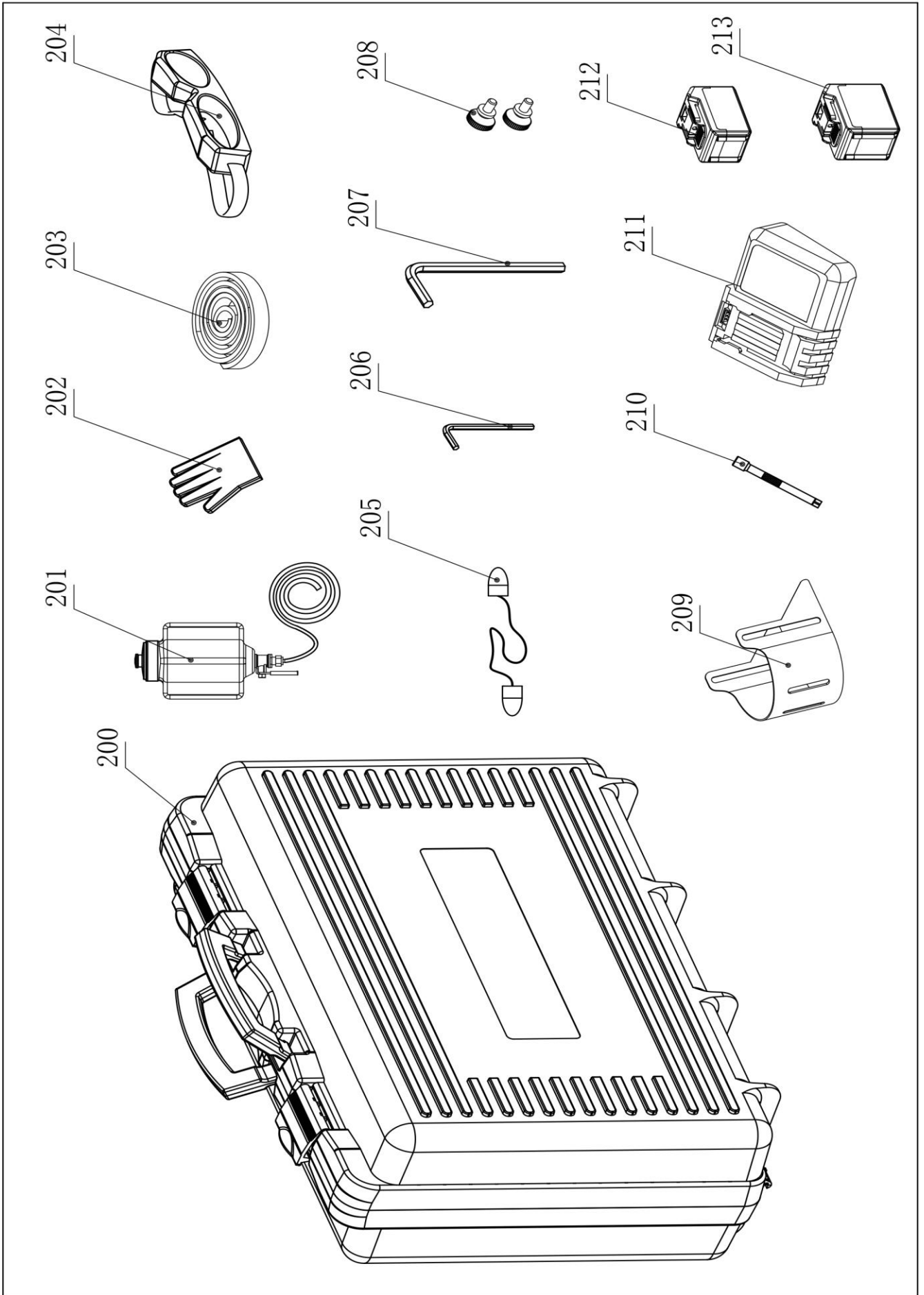
Permanent magnet does function, the motor does not work	<ul style="list-style-type: none"> - Damaged or defective wiring - Damaged of the permanent magnetic base - Defective battery pack - Defective On / Off switch - Defective control unit - Defective armature and/or field
Annular cutters break quickly, holes are bigger than the annular cutter	<ul style="list-style-type: none"> - Shaft extending from the motor is bent - Bent pilot pin - Bent spindle
Motor running roughly and/or seizing up	<ul style="list-style-type: none"> - Damaged output shaft - Worn transfer gear - Dirt in output shaft
Motor starts running when magnetic force is activated	<ul style="list-style-type: none"> - Damage in control unit
Motor making a rattling sound	<ul style="list-style-type: none"> - Gear ring (bottom of the armature) worn out - Gear(s) worn out - No oil in gearbox
Motor does not start or fails	<ul style="list-style-type: none"> - Damaged or defective wiring - Dirt in sensor control unit - Defective or loose magnet on top of armature - Damaged or defective (sensor) control unit - Damage to armature or field coil
Guiding takes a great deal of effort	<ul style="list-style-type: none"> - Adjustment grub screw has been overtightened tight - Dirt between output shaft and gearbox housing - Dirt in height adjustment gear/rack assembly - Insufficient lubrication on outside of output shaft
Insufficient magnetic force	<ul style="list-style-type: none"> - Defective permanent magnetic base - Bottom of magnet not clean and dry - Bottom of magnet not flat - Workpiece is not bare metal - Workpiece is not clean or flat - Workpiece is less than 6 mm (too thin) -

9. Exploded views & spare parts list

9.1. Exploded views





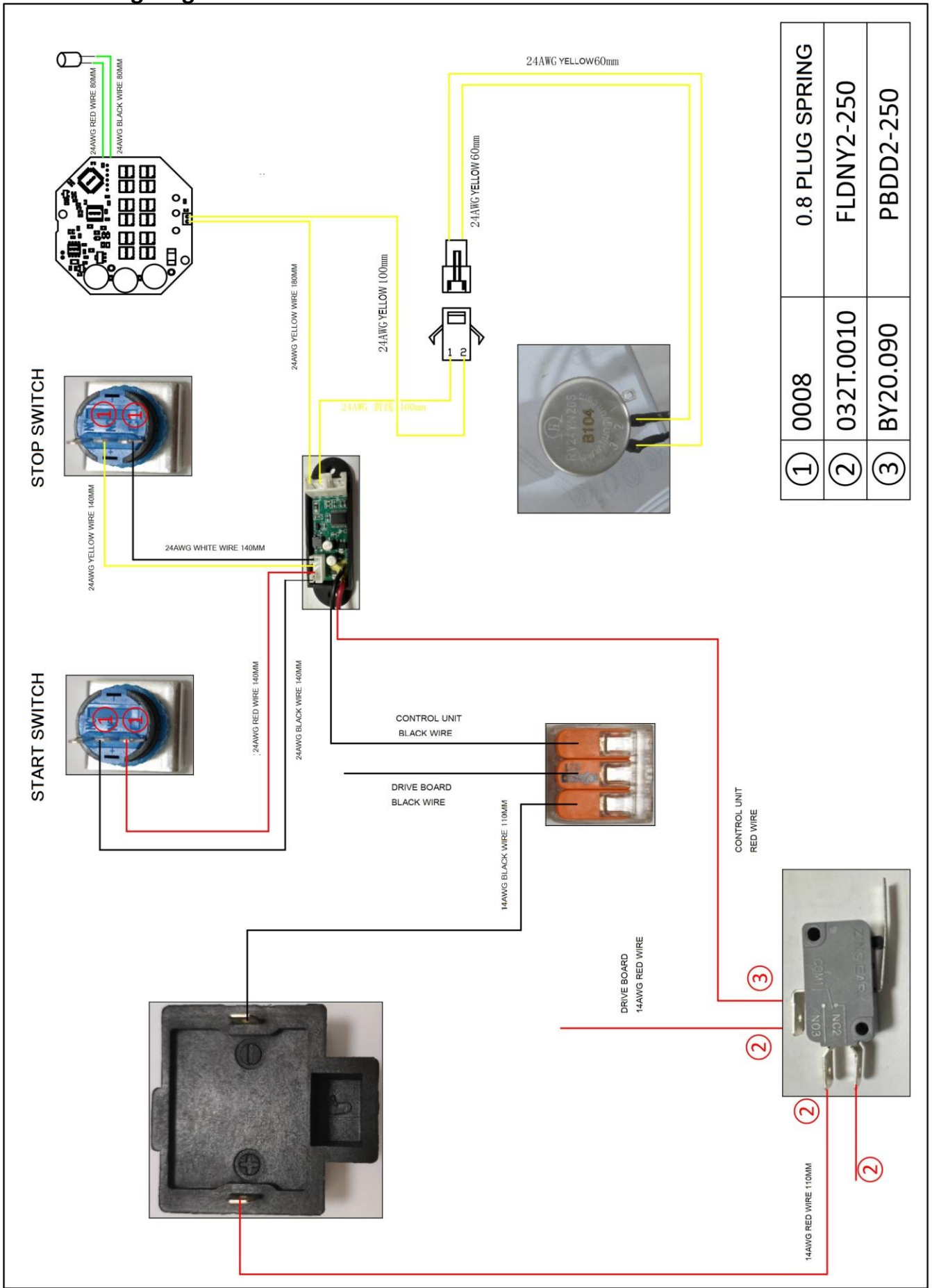


Spareparts list

No.	Part no.	Description	Qty
2	018.1011	Frame shell set	1
3	036.1002	Armature	1
4	032.0166	Circlip	1
5	050.0070	Bearing	1
6	036.0236	Inner-gear-plate	1
7	020.0114	Circlip	1
8	032.0125	Sealing paper gasket	1
9	036.0024T	Rack ring	1
10	020.0102	Inner hexagon bolt	4
11	036.0035T	Ring gear	1
12	036.1020T	Connect the shaft set	1
13	036.0012	Inner hexagon bolt	4
14	036.1023	arc gear box set	1
15	036.0138	Sealing paper gasket	1
16	036.1021	Big arc gear set	1
17	018.0145	Screw	4
18	036.0023	Bearing	1
19	020.0058	Screw	1
20	0025	Pin	1
21	036.1026	Gear box set	1
22	036.2002	Spindle set	1
23	036.0064	Rocker shaft bushing	2
24	036.0065	Rocker shaft	1
25	036.0026	Ratchet wrench	1
26	018.0165	Circlip	2
27	036.0028	Cross head screws	4
28	018.0172	Plastic screw post	4
30	036.0036	Screw	4
31	018.0147	Joint	1
32	018.0141	Handle	1
33	036.0040	D type ring ribbon	1
34	036.0059	Casing 1	1
35	036.0066	Rear-panel-plate	1
36	040.0016	Micro Switch	1
37	018.0167	Screw	2
38	018.0152	Wires	1
39	018.0153	Light guide	1

No.	Part no.	Description	Qty
40A	032C.0050	Motor-OFF-Switch(Red)	1
40B	032C.0051	Motor-ON-Switch(Green)	1
40C	018.0164	Wires	1
41	036.1031	Potentiometer set	1
42	036.0060	Casing 2	1
43	036.0067	Front-panel-plate	1
44	018.0161	Screw	2
45	018.0173	Screw	2
46	036.0143	Screw	1
47	036.1028	Charging pin set	1
48	036.1024Z	Contorl-unit	1
49	020.0102	Inner hexagon bolt	2
50	018.0163	Wires	1
51	036.1003	Permanent Magnet	1
52	020.0146A	Inner hexagon bolt	2
53	020.0146B	Inner hexagon bolt	2
54	036.1027	Handle	1
55	050.0426	Circlip	2
56	018.0150	Silicone protective sleeve	1
57	air.0011	Bearing	2
58	036.1029	Movable rod set	1
59	036.0057	Large spiral tooth 2	1
60	020.0231	Screw	2
200	036.1030S	PP box	1
201	036.2019	Coolant-tank	1
202	020.1008S	Glove	1
203	036.0033	Safety belt	1
204	020.0107	Glasses	1
205	020.0109	Ear-plug	1
206	020.0110	Hexkey	1
207	020.0112	Hexkey	1
208	036.0027	Hand screw	2
209	036.0111	Protecting mask	1
210	020.0148	Extension rod	1
211	018.2001-CK	Charger (EB5A & EB9A)	1
212	018.2002-CK	Battery 18 Volt 5.0Ah	1
213	018.2003-CK	Battery 18 Volt 9.0Ah	1

9.3. Wiring diagram



9.4. Warranty and service

Warranty

Euroboor B.V. warrants this magnetic drilling machine to be free of material defects and workmanship errors under normal use for a period of 12 months after date of purchase.

This 12 month period can be extended to 24 months in total by registering the product on our website: <https://euroboor.com/support/register/>.

Serial number:

Date of purchase:

Don't forget to register your machine at:

<https://euroboor.com/support/register/>

[only when registered you benefit from extended warranty]

Service

To maximize the lifetime of your EUROBOOR machine always use service and parts from an official EUROBOOR distribution channel. Whenever in need of such, always contact original point of sales or, if no longer existent, the distributor of EUROBOOR products in your country.