

Operators manual
version 1.0 EN

 **EUROBOOR**
FOR PROFESSIONALS BY PROFESSIONALS

Magnetic drilling machine

ECO-TUBE.30

Serial no.: _____

Date of purchase: _____

Congratulations on your purchase of the Euroboor ECO-TUBE.30 Portable Magnetic Drilling Machine. Your model is designed to produce superior holes quickly and efficiently. Through years of experience, constant innovation and development, Euroboor B.V. (in collaboration with Magswitch) is committed to provide you with metal cutting tools and products to help you be more productive.

Before operating your new magnetic drilling machine, please read all instructions first. These include the Operator's Manual and Warning Label on the unit itself. With proper use, care and maintenance, your model will provide you with years of effective drilling performance.

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

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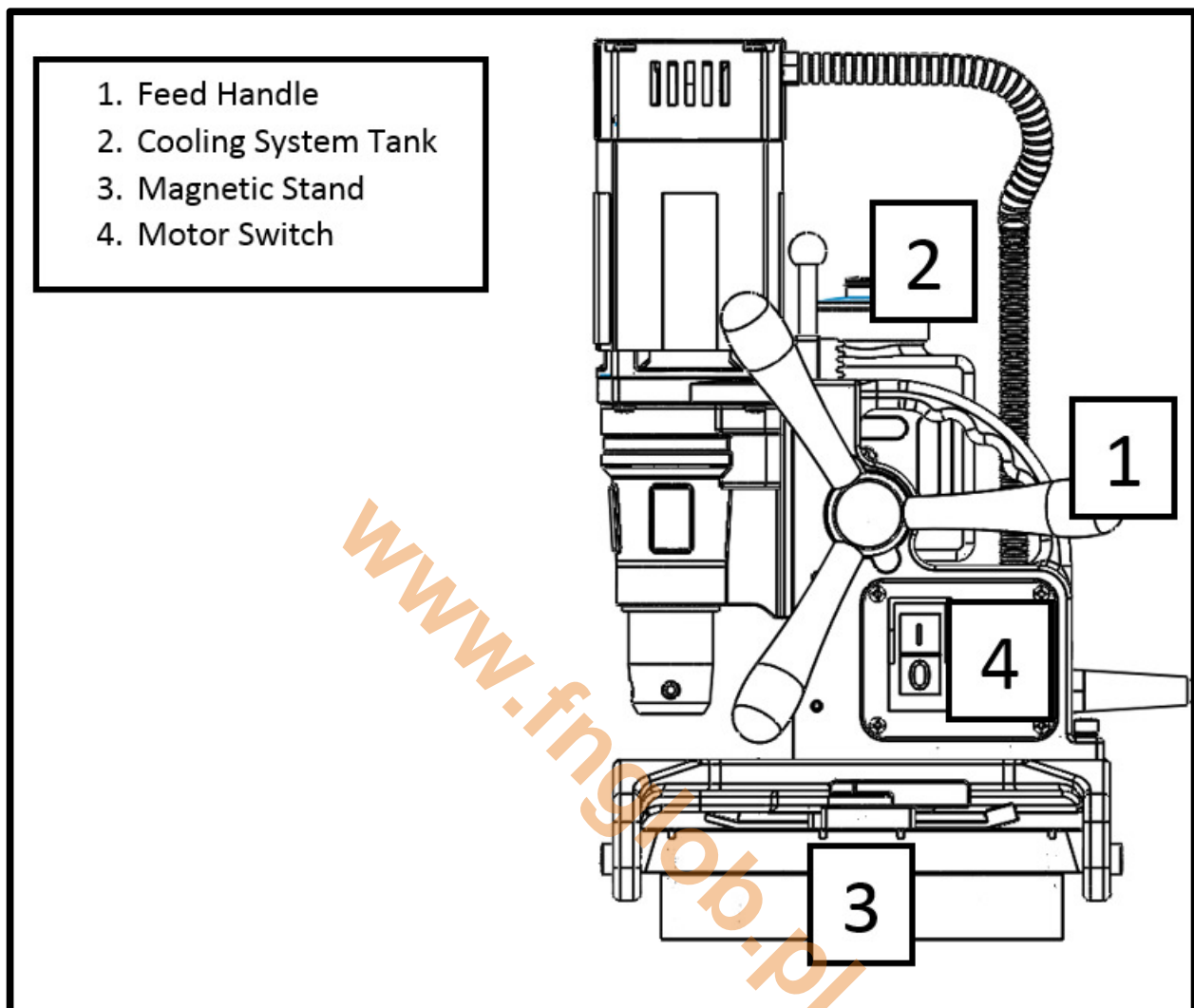








Fig. 1

Symbol	Term, meaning	Explanation
	Read documentation	Be absolutely sure to read the enclosed documentation such as the Instruction Manual and the General Safety Instructions.
	Wear ear protection	Use ear protection during operation.
	Wear eye protection	Use eye-protection during operation.
	Danger/warning/caution	Observe the information in the adjacent text!
	European conformity symbol	Confirms the conformity of the power tool with the directives of the European Community.
	Class of protection I	Product with basic insulation and exposed (touchable), conductive parts additionally connected to the protective earth conductor.
mm	Millimeter	Unit of measure for length, width, height or depth
in	Inch	Unit of measure for length, width, height or depth
kg	Kilogram	Unit of measure for the mass
Lbm	Pounds (mass)	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
N	Newton	Unit of measure for the force
Lbf	Pounds (force)	Unit measure for the force
min	Minutes	Unit of measure for the time
no	No-load speed	Revolution speed at no-load
1/min	per minute	Unit of measure for number of revolutions, stroke, impacts or oscillations per minute.

GENERAL POWER TOOL SAFETY WARNINGS

Do not use this power tool before you have thoroughly read and completely understood this Instruction Manual and the “General Safety Instructions”, including the figures, specifications, safety regulations and the signs indicating DANGER, WARNING and CAUTION.



WARNING: When using electrical tools 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 in the said documentation can lead to an electric shock, burns and/or severe injuries.

This Operator’s Manual and the “General Safety Instructions” should be kept for later use and enclosed with the power tool, should it be passed on or sold.

WORK AREA

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

ELECTRICAL SAFETY

1. Magnetic drilling machine 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 magnetic drilling machines to rain or wet conditions. Water entering a machine will increase the risk of electric shock.
4. Do not abuse the cord. Never use the cord to carry the magnetic drilling machine or pull the plug from an outlet. Keep 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 a magnetic drilling machine, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.
6. If operating a magnetic drilling machine in a damp location is unavoidable, use a safety switch, residual current device (RCD) or ground fault circuit interrupter (GFCI) protected supply. Use of such a device reduces the risk of electric shock.

PERSONAL SAFETY

1. Stay alert, watch what you are doing and use common sense when using a magnetic drilling machine. Do not use the machine while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating magnetic drilling machines may result in serious personal injury.

2. Dress properly. Do not wear loose clothing or jewelry. Contain long hair. 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 motor switch is off before plugging in. Carrying magnetic drilling machines with your finger on the switch or plugging in magnetic drilling machines that have the motor switch on invites accidents.
4. Avoid turning magnets on before making contact with working material. Turning on magnets prematurely invites accidents.
5. Never place hands, fingers, gloves or clothing near cutting area or rotating machine parts.
6. Remove adjusting keys or switches before turning the machine on. A wrench or a key that is left attached to a rotating part of the machine may result in personal injury.
7. Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control of the magnetic drilling machine in unexpected situations.
8. Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.
9. Always use supplied safety chain during any work on non-horizontal components. Magnetic base holding force can depend on material so magnetic base may release during use.

MACHINE USE AND CARE

1. When using the machine on non-horizontal surfaces, you must use cutting paste. Do not use oil because the oil can drip into the motor unit.
2. During machine operations, the annular cutter must be cooled and lubricated with good quality cutting or lubrication oil. Remove the slug from the annular cutter after each hole. CAUTION, the slug may be hot!
3. Use clamps or other practical way to secure and support the work piece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.
4. Do not use machine if switch does not turn it on or off. Any tool that cannot be controlled with the switch is dangerous and must be repaired.
5. Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
6. Store idle magnetic drilling machines out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.
7. Maintain machines with care. Keep cutting tools sharp and clean. Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.
8. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the machine operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
9. Use only accessories that are recommended by Euroboor BV for your model. Accessories that may be suitable for one machine, may become hazardous when used on another machine.

SERVICE

1. Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a 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. When using this machine, you **MUST** wear ear and eye protection.

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ADDITIONAL SPECIFIC SAFETY RULES FOR MAGNETIC DRILLING MACHINES

- Keep your fingers well out of the drill area;
- Avoid touching the drilled core that is automatically ejected by the centering pin when the working procedure is finished. Contact with the core when it is hot, or if it falls, can cause personal injuries;
- Always use the safety strap or chain;
- The magnetic drilling machine is optimized for use on steel starting with a thickness starting 3.5 mm with zero air gap between the magnet surface and the mounting surface. Keep the air gap to a minimum by cleaning the surface; this will affect the performance of the magnets significantly.
- The maximum allowable tip force of the magnetic drilling machine will increase with the thickness and type of material; air gaps, surface coatings and debris can reduce this value.
- Always place the machine 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 turn on the machine until it has been mounted and installed according to these instructions;
- Do not turn on the machine before having checked that the magnetic stand has been tightened firmly to the mounting surface with both magnet arrays;
- Adjust the table so cutter does not extend into the work piece before drilling. Do not perform any design, assembly or construction activities on the work piece while the machine is turned ON;
- Before turning on the machine, make sure all accessories have been mounted correctly;
- Do not use the machine on the same work piece on which electric welders are being used;
- Use only an appropriate cutting fluid. Use a general non-oil-based metal cutting coolant diluted with water;
- 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 chuck guard operates properly;
- Ensure that metal chips or resinous residue cannot lead to blockage of the function;
- In case of jammed cutter disconnect the machine from the power supply, and remove the reason for the jam before turning on the machine again.

RESIDUAL RISKS

In spite of the application of the relevant safety regulations and the implementation of safety devices, 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.

Markings on Tool

The following pictograms are shown on the tool:



Read instruction manual before use.



Wear ear protection in areas with noise emissions > 80 Decibels(A).



Wear eye protection.

POSITION Serial number

The Serial Number, which also includes the type of machine, the year and month of manufacturing and identification number, is engraved on the frame, magnet and the motor unit.

Example:

30 14 09 001

Model type

Year of Manufacture

Month of manufacture

Identification number

Package Contents

- 1 Magnetic drilling machine
- 1 Carrying case
- 3 Handles
- 1 Allen Key 2.5
- 1 Allen Key 3
- 1 Allen Key 4
- 1 Allen Key 5
- 1 Wrench
- 1 Lubrication system
- 1 Operators manual
- 1 Exploded drawing
- 1 Safety Ear Protection
- 1 Safety Glasses
- 1 Safety Gloves
- 1 IBK.50 Spindle Extension 50
- 1 IBC. K25 Pilot Pin for extension

TECHNICAL DATA

SPECIFICATIONS	
Euroboor ECO-TUBE.30	
Magnetic Force(Full Sat)	1150 lbs./521 kg*
Magnet Assembly(L x W x H)	187mm x 165mm x 83mm 7.36" x 6.49" x 3.27"
Full Saturation Thickness	1/2" / 12.7mm
Max Tip Force (Full Saturation)	609 lbs./276kg**
Smallest Pipe Diameter	3.5"/90mm
Motor Power	8.2 A
Speed (No Load)	775 RPM
Speed (Load 900 W)	400 RPM
Voltage	110-120 V, 50-60 Hz 220V-240V, 50Hz
Drill Stroke	3.5"/90mm
Spindle	3/4" Weldon
Annular Cutters	Ø 1/2"-1 3/16" Ø 12-30 mm
Twist Drill	Ø 1/16"-1/2" Ø 1-13 mm
Overall Height	16.38"/416 mm
Overall Length	10.83"/275 mm
Overall Width	7.28"/185 mm
Net Weight	24.2 lbs. /11 kg

**Values measured on flat surface*

Emission values for sound and vibration

(Two-figure – specifications as per ISO 4871)

Sound emission

Measured A-weighted sound power level L_{WA} (re 1 pW), in decibels

95

Measuring uncertainty K_{WA}, in decibels

3

A-weighted emission pressure power level measured at the workplace L_{pA} (re 20 µPa), in decibels

84

Measuring uncertainty K_{pA}, in decibels

3

Vibration emission

Rated acceleration, in m/s²

0.5

Measuring uncertainty K, in m/s²

1.5

REMARK: The sum of the measured emission value and respective measuring inaccuracy represents the upper limit of the values that can occur during measuring.



Wear ear protection!

For measurement values obtained according to the respective product standard, see the last page of this Instruction Manual.

DESCRIPTION (Fig. 1)



WARNING: Never modify the power tool or any part of it. Damage or personal injury could result.

INTENDED USE

This magnetic drilling machine is intended for commercial use as a drilling machine for drilling materials with a magnetizable surface using annular cutters and twist drills, and for tapping, countersinking and reaming 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.

INSTRUCTIONS FOR PUTTING INTO OPERATION

Please make sure that the contacting surface for the magnets is level, clean and rust-free.

Remove any varnish or primer.

When working on steel materials with a material thickness of less than 3.5mm, it is recommended that the work piece be mechanically held in order to guarantee proper tip force.

Check the machine for possible damage; before using the machine, you must carefully check protective devices or slightly damaged components to ensure they are operating perfectly and as intended.

Check that moving parts are in perfect working order and do not jam and check whether parts are damaged. All parts must be correctly installed and fulfill all conditions necessary to ensure perfect operation of the machine.

Damaged protective devices and parts 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. This magnetic drilling machine is a professional power tool.

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

ELECTRICAL SAFETY

The electric motor has been designed for one voltage only. Always check that the power supply corresponds to the voltage on the rating plate.

Your EUROBOOR MAGNETIC DRILLING MACHINE is designed in class I (grounded) according to EN 61029-1. Earth/Ground wire is required.

If the supply cord is damaged, it must be replaced by a specially prepared cord available through the EUROBOOR service organization.

EXTENSION CABLE

If an extension cable is required, use an approved 3-core extension cable suitable for the power input of this tool (see technical data). The minimum conductor size is 1.5 mm²; the maximum length is 30 meter. When using a cable reel, always unwind the cable completely.

ASSEMBLY AND ADJUSTMENTS



WARNING: To reduce the risk of injury, turn unit off and disconnect machine from power source 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.

PREPARATION OF THE MACHINE (FIG. 1)

1. Assemble the feed handle.
2. Fit the lubrication system as necessary.
3. Place the machine on a clean, level and solid surface. Remove any particles that will obstruct full contact between the magnetic stand and the mounting surface.
4. Fit the safety chain (in vertical or overhead drilling applications).

FITTING THE LUBRICATION SYSTEM (FIG. 1)

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

- Hold the cooling tank against the bracket on the slide and push it in its place.
- Connect the hose to the nipple on the spindle drive shaft.

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 cutting paste.

FITTING A SAFETY CHAIN/STRAP (Not included)

1. Pass the safety chain through the opening near the grip;
2. Wrap the chain around the work piece;
3. Securely close the chain using the lock.



WARNING: Always use the safety chain when using machine vertically and/or up-side-down.

INSERTING AND REMOVING AN ACCESSORY (FIG. 1)

The tool holder accepts annular cutters with a 19,05 mm Weldon shank with one or more flats.



WARNING: *The teeth of a cutter are very sharp and can be dangerous.*

1. In order to fit an annular cutter it is necessary to remove the guard (1);
2. Slide the pilot pin through the hole in the center of the cutter shank.
3. Insert the shank of the accessory as far into the tool holder as possible.
4. Tighten the two Allen screws with Allen key;
5. To remove the accessory, loosen the Allen screws and take out the cutter.

PRIOR TO OPERATION

Try a few simple projects using scrap material until you develop a “feel” for the machine.

OPERATION

Instructions for use



WARNING: *Always observe the safety instructions and applicable regulations.*



WARNING: *To reduce the risk of serious personal injury, turn tool off and disconnect tool from power source before making any adjustments or removing/installing attachments or accessories.*

MAGNETIC BASE

By combining Magswitch's patent-pending rotating magnet technology and Euroboor's lightest unit yet, we have created a tool that is capable of quickly and safely drilling on contoured and flat surfaces. Magswitch LAY magnets allow for a much more efficient field on thinner material, allowing more consistent tip forces.

The attachment force generated by the magnet depends on various factors.

- Thickness of the material the magnet is placed on;
- Material Grade;
- Paint or coating of the material the magnet is placed on;
- Metal chips, oil or other dirt under the magnet.

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

Always use the safety chain included. Drilling above your head is extremely dangerous and is not recommended.

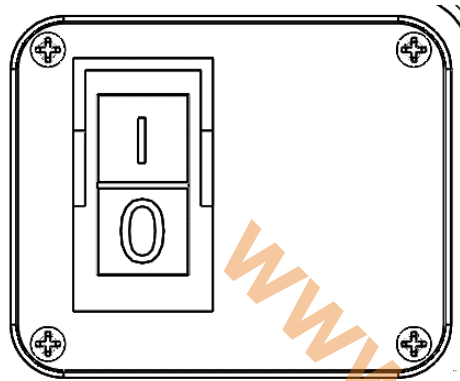
TURNING MACHINE ON AND OFF

THE CONTROL PANEL

The control panel on your magnetic drilling machine is designed for maximum operating facility and safety.

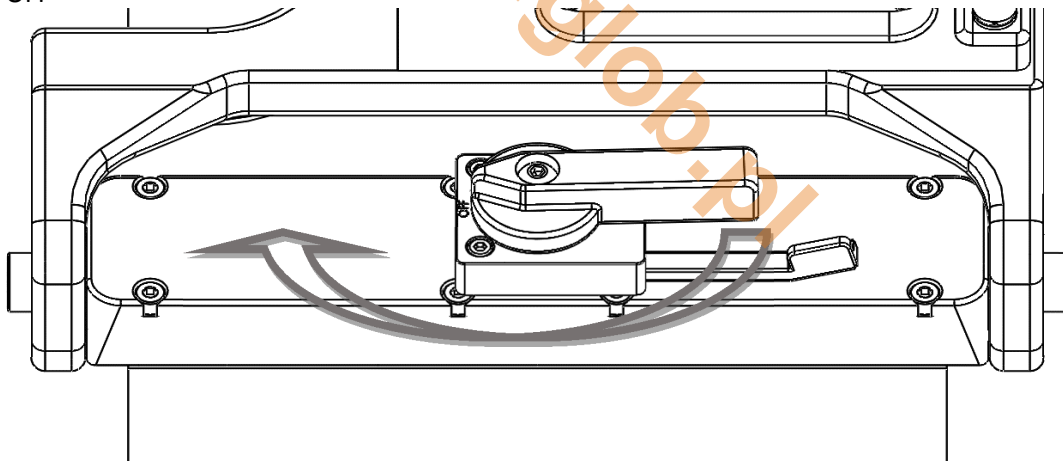
1 - The Motor Switch:

This switch is used to switch the motor unit ON and OFF;



2 - The Magswitch

The two handles on the Magswitch arrays need to be rotated the full 180 degrees to be considered fully ON or OFF



In order to operate properly, the machine MUST be turned ON following the procedure as described below.

ACTIVATING THE MAGNETS

Connect the machine to the mains/work piece. To activate the magnets rotate the ratcheting action handle the full 180 degree rotation.

TURNING THE MOTOR ON AND OFF

To turn the motor ON, press the green button with marking "I" (Fig. 2 - 1). To switch the motor OFF, press the red button with marking "O" (Fig. 2 - 1).

DRILLING A HOLE

Now that you have read the explanatory information and safety recommendations above, you are ready to actually start drilling. Follow these 10 steps for best drilling result:

- 1 Use the tip of the pilot pin to determine the center of the hole to be drilled.
- 2 Partially actuate the 2 magnet arrays so that the magnets adhere to the work surface, but are still able to move around for fine position adjustment. Lower the drill so that that pilot pin touches the work piece surface, verify that the drill is in the right position and fully actuate both magnet arrays (to the full 180 degrees). Verify that the machine is pushed tight against the work piece.
- 3 If your machine is equipped with an auto coolant system, open the valve to release the oil. If your machine does not have an auto coolant system, thoroughly lubricate the cutter.
- 4 Turn the motor on and allow it to run at full speed.
- 5 Turn the arms to start drilling. Apply only a slight pressure when the Annular Cutter touches the metal. Do not push the Annular Cutter with force into the metal.
- 6 Apply a regular pressure while drilling. The drilling performance does not improve by putting more pressure on the tool. Too much pressure will overload the motor and your Annular Cutter will wear quicker. ***Let the cutter do the job and give it time to cut the metal!!!***
- 7 Adjust the oil supply when necessary, if your drill does not have an auto coolant system, stop drilling regularly, thoroughly lubricate the cutter and continue drilling.
- 8 Apply less pressure when the drill cuts through the material.
- 9 Turn the arms to put the motor in highest position and turn off the motor unit.
- 10 Remove the burr, metal chips and clean the cutter and surface without getting injuries.
Caution: The metal piece drilled out can be sharp and very hot!!

DRILLING WITH 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 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 work piece, 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.

LUBRICATION

IN HORIZONTAL APPLICATIONS

- Adjust the fluid flow as required using the flow regulator;
- Add more cutting fluid if the shavings (metal chips) become blue.

VERTICAL AND OVERHEAD APPLICATIONS

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

LUBRICATING THE FEED TRAVEL

The feed travel should be lubricated periodically with grease to ensure smooth operation.

- Raise the motor unit to the highest position possible;
- Lubricate the dove-tail guide way at both sides;
- Lubricate the gear rack.

After repeated use, the gear rack may become loose. If necessary, adjust the 5 self-locking set screws at the left side. Tighten screws in series until the gear rack moves freely in the dove-tail guide but does not allow the motor to wobble.

Cleaning



WARNING: 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 approved dust mask when performing this procedure.



WARNING: 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.

Optional Accessories



WARNING: Since accessories, other than those offered by EUROBOOR, have not been tested with this product, 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 product.

Consult your dealer for further information on the appropriate accessories.

MAINTENANCE

Your EUROBOOR power tool has been designed to operate over a long period of time with minimum maintenance. Continuous satisfactory operation depends upon proper tool care and regular cleaning.



CAUTION: To reduce the risk of injury, turn unit off and disconnect machine from power source 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

Machine must be checked before operation for any signs of damage that will affect the operation of the machine. Particular notice must be taken of the main cable, if the machine appears to be damaged it should not be used failure to do so may cause injury or death.



CAUTION: Clean all dirt, dust, metal chips and burrs of your magnetic drilling machine

OPERATION OF THE MACHINE

The machines' 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.

CARBON BRUSHES

Brushes should be checked to make sure there is no abnormal wear present. This should be checked at least once a week if used frequently. If the carbon brush has worn more than 2/3 the original length the brushes should be changed. Failure to do so may cause damage to the machine.

CHECK MAGNETIC BASE

Before every operation the magnetic base should be checked to make sure that the base sits flat and there is no damage present. An uneven magnet base will cause the magnet not to hold as effectively and may cause injury to the operator.

CHECK MACHINE GREASE

The gearbox grease should be checked once a month to ensure all moving components are covered to prevent wear. The grease should be changed at least once a year to ensure you gain the best from the machine.

CHECK ARMATURE

This should be checked at least once per month to check if there are visual signs of damage to the body or to the commutator. Some signs of wear will be seen on the commutator over a period of time this is normal as this is the part that comes in contact with the brushes but any signs of abnormal damage and the part should be replaced.

ADJUSTMENT OF SLIDE

An essential requirement of the machine is that the slide can move in a smooth and controlled manner, free of lateral movement and vibration.

This situation can be maintained by periodic adjustment of the slide and is accomplished in the following manner:

1. Place the machine in an upright position, by means of the capstan, and raise the slide to its highest position. Clean the brass rail strips and apply a small amount of light machine oil to the wear surfaces.
2. Commencing with the top screw, loosen both setting nut (#4 on spare part drawing) with included wrench 8 and the setting screw (#5 on spare part drawing) with included Allen key 2.5. Then gently feed in setting screw until slight resistance is encountered. Follow your way down adjusting all setting nuts and screws.
3. Operate the slide up and down a few times to test the movement and make any further necessary adjustments. Try to ensure that all the screws are exerting a uniform pressure on the slide from top to bottom. A perfectly adjusted slide will operate freely up and down without any sideways movement.

REPAIR, MODIFICATION AND INSPECTION

Repair, modification and inspection of the ECO-TUBE.30 must be done by EUROBOOR or a 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.

TROUBLE SHOOTING

Motor does not function	<ul style="list-style-type: none"> - Damaged or defective wiring - Defective fuse - Defective Control Unit - Defective power supply
Annular cutters break quickly, holes are bigger than the hole cutter	<ul style="list-style-type: none"> - Clearance in the guide - Bent spindle - Shaft extending from the motor is bent - Bent pilot pin
Motor running roughly and/or seizing up	<ul style="list-style-type: none"> - Bent spindle - Shaft extending from the motor is bent - Triangular guide not mounted straight - Dirt between spindle and triangular guide
Motor making a rattling sound	<ul style="list-style-type: none"> - Gear ring (bottom of the armature) worn out - Gear(s) worn out - No grease in gear box
Motor humming, big sparks and motor has no force	<ul style="list-style-type: none"> - Armature damaged (burned) - Field burned - Carbon brushes worn out
Motor does not start or fails.	<ul style="list-style-type: none"> - Damaged or defective wiring - Dirt in sensor Speed Control Unit - Defective or loose magnet on top of armature - Damaged or defective (sensor) Speed Control Unit - Damage to Armature or field coil - Damaged or defective carbon brushes
Guiding takes a great deal of effort	<ul style="list-style-type: none"> - Guide is set too tight - Guide is dry, needs to be greased - Guide/gear- rack/rotation system dirty or damaged
Insufficient magnetic force	<ul style="list-style-type: none"> - Bottom of magnet not clean and dry - Bottom of magnet not flat - Work piece is not bare metal - Work piece is not clean - Defective magnet
Frame under voltage	<ul style="list-style-type: none"> - Damaged / defective wiring - Motor seriously dirty
Fuse blows when motor is started	<ul style="list-style-type: none"> - Damaged or defective wiring - Wrong value fuse - Motor running roughly - Defective Armature and / or Field - Carbon brushes worn out - Defective Control Unit
Rotation system free stroke too long	<ul style="list-style-type: none"> - Loose or defective gear-rack - Defective rotation system

NOTE: Please contact EUROBOOR if there is machine failure and the problem cannot be saved with one of the above solutions!!

PROTECTING THE ENVIRONMENT



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

Should you find one day that your EUROBOOR product needs replacement, or if it is of no further use to you, do not dispose of it with household waste. Make this product available for separate collection.



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.

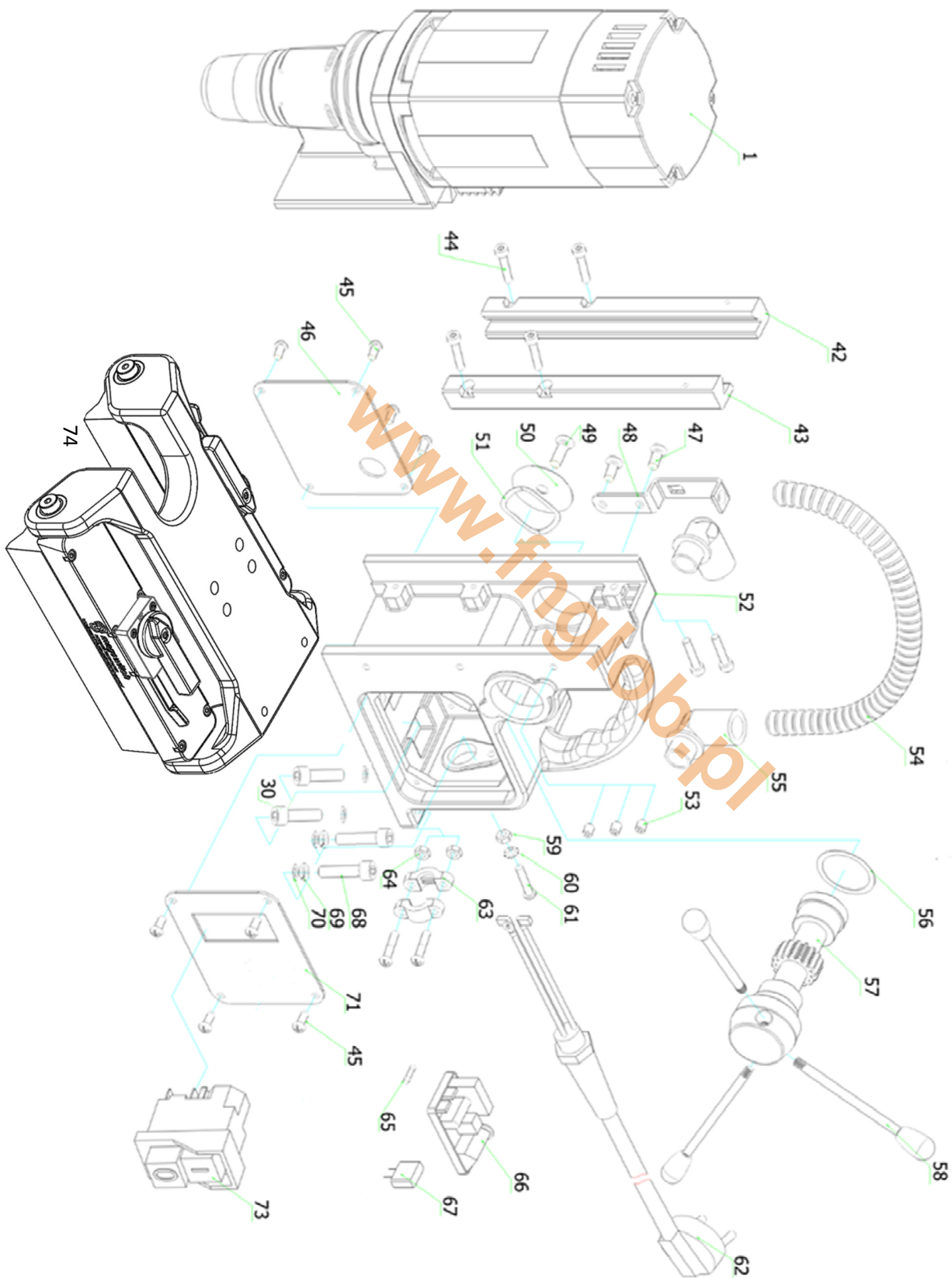
Local regulations may provide for separate collection of electrical products from the household, at Municipal waste sites or by the retailer when you purchase a new product.

SPARE PART LIST ECO-TUBE.30

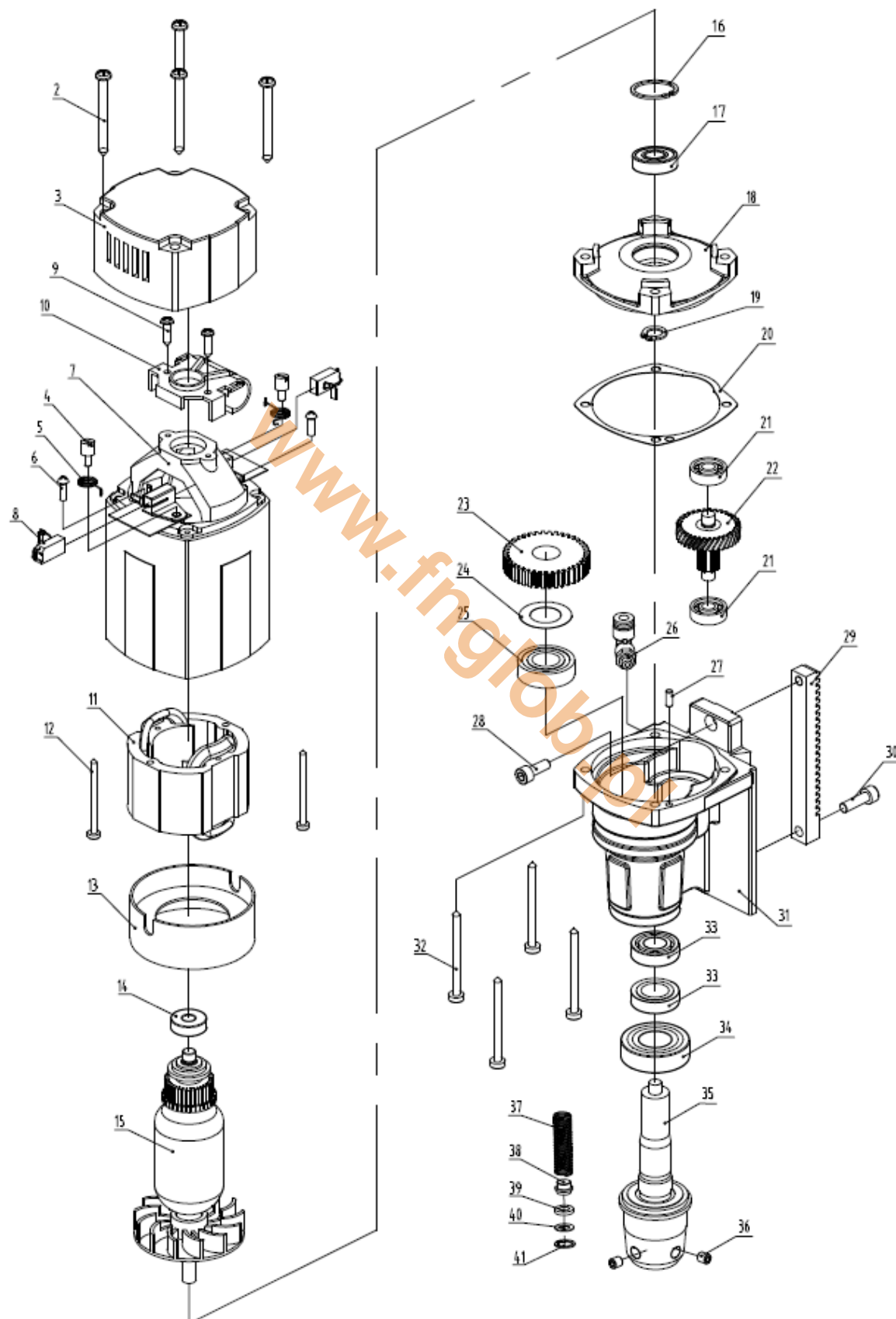
Nr.:	Article:	Description
1	030E.5001	Motor complete
2	032.0106	Screw BK4,8x55
3	032.0111	End Cover
4	032.0136	Screw for spring
5	032.0141	Spring
6	032.0142	Screw M4x15
7	032.0241	Housing
8	032.0146	Carbon Brush Set 220v
	032.0147	Carbon Brush set 110v
9	032.0116	Screw 4,2x13
10	032.0131	Adaptor Ring Cap
11	032.0151	Field 220v
	032.0152	Field 110v
12	032.0156	Screw M4x55
13	032.0161	Baffle
14	032.0126	Bearing 608
15	032.0181	Armature 220-240v
	032.0182	Armature 110-120v
16	032.0166	Circlip 472/28
17	032.0171	Bearing 6001
18	032.0236	Inner Gear Plate
19	032.0176	Circlip 471/10
20	032.0237	Gasket small
21	032.0126	Bearing 608
22	032.0226	First Gear
23	032.0186	Spindle Gear
24	032.0191	Adaptor ring
25	032.0196	Bearing 6003
26	KSP.N/2	Coolant nipple quick connect
27	032.0211	Casing Pin
28	030E.5028	M6x12
29	030E.5029	Rack
30	100A.0014	Hex screw M8x25
31	030E.5031	Gear Box
31/Set	030E.5031/Set	Gear box complete
32	032.0216	Screw BK5x40
33	030E.5033	Seal
34	030E.5034	Bearing
35	030E.5035	Spindle
36	020.0136	M8x8
37-41	030E.5037	Spindle set ECO.30
42	030E.5042	Brass rail left

Nr.:	Article:	Description
36	020.0136	M8x8
37-41	030E.5037	Spindle set ECO.30
42	030E.5042	Brass rail left
43	030E.5043	Brass rail right
44	020.0086/S	M4x20
45	020.0101	M4x8
46	PP.30/2ET	Back panel ECO-TUBE.30
47	020.0063	M5x10
48	KSP.M/2	Bracket
49	020.0081	End screw M6x16
50	020.0077	End Plate
51	030E.5051	Spring washer
52	030E.5052	Frame
53	020.0056/S	Setting Screw M5x6
54	020.0046	Motor cable complete
55	030E.5055	Coupling nut angle
56	030E.5056	Ring $\phi 28 \times \phi 34.5 \times 0.2\text{mm}$
57	020.0061/X	Capstan Hub Assembly
58	030E.5058	arm for capstan
59-61	030E.5060	Grounding set
62	020.0036	Main cable
63-64	020.0037	Cable clamp set
65	020.0017	Fuse F2A
66	020.0001/3	Control Unit
67	020.0008	Capacitor
68	020.0146	Screw SSM6x25
69-70	020.0111	Washer
71	PP.30/1ET	Panel plate ECO-TUBE.30
72	n/a	n/a
73	030E.0091/Y	Motor switch (5-pin) 220-240V YELLOW
	030E.0092/Y	Motor switch (5-pin) 110V YELLOW
74	8000995	Magswitch Base ECO-TUBE.30
75	8800546	Magnetic Base Frame
76	8800547	Magnet Handle Kit
77	180165	M5x8 Button Head
78	1801027	Shoulder Bolt, Mounting
79	1801028	Bushing, Brass

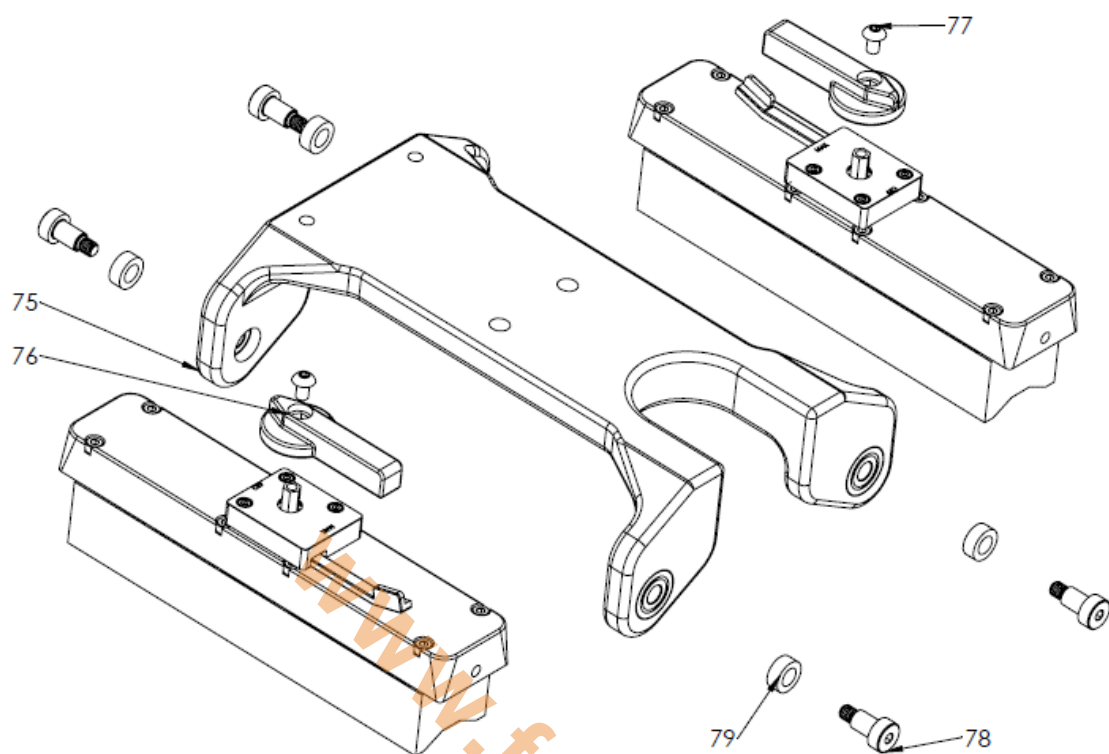
EXPLODED DRAWING ECO-TUBE.30



ECO30



Magswitch Magnetic Drill Base



CE/EMC DECLARATION OF CONFORMITY

DECLARING:

EUROBOOR B.V.

Kryptonstraat 110
Zoetermeer
The Netherlands



That the following Appliance complies with the appropriate basic safety and health requirements of the EC Directives based on its design and type, as brought into circulation by EUROBOOR BV.

<i>Designation/ function</i>	Magnetic Drilling Machine
<i>Type</i>	ECO-TUBE.30
<i>Ratings and principal Characteristics</i>	230-240V, 50/60Hz, Class I ECO.30 900 W N0: 775 min ⁻¹
<i>Applicable EC Directives</i>	Machinery Directive 2006/42/EC
<i>Relevant standard(s) / Specification(s) / Directive(s)</i>	EN 55014-1:2006/+A1:2009/+A2:2011 EN 55014-2:1997/+A1:2001/+A2:2008 EN 61000-3-2:2006/+A2:2009/+A2:2009 EN 61000-3-3 :2008 EN 61000-3-11 :2000 EN 61029-1 :2009+A11:2010 EN ISO 12100:2010
<i>Additional used EC Directives</i>	EMC Directive (2004/108/EC)
<i>Verification Issuing Office Name</i>	INTERTEK Testing Services

Albert Koster

A handwritten signature in blue ink, appearing to read 'A. Koster', enclosed within a blue oval.

Managing Director

www.fnglob.pl