MSW®
MOTOR TECHNICS

# USER MANUAL

BEDIENUNGSANLEITUNG
INSTRUKCJA OBSŁUGI
NÁVOD K POUŽITÍ
MANUEL D´UTILISATION
ISTRUZIONI PER L'USO
MANUAL DE INSTRUCCIONES
HASZNÁLATI ÚTMUTATÓ BRUGSANVISNINGENKEL
KÄYTTÖOHJE
GEBRUIKSAANWIJZING
BRUKSANVISNING
INSTRUÇÕES DE UTILIZAÇÃO
POUŽÍVATEĽSKÁ PRÍRUČKA
РЪКОВОДСТВО ЗА УПОТРЕБА
ΟΔΗΓΙΕΣ ΧΡΗΣΗΣ
UPUTE ZA UPORABU
NAUDOJIMO INSTRUKCIJA
MANUAL DE UTILIZARE
NAVODILA ZA UPORABO

# VACUUM SUCTION CUP MAGNETIC DRILL

| | | |
|---|---|---|
| **DE** | Produktname | Vakuum-kernbohrmaschine |
| **EN** | Product name | Vacuum suction cup magnetic drill |
| **PL** | Nazwa produktu | Wiertarka magnetyczna z uchwytem próżniowym |
| **CZ** | Název výrobku | Vakuová magnetická vrtačka s přísavkou |
| **FR** | Nom du produit | Perceuse magnétique à ventouse sous vide |
| **IT** | Nome del prodotto | Trapano magnetico con ventosa a vuoto |
| **ES** | Nombre del producto | Taladro magnético con ventosa de vacío |
| **HU** | Termék neve | Vákuum szívókorongos mágneses fúrógép |
| **DA** | Produktnavn | Vakuumsugemagnetbor |
| **FI** | Tuotteen nimi | Tyhjiöimuri-magneettiporakone |
| **NL** | Productnaam | Vacuümzuignap-magneetboor |
| **NO** | Produktnavn | Vakuumsugemagnetboremaskin |
| **SE** | Produktnamn | Vakuumsugmagnetborr |
| **PT** | Nome do produto | Furadeira magnética com ventosa a vácuo |
| **SK** | Názov produktu | Vakuová magnetická vŕtačka s prísavkou |
| **BG** | Име на продукта | Вакуумна магнитна свредел с прилепало |
| **EL** | Όνομα προϊόντος | Μαγνητικό τρυπάνι με κενό αντλίας |
| **HR** | Naziv proizvoda | Magnetna bušilica s vakuumskom čašicom |
| **LT** | Produkto pavadinimas | Vakuuminis magnetinis grąžtas |
| **RO** | Numele produsului | Bormașină magnetică cu ventuză sub presiune |
| **SL** | Ime izdelka | Magnetna vrtalna naprava z vakuumsko čašo |

| | |
|---|---|
| **DE** Modell \| **EN** Product model \| **PL** Model produktu \| **CZ** Model výrobku \| **FR** Modèle \| **IT** Modello \| **ES** Modelo \| **HU** Modell \| **DA** Model \| **FI** Tuotteen malli \| **NL** Productmodel \| **NO** Produktmodell \| **SE** Produktmodell \| **PT** Modelo do produto \| **SK** Model \| **BG** Модел на продукт \| **EL** Μοντέλο προϊόντος \| **HR** Model proizvoda \| **LT:** Gaminio modelis \| **RO:** Model de produs \| **SL:** Model izdelka | MSW-NNO-20V1 |
| **DE** Hersteller \| **EN** Manufacturer \| **PL** Producent \| **CZ** Výrobce \| **FR** Fabricant \| **IT** Produttore \| **ES** Fabricante \| **HU** Termelő \| **DA** Producent \| **FI** Valmistaja \| **NL** Producent \| **NO** Produsent \| **SE** Tillverkare \| **PT** Fabricante \| **SK** Výrobca \| **BG** Производител \| **EL** Κατασκευαστής \| **HR** Proizvođač \| **LT** Gamintojas \| **RO** Producător \| **SL** Proizvajalec | expondo Polska sp. z o.o. sp. k. |
| **DE** Anschrift des Herstellers \| **EN** Manufacturer Address \| **PL** Adres producenta \| **CZ** Adresa výrobce \| **FR** Adresse du fabricant \| **IT** Indirizzo del produttore \| **ES** Dirección del fabricante \| **HU** A gyártó címe \| **DA** Producentens adresse \| **FI** Valmistajan osoite \| **NL** Adres producent \| **NO** Produsentens adresse \| **SE** Tillverkarens adress \| **PT** Endereço do fabricante \| **SK** Adresa výrobcu \| **BG** Адрес на производителя \| **EL:** Διεύθυνση κατασκευαστή \| **HR** Adresa proizvođača \| **LT** Gamintojo adresas \| **RO** Adresa producătorului \| **SL** Naslov proizvajalca | ul. Nowy Kisielin – Innowacyjna 7, 66-002 Zielona Góra \| Poland, EU |

⚠

This User Manual has been translated using machine translation. We have made every effort to ensure the translation is accurate, but please note that automated translations are not perfect and are not meant to replace human translators. The official version of the User Manual is in English. Any differences between the translated version and the original English are not legally binding. If you have any questions about the accuracy of the translation, please refer to the English version, which is the official reference. More language versions are available upon request via info@expondo.com.

# 1. Technical data

*Table 1: Technical data of the product*

| Parameter description | Parameter value |
|---|---|
| Product name | Vacuum suction cup magnetic drill |
| Model | MSW-NNO-20V1 |
| Rated voltage [V~] / frequency [Hz] | 230 / 50 |
| Rated power [W] | 1550 |
| Max. suction [N] | 3000 |
| No-load speed [rpm] | 870 |
| Max. stoke [mm] | 230 |
| Dimensions [width x depth x height; mm] | 395 x 560 x 250 |
| Weight [kg] | 13 |

# 2. General description

The user manual is designed to assist in the safe and trouble-free use of the device. The product is designed and manufactured in accordance with strict technical guidelines, using state-of-the-art technologies and components. Additionally, it is produced in compliance with the most stringent quality standards.

**DO NOT USE THE DEVICE UNLESS YOU HAVE THOROUGHLY READ AND UNDERSTOOD THIS USER MANUAL.**

To increase the product life of the device and to ensure trouble-free operation, use it in accordance with this user manual and regularly perform maintenance tasks. The technical data and specifications in this user manual are up to date. The manufacturer reserves the right to make changes associated with quality improvement. The device is designed to reduce noise emission risks to a minimum, taking into account technological progress and noise reduction opportunities.

## 2.1. Legend

| Icon | Description |
|---|---|
| CE | The product satisfies the relevant safety standards. |

| | |
|---|---|
|  | Read instructions before use. |
|  | The product must be recycled. |
|  | **WARNING!** or **CAUTION!** or **REMEMBER!** Applicable to the given situation.<br>(general warning sign) |
|  | Use ear protection. Exposure to loud noise may result in hearing loss. |
|  | Wear protective goggles. |
|  | Wear a dust mask (respiratory tract protection). |
|  | Wear head protection. |
|  | Wear foot protection. |
|  | ATTENTION! Electric shock warning! |
|  | Only use indoors. |



**PLEASE NOTE! DRAWINGS IN THIS MANUAL ARE FOR ILLUSTRATION PURPOSES ONLY AND IN SOME DETAILS MAY DIFFER FROM THE ACTUAL PRODUCT.**

# 3. Usage safety



**ATTENTION! READ ALL SAFETY WARNINGS AND ALL INSTRUCTIONS. FAILURE TO FOLLOW THE WARNINGS AND INSTRUCTIONS MAY RESULT IN ELECTRIC SHOCK, FIRE AND/OR SERIOUS INJURY OR EVEN DEATH.**

The terms "device" or "product" are used in the warnings and instructions to refer to:

Vacuum suction cup magnetic drill

## 3.1. Electrical safety

a) The plug must fit the socket. Do not modify the plug in any way. Using original plugs and matching sockets reduces the risk of electric shock.

b) Avoid touching earthed elements such as pipes, heaters, boilers and refrigerators. There is an increased risk of electric shock if the earthed device is exposed to rain, comes into direct contact with a wet surface or is operating in a damp environment. Water getting into the device increases the risk of damage to the device and of electric shock.

c) Do not touch the device with wet or damp hands.

d) Use the cable only for its designated use. Never use it to carry the device or to pull the plug out of a socket. Keep the cable away from heat sources, oil, sharp edges or moving parts. Damaged or tangled cables increase the risk of electric shock.

e) If working with the device outdoors, make sure to use an extension cord suitable for outdoor use. Using an extension cord suitable for outdoor use reduces the risk of electric shock.

f) If using the device in a damp environment cannot be avoided, a residual current device (RCD) should be applied. The use of an RCD reduces the risk of electric shock.

g) Do not use the device if the power cord is damaged or shows obvious signs of wear. A damaged power cord should be replaced by a qualified electrician or the manufacturer‘s service centre.

h) To avoid electric shock, do not immerse the cord, plug or device in water or other liquids. Do not use the device on wet surfaces.

i) ATTENTION! DANGER TO LIFE! While cleaning, never immerse the device in water or other liquids.

j) Do not use in very humid environments or in the direct vicinity of water tanks.

k) Prevent the device from getting wet. Risk of electric shock!

l) Do not share the power supply directly with high-power equipment (e.g., welding machines).

## 3.2. Safety in the workplace

a) Make sure the workplace is clean and well lit. A messy or poorly lit workplace may lead to accidents. Try to think ahead, observe what is going on and use common sense when working with the device.

b) Do not use the device in a potentially explosive environment, for example in the presence of flammable liquids, gases or dust. The device generates sparks which may ignite dust or fumes.

c) If you discover damage or irregular operation, immediately switch the device off and report it to a supervisor without delay.

d) If you are unsure about whether the product is operating correctly or if you find damage, please contact the manufacturer’s service centre.

e) Only the manufacturer’s service centre may make repairs to the product. Do not attempt to make repairs yourself!

f) In case of fire, use a powder or carbon dioxide ($CO_2$) fire extinguisher (one intended for use on live electrical devices) to put it out.

g) Children or unauthorised persons are forbidden to enter a work station. A distraction may result in loss of control over the device.

h) Use the device in a well-ventilated space.

i) The device produces dust and debris during operation. It is important to protect bystanders from their harmful effects.

j) Regularly inspect the condition of the safety labels. If the labels are illegible, they must be replaced.

k) Please keep this manual available for future reference. If this device is passed on to a third party, the manual must be passed on with it.

l) Keep packaging elements and small assembly parts in a place not available to children.

m) Keep the device away from children and animals.

n) If this device is used together with another equipment, the remaining instructions for use shall also be followed.



**REMEMBER! WHEN USING THE DEVICE, PROTECT CHILDREN AND OTHER BYSTANDERS.**

## 3.3. Personal safety

a) Do not use the device when tired, ill or under the influence of alcohol, narcotics or medication which can significantly impair the ability to operate the device.

b) The machine may be operated by physically fit persons who are able to handle the machine, are properly trained, who have reviewed this operating manual and have received training in occupational health and safety.

c) When working with the device, use common sense and stay alert. Temporary loss of concentration while using the device may lead to serious injuries.

d) Use personal protective equipment as required for working with the device, specified in section 1 “Legend”. The use of correct and approved personal protective equipment reduces the risk of injury.

e) To prevent the device from accidentally switching on, make sure the switch is on the OFF position before connecting to a power source.

f) Do not overestimate your abilities. When using the device, keep your balance and remain stable at all times. This will ensure better control over the device in unexpected situations.

g) Do not wear loose clothing or jewellery. Keep hair, clothes and gloves away from moving parts. Loose clothing, jewellery or long hair may get caught in moving parts.

h) If suction is to be connected to the device, check all connections and make sure they are tight. Using a dedusting system may reduce the risks associated with dust.

i) Remove all adjusting tools or spanners before turning the device on. A tool or spanner left in the revolving part of the device may cause injury.

j) The device is not a toy. Children must be supervised to ensure that they do not play with the device.

k) Do not put your hands or other items inside the device while it is in use!

## 3.4. Safe device use

a) Do not overload the device. Use the appropriate tools for the given task. A correctly-selected device will perform the task for which it was designed better and in a safer manner.

b) Do not use the device if the “ON/OFF” switch does not function properly (does not switch the device on and off). Devices which cannot be switched on and off using the “ON/OFF” switch are hazardous, should not be operated and must be repaired.

c) Make sure the plug is disconnected from the socket before attempting any adjustments, accessory replacements or before putting the device aside. Such precautions will reduce the risk of accidentally activating the device.

d) Disconnect the device from the power supply before commencement of adjustment, cleaning and maintenance. Such a preventive measure reduces the risk of accidental activation.

e) When not in use, store in a safe place, away from children and people not familiar with the device who have not read the user manual. The device may pose a hazard in the hands of inexperienced users.

f) Keep the device in perfect technical condition. Before each use check for general damage, especially check moving components for cracked parts or elements, and for any other conditions which may impact the safe operation of the device. If damage is discovered, hand over the device for repair before use.

g) Keep the device out of the reach of children.

h) Device repair or maintenance should be carried out by qualified persons, only using original spare parts. This will ensure safe use.

i) To ensure the operational integrity of the device, do not remove factory-fitted guards and do not loosen any screws.

j) When transporting and handling the device between the warehouse and the destination, observe the occupational health and safety principles for manual transport operations which apply in the country where the device will be used.

k) Avoid situations where the device stops working during use due to excessive loading. This may result in overheating of the drive elements and damage to the device.

l) Do not touch articulated parts or accessories unless the device has been disconnected from the power source.

m) Do not move, adjust or rotate the device in the course of work.

n) Do not leave this appliance unattended while it is in use.

o) Clean the device regularly to prevent stubborn grime from accumulating.

p) The specified vibrations emission was measured using standard measurement methods. Vibrations emissions may change if the device is used in different surroundings.

q) Do not work on two workpieces at the same time.

r) The device is not a toy. Cleaning and maintenance may not be carried out by children without supervision by an adult person.

s) Do not run the device when empty.

t) It is forbidden to interfere with the structure of the device in order to change its parameters or construction.

u) Keep the device away from sources of fire and heat.

v) Do not cover the ventilation openings!

w) When operating in a non-horizontal position or at high altitude, always secure the rig with a safety chain before use. This prevents the machine from falling in the event of a sudden power failure, which could result in serious injury.



**ATTENTION! DESPITE THE SAFE DESIGN OF THE DEVICE AND ITS PROTECTIVE FEATURES, AND DESPITE THE USE OF ADDITIONAL ELEMENTS PROTECTING THE OPERATOR, THERE IS STILL A SLIGHT RISK OF ACCIDENT OR INJURY WHEN USING THE DEVICE. STAY ALERT AND USE COMMON SENSE WHEN USING THE DEVICE.**

# 4. Use guidelines

The product is designed to enable stable drilling on non-ferrous and curved surfaces using vacuum suction for secure positioning.

The product is intended for home use only.

**The user is liable for any damage resulting from unintended use of the device.**

## 4.1. Preparing for use

### 4.1.1. Appliance location

The temperature of environment must not be higher than 40°C and the relative humidity should be less than 85%. Ensure good ventilation in the room in which the device is being used. There should be at least 10 cm distance between each side of the device and the wall or other objects.

The device should always be used when positioned on an even, stable, clean, fireproof and dry surface, and be out of the reach of children and persons with limited mental and sensory functions. Position the device such that you always have access to the power plug. The power cord connected to the appliance must be properly grounded and correspond to the technical details on the product label.

Disassemble the device and all its components and clean them before the first use.

### 4.1.2. Proper grounding required

This tool must be properly grounded to prevent electric shock. The grounding system should comply with applicable electrical standards and include a grounding plug connected to a dedicated grounding wire.

Do not use a false ground, or connect the ground to a live (hot) wire or to a three-phase line.

The grounded power receptacle must be connected to an effective grounding system. The yellow-green grounding wire should be connected both to the grounding terminal in the plug and to the grounding point on the tool.

## 4.2. Device use

**WARNING!**

The machine is equipped with a safety rope. During operation, ensure the machine is securely fastened to the workpiece using the rope. This prevents the machine or any objects from falling or being thrown in the event of a sudden power failure, which could lead to accidents.

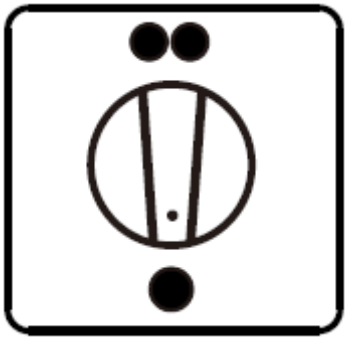
### 4.2.1. Drilling operation

a) Install the appropriate cutting tool.

b) Select the correct speed using the mechanical speed control.

**1) Mechanical speed control instructions (see Figure 1):**

*Figure 1: Speed control knob*



- Turn the speed control knob clockwise until it aligns with the double-dot mark to switch to Gear II.
- The middle position between the double-dot and single-dot marks is neutral.

- Turn the knob counterclockwise to the single-dot mark to switch to Gear I.

**2) How to use:**

- Turn the speed control knob fully clockwise or counterclockwise to the end of the stroke, so the indicator aligns with the corresponding gear mark.
- If the knob does not engage with a gear, try manually rotating the output shaft.
- Alternatively, turn off the motor, then rotate the knob while the motor is stopped to ensure it engages the desired gear properly.

**3) Speed selection**

*Table 2: Speed selection details*

| Gear mark | Shift | Drilling diameter (mm) |
|---|---|---|
|  | I | ϕ27-ϕ50 |
|  | II | ϕ12-ϕ26 |

c) Start the machine

1) Position the machine so that the tip of the top pin aligns with the drilling spot.
2) Turn on the main power switch; this will start the vacuum pump, but the suction indicator light will remain off initially.
3) Once the vacuum base has generated sufficient negative pressure suction (usually takes 3-4 seconds), press the motor switch when the indicator light turns green.

**NOTICE!** The motor switch can't be turned on when the suction light is not lit to green. If the suction light does not turn on after a long time:

A. The workpiece surface might be uneven. Apply moderate pressure to the back of the machine to help the suction cup form a good seal and create a vacuum.
B. Debris might be blocking the suction cup. Turn off the power, clean the suction cup bottom or reposition it, then restart the power.

d) Drilling operation

1) Open the cutting fluid valve before drilling.
2) Start drilling with a slow feed rate.
3) Remove any iron filings caught in the drill bit promptly during drilling.
4) At the end of drilling, the core will be ejected — ensure no one is in the path to prevent injury or damage.

e) Shut down the machine

1) Turn off the motor switch after drilling.
2) Turn off the main power switch.
3) Press the pressure relief button to release the vacuum suction on the base.

**NOTICE!**

- Do not turn off the main power switch directly.
- Continuous, string-like debris during drilling indicates the speed is correct and the drill bit is sharp.
- When drilling stainless steel, use specialized stainless steel drill bits and reduce the feed speed.
- If the machine shifts or moves due to excessive pressure or other causes, the motor will automatically stop. In this case, turn off the power switch and restart the drilling operation.

## 4.3. Cleaning and maintenance

### 4.3.1. Cleaning instructions

a) Unplug the mains plug and allow the device to cool completely before each cleaning, adjustment or replacement of accessories, or if the device is not being used.

- Wait for the rotating elements to stop.

b) Always unplug the device before cleaning or putting it away.

c) Use only non-corrosive cleaners to clean the surface.

d) After cleaning the device, all parts should be dried completely before using it again.

e) Store the unit in a dry, cool place, free from moisture and direct exposure to sunlight.

f) Do not spray the device with a water jet or submerge it in water.

g) The device must be regularly inspected to check its technical efficiency and spot any damage.

h) Use a soft, damp cloth for cleaning.

i) Do not use sharp and/or metal objects for cleaning (e.g. a wire brush or a metal spatula) because they may damage the surface material of the appliance.

j) Do not clean the device with an acidic substance, agents of medical purposes, thinners, fuel, oils or other chemical substances because it may damage the device.

### 4.3.2. Maintenance instructions

a) The machine’s motor requires a break-in period of 8–10 hours. During this time, avoid operating it under heavy load.

b) Keep the motor and electrical wiring away from any contact with water.

c) The guide rail and slide board are preset to optimal tightness at the factory. After a period of use, apply grease in a timely manner for lubrication. If the slide becomes loose during vertical movement, please follow these steps to make adjustments:

- Loosen all the guide rail screws and the side fastening screws on one side of the frame.

- Adjust the tightening screws on the frame side until the slide moves smoothly up and down.
- Retighten the guide rail screws.

d) Replace the carbon brushes promptly when worn.

e) If the sealing strip is severely worn and causes air leakage, resulting in reduced suction, replace it promptly.

### 4.3.3. Disposing of used devices

Do not dispose of this device in municipal waste systems. Hand it over to an electric and electrical device recycling and collection point. Check the symbol on the product, instruction manual and packaging. The plastics used to construct the device can be recycled in accordance with their markings. By choosing to recycle you are making a significant contribution to the protection of our environment.

Contact local authorities for information on your local recycling facility.

### 4.3.4. Troubleshooting

*Table 3: Troubleshooting*

| Problem | Possible cause | Solution |
|---|---|---|
| The machine did not run after the jump. | Switch contact is undesirable. | Repair and change the switch. |
| | Joint loose. | Check the electric drill part connector. |
| | The brush and commutator have poor contact. | Repair or replace the electric brush. |
| | Drill the armature or stator coil burnt out. | Changing the armature or stator. |
| The handle guide is turned, but it does not work. | Shaft key cut. | Replace the shaft key. |
| | The wheel and rack are misplaced. | Unscrew the rack bottom screw, remove guide to repair. |
| Drill out the elliptical hole. | For a drill and a fastener is loose. | Correction of verticality tighten the fasteners. |
| | Bit unilateral cutting. | Grind anew. |
| | Adsorption surfaces have sundry. | Eliminate clutter. |
| Spindle shake. | Frame adjusting screw loose. | Tighten adjusting screws. |
| Electric ignition. | The spark turns orange. | Slow down. |
| | Sparks flying out. | Change the brush, please. |
| | Sparks into a ring of fire. | Please check if the motor is burned. |

## 4.4. Parts list

### 4.4.1. Motor

*Figure 2: Spare parts list of the motor*

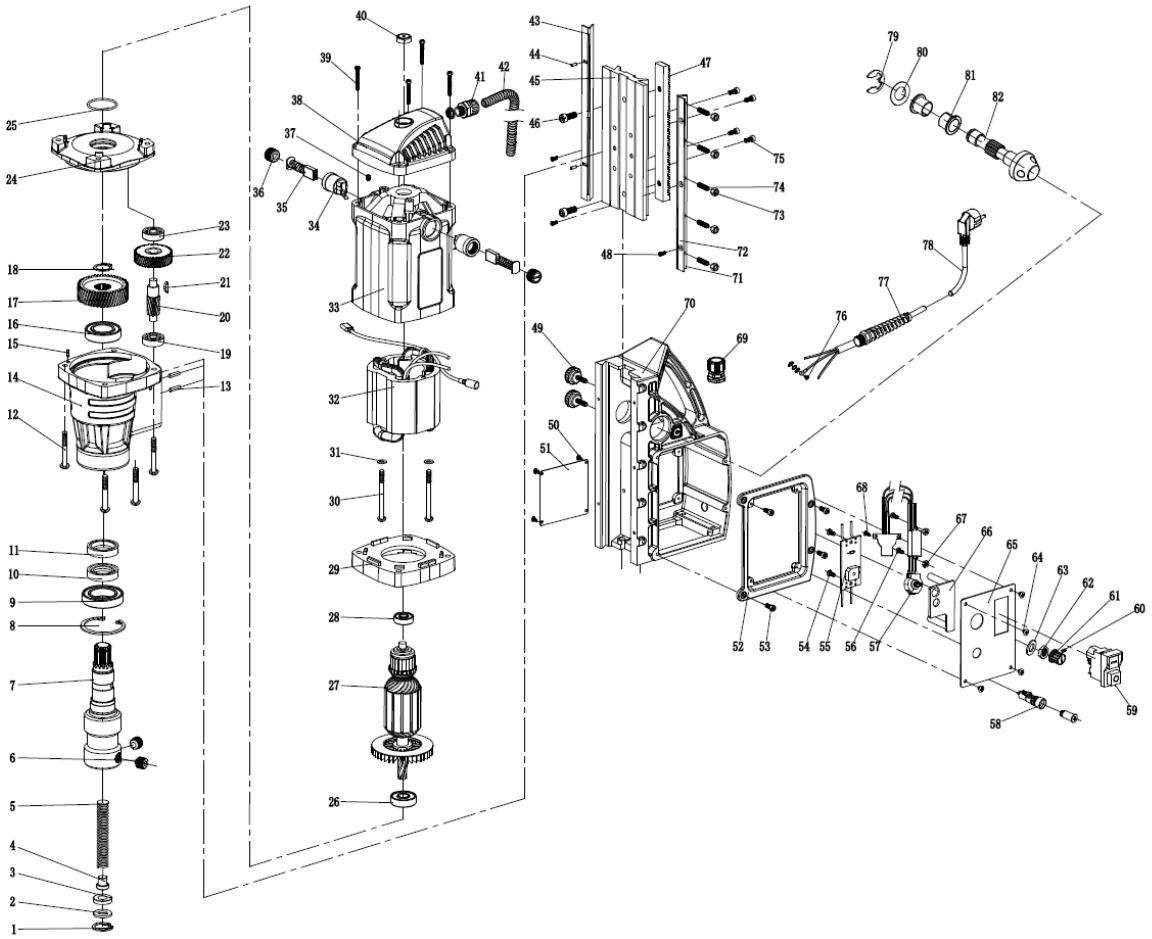


*Table 4: Spare parts list of the motor*

| Part number | Description | Number of pieces | Specification |
|---|---|---|---|
| 1 | Internal snap ring | 1 | ϕ19 |
| 2 | Washer | 1 | 9.4*18.5*2 |
| 3 | Polyurethane washer | 1 | 9.5*19.2*3.8 |
| 4 | Spring plunger | 1 | 7*10.3*12 |
| 5 | Spring | 1 | 10*95 |
| 6 | Hex socket set screw with flat end | 2 | M10*12 |
| 7 | Main shaft | 1 | - |
| 8 | Internal snap ring | 1 | ϕ42 |
| 9 | Bearing | 1 | 6905 |
| 10 | Oil seal | 1 | 22*32*7 |
| 11 | Oil seal | 1 | 22*32*7 |
| 12 | Pan head phillips self-tapping screw | 4 | M5*55 |
| 13 | Cylindrical pin | 2 | 5*15 |
| 14 | Gearbox | 1 | - |
| 15 | Cylindrical pin | 1 | ϕ4*12 |
| 16 | Bearing | 1 | 6904 |
| 17 | Spindle gear | 1 | - |
| 18 | External snap ring | 1 | ϕ16 |
| 19 | Bearing | 1 | 608 |

| | | | |
|---|---|---|---|
| 20 | Grade I gear shaft | 1 | - |
| 21 | Crescent pin | 1 | 3*9 |
| 22 | Grade I gear | 1 | - |
| 23 | Bearing | 1 | 608 |
| 24 | Middle cover | 1 | - |
| 25 | O-ring | 1 | ϕ25.8*1.8 |
| 26 | Bearing | 1 | 6000 |
| 27 | Rotor | 1 | - |
| 28 | Bearing | 1 | 608 |
| 29 | Windshield | 1 | - |
| 30 | Pan head phillips self-tapping screw | 2 | M4*65 |
| 31 | Flat washer | 2 | M4 |
| 32 | Stator | 1 | - |
| 33 | Stator shell | 1 | - |
| 34 | Brush holder | 2 | - |
| 35 | Carbon brush | 1 | - |
| 36 | Brush cover | 2 | - |
| 37 | Hex socket set screw with flat end | 2 | M5*6 |
| 38 | Top cover | 1 | - |
| 39 | Pan head phillips self-tapping screw | 4 | M5*25 |
| 40 | Level | 1 | ϕ14.8*5.6 |
| 41 | Soft pipe connector | 1 | M12*1.5 |
| 42 | Corrugated tube | 1 | - |
| 43 | Angled slide rail | 1 | - |
| 44 | Coiled pin | 2 | 3*8 |
| 45 | Guide plate | 1 | - |
| 46 | Hex socket screw | 2 | M6*16 |
| 47 | Rack | 1 | 12*16*180 (M1) |
| 48 | Phillips flat head machine screw | 3 | M3*8 |
| 49 | Eye bolt | 2 | M5*12 |
| 50 | Stainless steel large flat head screw | 4 | M3*6 |
| 51 | Parameter panel | 1 | - |
| 52 | Panel frame | 1 | - |
| 53 | Hex socket screw | 4 | M4*10 |
| 54 | Pan head phillips self-tapping screw | 2 | M4*8 |
| 55 | Circuit board | 1 | - |
| 56 | Pan head phillips screw | 2 | M4*12 |
| 57 | Speed regulator | 1 | - |
| 58 | Fuse | 1 | - |
| 59 | Switch | 1 | - |
| 60 | Slotted flat point set screw | 1 | M3*5 |
| 61 | Speed control knob | 1 | - |
| 62 | Thin nut | 1 | M10 |
| 63 | Flat washer | 1 | M10 |

| | | | |
|---|---|---|---|
| 64 | Stainless steel large flat head screw | 4 | M3*6 |
| 65 | Button panel | 1 | - |
| 66 | Circuit board bracket | 1 | - |
| 67 | Nut | 2 | M4 |
| 68 | Pan head phillips self-tapping screw | 2 | M4*8 |
| 69 | Soft pipe connector | 1 | M12*1.5 |
| 70 | Frame | 1 | - |
| 71 | Adjustment strip | 1 | - |
| 72 | Flat strip | 1 | - |
| 73 | Nut | 5 | M5 |
| 74 | Hex socket set screw with flat end | 5 | M5*22 |
| 75 | Hex socket screw | 4 | M5*20 |
| 76 | Combination screw | 1 | M4*8 |
| 77 | Anti-bending joint | 1 | M16*1.5 |
| 78 | Power cord | 1 | 3*1.0*3.5 m |
| 79 | E-clip | 1 | ϕ15 |
| 80 | Needle roller washer | 1 | 17*30*0.5 |
| 81 | Compound bearing | 2 | 25/19*17*15 |
| 82 | Lift shaft | 1 | - |

### 4.4.2. Base

*Figure 3: Spare parts list of the base*

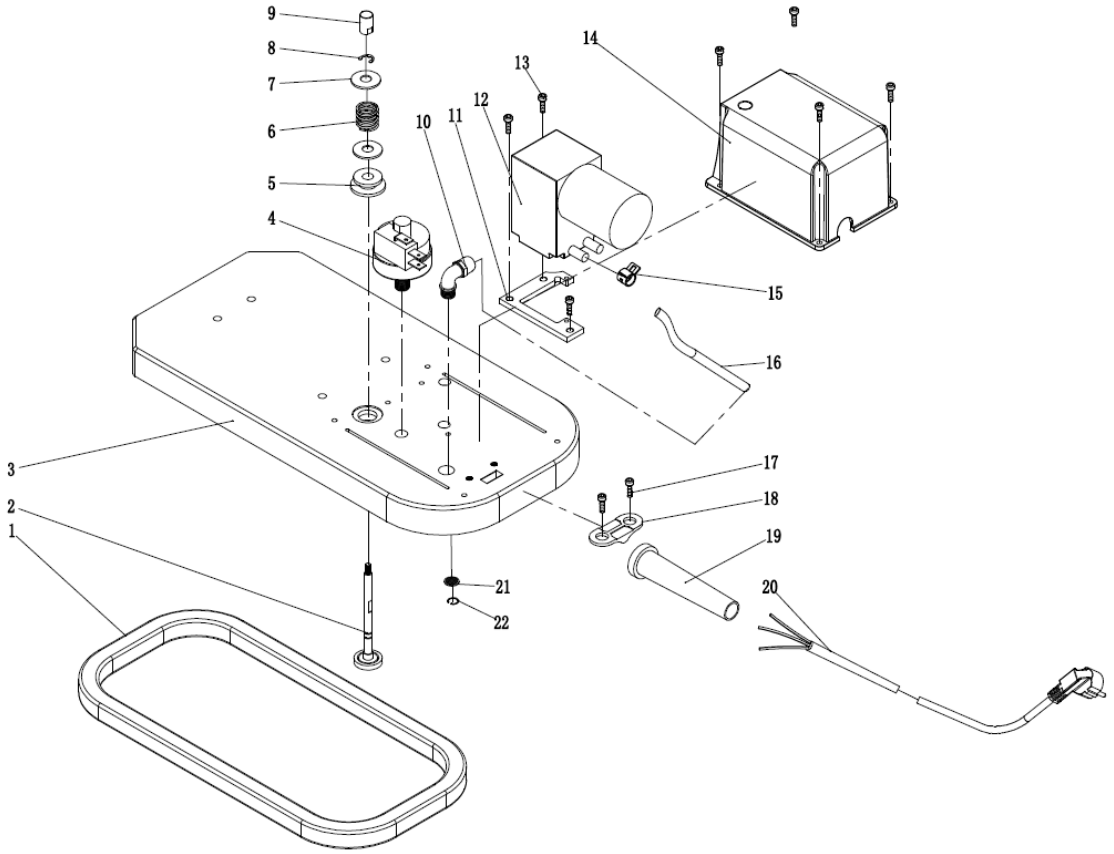



*Table 5: Spare parts list of the base*

| Part number | Description | Number of pieces | Specification |
|---|---|---|---|
| 1 | Foaming rubber strip | 1 | 15*12 |
| 2 | Exhaust rod | 1 | - |
| 3 | Suction base | 1 | - |
| 4 | Vacuum pump negative pressure switch | 1 | G1/8 |
| 5 | Rubber pad | 1 | - |
| 6 | Spring | 1 | - |
| 7 | Stainless steel shim | 2 | - |
| 8 | E-clip | 1 | ϕ3 |
| 9 | Exhaust button | 1 | - |
| 10 | Pneumatic fitting | 1 | - |
| 11 | Bracket | 1 | - |
| 12 | Mini direct current vacuum pump | 1 | - |
| 13 | Hex socket screw | 7 | M4*8 |
| 14 | Cover | 1 | - |
| 15 | Elastic clamp | 1 | ϕ8.2 |
| 16 | Air hose | 1 | ϕ8*5 |
| 17 | Hex socket screw | 2 | M4*8 |
| 18 | Wire pressing plate | 1 | - |

| | | | |
|---|---|---|---|
| 19 | Power cord protection sleeve | 1 | - |
| 20 | Power cord | 1 | 3*1.0*3.5 m |

## Umwelt – und Entsorgungshinweise

**Hersteller an Verbraucher**

Sehr geehrte Damen und Herren,

gebrauchte Elektro – und Elektronikgeräte dürfen gemäß europäischer Vorgaben **[1]** nicht zum unsortierten Siedlungsabfall gegeben werden, sondern müssen getrennt erfasst werden. Das Symbol der Abfalltonne auf Rädern weist auf die Notwendigkeit der getrennten Sammlung hin. Helfen auch Sie mit beim Umweltschutz. Sorgen Sie dafür, dieses Gerät, wenn Sie es nicht mehr weiter nutzen wollen, in die hierfür vorgesehenen Systeme der Getrenntsammlung zu geben.



In Deutschland sind Sie gesetzlich **[2]** verpflichtet, ein Altgerät einer vom unsortierten Siedlungsabfall getrennten Erfassung zuzuführen. Die öffentlich – rechtlichen Entsorgungsträger (Kommunen) haben hierzu Sammelstellen eingerichtet, an denen Altgeräte aus privaten Haushalten ihres Gebietes für Sie kostenfrei entgegengenommen werden. Möglicherweise holen die rechtlichen Entsorgungsträger die Altgeräte auch bei den privaten Haushalten ab.

Bitte informieren Sie sich über Ihren lokalen Abfallkalender oder bei Ihrer Stadt – oder Gemeindeverwaltung über die in Ihrem Gebiet zur Verfügung stehenden Möglichkeiten der Rückgabe oder Sammlung von Altgeräten.

**[1]** RICHTLINIE 2002/96/EG DES EUROPÄISCHEN PARLAMENTS UND DES RATES ÜBER ELEKTRO – UND ELEKTRONIK – ALTGERÄTE

**[2]** Gesetz über das Inverkehrbringen, die Rücknahme und die umweltverträgliche Entsorgung von Elektro – und Elektronikgeräten (Elektro – und Elektronikgerätegesetz – ElektroG).

Utylizacja produktu

Produkty elektryczne i elektroniczne po zakończeniu okresu eksploatacji wymagają segregacji i oddania ich do wyznaczonego punktu odbioru. Nie wolno wyrzucać produktów elektrycznych razem z odpadami gospodarstwa domowego. Zgodnie z dyrektywą WEEE 2012/19/UE obowiązującą w Unii Europejskiej, urządzenia elektryczne i elektroniczne wymagają segregacji i utylizacji w wyznaczonych miejscach. Dbając o prawidłową utylizację, przyczyniasz się do ochrony zasobów naturalnych i zmniejszasz negatywny wpływ oddziaływania na środowisko, człowieka i otoczenie. Zgodnie z krajowym prawodawstwem, nieprawidłowe usuwanie odpadów elektrycznych i elektronicznych może być karane!

For the disposal of the device please consider and act according to the national and local rules and regulations.

## CONTACT

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