MOTOR TECHNICS

USER MANUAL

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

DIAMOND DRILLING MACHINE

EXPONDO.COM

DE	Produktname	Kernbohrgerät
EN	Product name	Diamond drilling machine
PL	Nazwa produktu	Otwornica diamentowa
CZ	Název výrobku	Diamantová vrtací souprava
FR	Nom du produit	Machine de forage diamant
IT	Nome del prodotto	Macchina di perforazione a diamante
ES	Nombre del producto	Máquina de perforación con diamante
HU	Termék neve	Gyémánt fúrógép
DA	Produktnavn	Diamantboremaskine
FI	Tuotteen nimi	Timanttiporakone
NL	Productnaam	Diamant boormachine
NO	Produktnavn	Diamantboremaskin
SE	Produktnamn	Diamantborrmaskin
PT	Nome do produto	Máquina de perfuração diamantada
SK	Názov produktu	Diamantová vŕtačka
BG	Име на продукта	Диамантена пробивна машина
EL	Όνομα προϊόντος	Διαμαντοκόρων μηχάνημα
HR	Naziv proizvoda	Dijamantna bušilica
LT	Produkto pavadinimas	Deimantinė grąžtavimo mašina
RO	Numele produsului	Mașină de găurit cu diamant
SL	Ime izdelka	Diamantni vrtalnik

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-CH-1602SO
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.

Technical data

Parameter description	Parameter value
Product name	Diamond drilling machine
Model	MSW-CH-1602SO
Rated voltage [V~] / frequency [Hz]	230 / 50
Rated power [W]	1900
Brick drill range [mm]	160
Concrete drill range [mm]	110
No-load speed [rpm]	1080 / 2160
Dimensions [width x depth x height; mm]	150 x 550 x 330
Weight [kg]	10.1

1. 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.

Legend



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.

(general warning sign)



Use ear protection. Exposure to loud noise may result in hearing loss.



Wear a dust mask (respiratory tract protection).



Wear protective goggles.



Wear head protection.



Wear foot protection.



ATTENTION! Electric shock warning!



ATTENTION! Rotating parts, entanglement hazard!



ATTENTION! Hand crush hazard!



Only use indoors.



PLEASE NOTE! Drawings in this manual are for illustration purposes only and in some details may differ from the actual product.

2. 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:

Diamond drilling machine

2.1. 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) Do not modify the plug or use unauthorized adapters. Avoid using multiple electric tools on the same power cord.

c) 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.

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

e) 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.

f) 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.

g) 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.

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

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

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

k) This tool must be properly grounded to prevent electric shock. Use a three-core rubber cable that complies with safety regulations, ensuring reliable grounding. The connected power supply should have a leakage protection function.

l) Ensure that the power voltage does not exceed +5% of the rated voltage to avoid motor damage or leakage accidents. Higher voltages may cause irreversible damage to the machine. When operating the machine with a generator, make sure that it does not generate voltage spikes that exceed the specified limits.

2.2. 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 device 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 device. 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) Do not use the device in insufficient lighting conditions.

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

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

l) 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.

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

n) Keep the device away from children and animals.

o) 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.

2.3. 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) Do not wear safety gloves for operating because they decrease the working accuracy and might be pulled into the saw blade.

f) Always wear a safety harness when using the magnetic base drill.

g) To prevent the device from accidentally switching on, make sure both the electric and magnetic switches are in the OFF position before connecting to a power source.

h) 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.

i) 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.

j) 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.

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

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

2.4. 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) 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.

e) 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.

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

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

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

i) 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.

j) 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.

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

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

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

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

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

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

q) Do not run the device when empty.

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

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

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.

3. Use guidelines

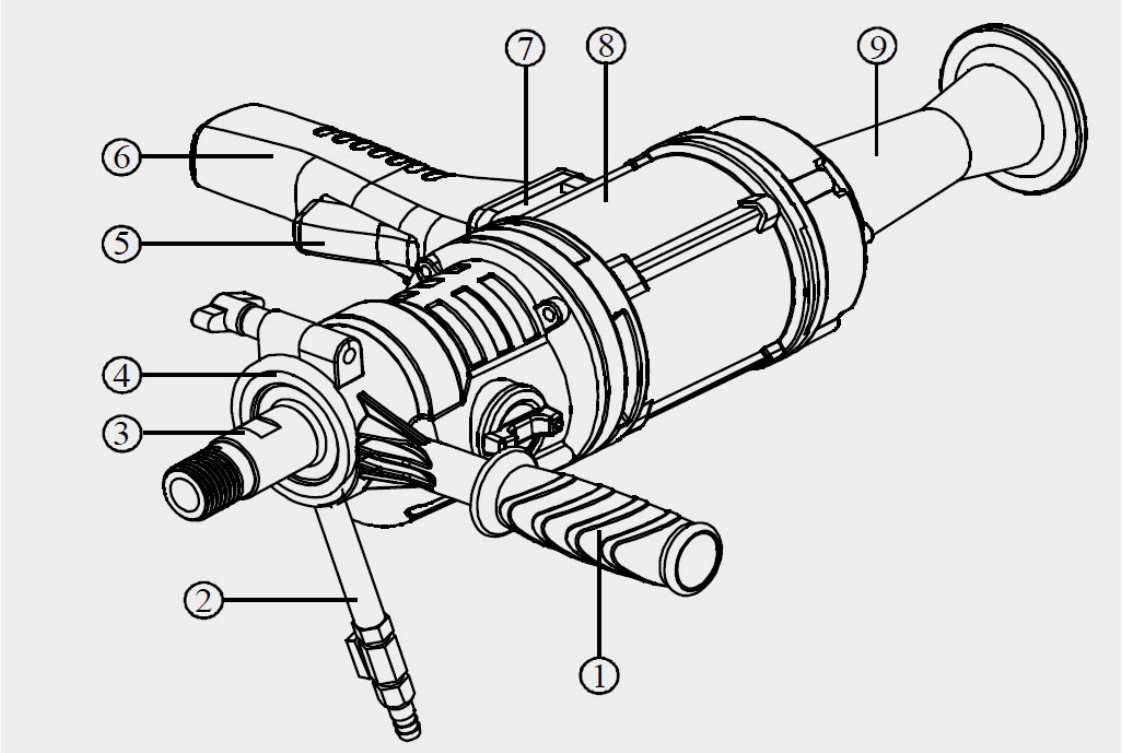
The product is designed for both wet and dry drilling in masonry, concrete, and similar materials. It features a two-speed transmission, allowing for mechanical selection between two speed ranges to accommodate both small and large diameter drill bits.

The product supports both percussive and standard drilling modes, which can be selected via the switch knob on the machine.

It is widely used for drilling holes in concrete, stone, masonry, and pipework, including applications such as air conditioning systems, electrical installations, water pipes, and gas pipes.

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

3.1. General description



1. Sild handle
2. Flush water valve
3. Motor spindle
4. Water ring assembly(External)
5. Power switch
6. Main handle
7. Soft start the overload
8. Motor assembly
9. Plastic shoulder rest

3.2. Device use

NOTICE!

- This machine is designed for wet drilling. Do not use it with other types of drills. Avoid exceeding the motor's load capacity (e.g., using larger drill bits than specified). Do not use the impact function when using the water inlet joint.
- Ensure that no water enters the motor or blocks the ventilation holes, as this could reduce the motor’s cooling efficiency and cause overheating.
- Before drilling, confirm that there are no hazardous objects in the drilling area, such as high-voltage wires, gas pipes, water pipes, or telecommunication lines.
- When drilling, ensure the operator is standing firmly and has enough space to resist the maximum reverse force generated by the drill bit.

- The machine should operate at no less than 65% of its no-load speed during extended use; otherwise, the motor may overheat and become damaged.

INITIAL SETUP

1. After unpacking, place the drill on a flat surface. Ensure the power is off before installing the water inlet valve and auxiliary handle.
2. Install a diamond bit with a diameter less than 63G1/2 using internal wire drill bits; for a diameter greater than 63, use an UNC11/4-7 external wire drill bit. The threads must match the output shaft of the machine.
3. After securing the drill bit, perform a no-load test run to ensure that the drill bit runs smoothly with minimal runout.
4. For easier drill bit disassembly, apply grease to the threaded part before use. The drilling rig must be grounded before operation and tap water should be used (avoid water containing powder or scrap iron, as it could cause tool failure).

NO-LOAD START

Always start the drilling rig in a no-load state to avoid damage to the rig or injury. When operating at high speed, monitor the rig's stability to prevent it from tipping over.

INITIAL TEST

1. Install a suitable drill bit, connect the power and water supply, clean the machine, and turn on the power switch.
2. Run the drill without load to check for any irregular movement or noise.
3. Once the drill bit runs smoothly, open the water nozzle, and once water flows from the bit, you can begin drilling.

START DRILLING

1. Start drilling slowly.
2. Once the drill bit enters the wall, gradually apply pressure.
3. When encountering reinforcement or steel sections, reduce pressure accordingly.
4. Initially, run the machine at no more than 1/3 of its maximum speed.

PROTECTION MECHANISMS

1. The drilling rig has mechanical and electronic protection. If the motor runs but the drill bit does not rotate, this indicates an issue with the drill bit (e.g., dullness or excessive feed speed). In such cases, adjust the feed speed.
2. If the motor stops, the electronic protection switch is activated. Reduce pressure and restart the motor.

FRICTION PLATE REPLACEMENT

Over time, the friction plate in the mechanical protection device may loosen due to wear, causing slippage. If this occurs:

1. Remove the clutch gear from the gearbox.
2. Replace the friction plate with one of uniform thickness.
3. Tighten the nut using a 1 kg wrench.
4. Reassemble the clutch gear back into the gearbox.

NOTICE! This should ideally be performed by a professional.

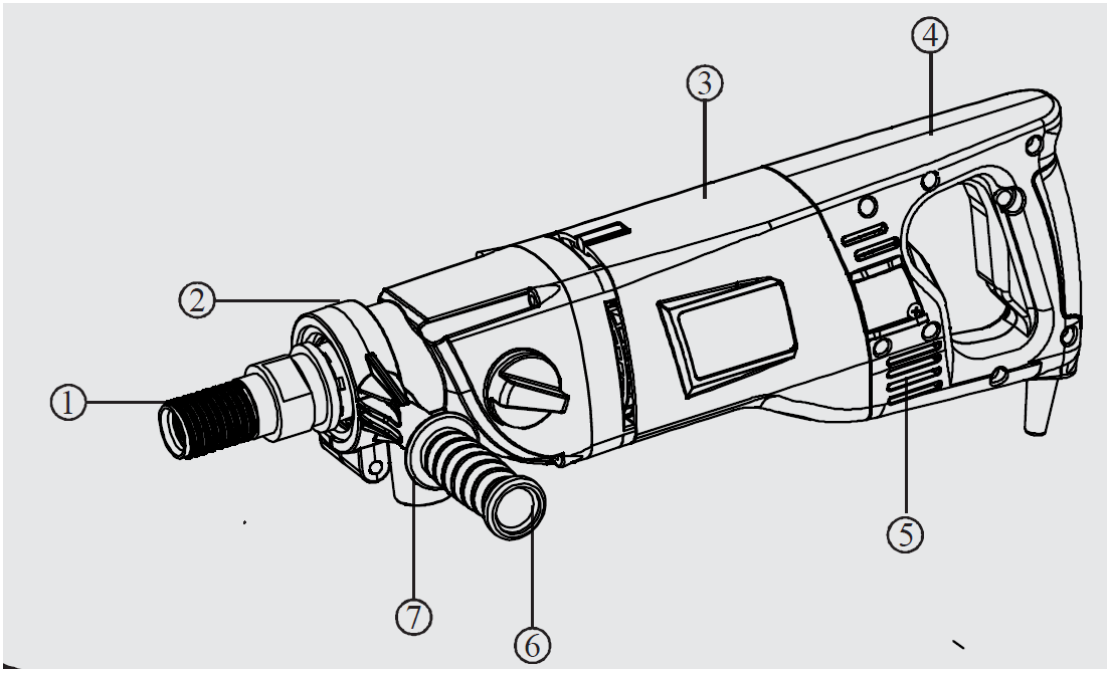
DRY WET AMPHIBIOUS DRILLING

This machine is designed for use with dry-cutting diamond drill bits on masonry, concrete, and other mineral materials. When using wet-cutting diamond drill bits, handheld operation is required. **Wet drilling in an upward direction is strictly prohibited.**

Additionally:

- Avoid generating conductive dust (e.g., magnesium).
- When operating in a dry-cutting environment, always connect a compatible vacuum cleaner to ensure proper dust extraction.

IMPORTANT! Wet drill bits must not be used together with the impact function!



1. The motor spindle
2. Impact gear assembly
3. The motor assembly
4. The main hand
5. The power switch
6. Auxiliary hand
7. General port

INSTRUCTIONS FOR HAND-HELD DRILLS

1. **Hearing Protection**:

   Always wear hearing protection when operating the machine to prevent hearing damage from noise exposure.

2. **Use of Auxiliary Handles**:

Always use the auxiliary handles provided with the device for better control and stability during operation.

3. **Proper Grip**:

   Ensure that you hold the main handle firmly while operating the machine to maintain safe and effective usage.

GEAR SHIFTING INSTRUCTION

1. **Gear Shift Timing**:

   Always change the gear when the machine is stopped or about to stop. Never shift gears while the machine is operating.

2. **Proper Gear Engagement**:

   When changing gears, ensure that the gear is fully engaged. If the spindle does not rotate or there is a grinding noise after starting the machine, it indicates that the gear is not fully engaged. In such cases:

   - Immediately turn off the machine.
   - Rotate the knob again to select the desired gear.
   - Gently rotate the spindle back and forth to aid in proper gear shifting until the gear is fully engaged.

3. **Avoid Gear Shifting Under Certain Conditions**:

   Never shift gears when the machine is running at full speed, under load, or when the machine is stuck.

4. **Speed Ranges**:

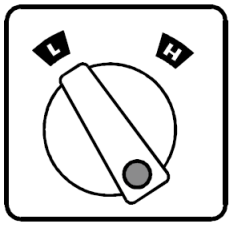
   - **L (Low Speed)**: Suitable for large drill bits and hard materials.
   - **M (Medium Speed)**: Suitable for medium drill bits and harder materials (for three-speed models).
   - **H (High Speed)**: Suitable for small drill bits and softer materials.

5. **Changing Speed Ranges**:

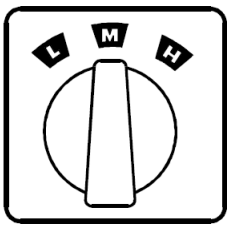
   - To switch from low to high speed, turn the knob clockwise.
   - To switch from high to low speed, turn the knob counterclockwise.

   The gear speed regulation enhances drilling efficiency, allowing you to select the appropriate range for different drilling tasks.

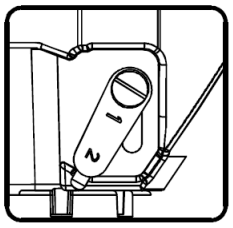
GEAR SWITCH



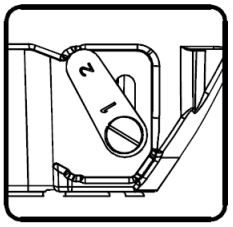
Two gears



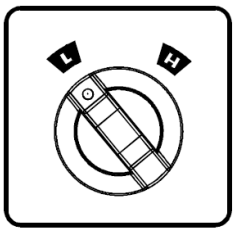
Third gear



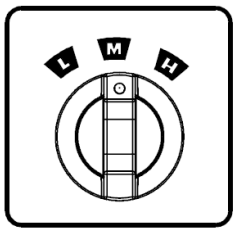
First gear



Two gears

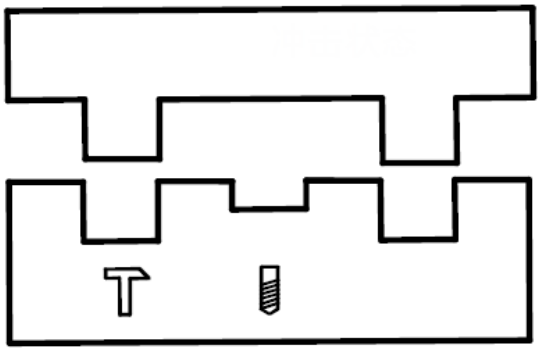


Two gears



Third gear

IMPACT SWITCH



The impact schematic diagram

IMPACT FUNCTION SELECTION IN MACHINE WITH IMPACT MODE

1. **Selecting Impact Mode**:

   The impact function can be toggled on or off.

   - When the impact block is positioned to the "hammer" mark in front of the gearbox, the machine is in impact mode.

2. **Switching to Non-Impact Mode**:

   To switch to non-impact mode:

   - Slightly pull out the main shaft of the machine in the direction of the drill bit.
   - Rotate the impact block to the "drill bit" mark.

3. **Repetitive Switching**:

   To toggle between impact and non-impact modes, simply repeat the above steps for each switch.

MAGNETIC RING FEATURES (IF APPLICABLE)

1. The magnetic ring includes two indicator lights: a yellow light for temperature protection and a red light for overload protection. When both lights are on simultaneously, it indicates that the carbon brushes need replacement.
2. The magnetic ring features constant speed control and soft start functionality, ensuring stable machine operation without speed reduction.
3. If the current approaches the maximum safe load, the red light will start flashing. When the current exceeds the safe limit, the red light remains steadily on, and the machine stops operating for protection until the switch is turned off.
4. If the stator temperature becomes too high, the yellow light will start flashing. Once the temperature reaches a critical threshold, the yellow light will remain steadily on, and the machine will stop operating for protection until the switch is turned off.

3.3. Cleaning and maintenance

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) Use only mild, food-safe detergents to wash the device.

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

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

g) Do not spray the device with a water jet or submerge it in water. Prevent water from entering the motor or switch box.

h) Keep the ventilation slots clear at all times.

i) Clean and grease the spindle thread regularly.

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

k) Use a soft, damp cloth for cleaning.

l) 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.

m) 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.

 **IMPORTANT!**

- If gear oil leaks, stop the machine immediately. Oil leakage can cause damage to the gears.
- If water leaks from the overflow hole on the water connection ring, the rotary shaft seals must be replaced immediately. This repair should only be performed by an authorized specialist workshop.

CARBON BRUSHES MAINTENANCE

The carbon brushes should be inspected for wear after approximately 300 hours of operation and replaced if necessary. As with all motor-related maintenance, this task should only be carried out by a qualified electrician.

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.

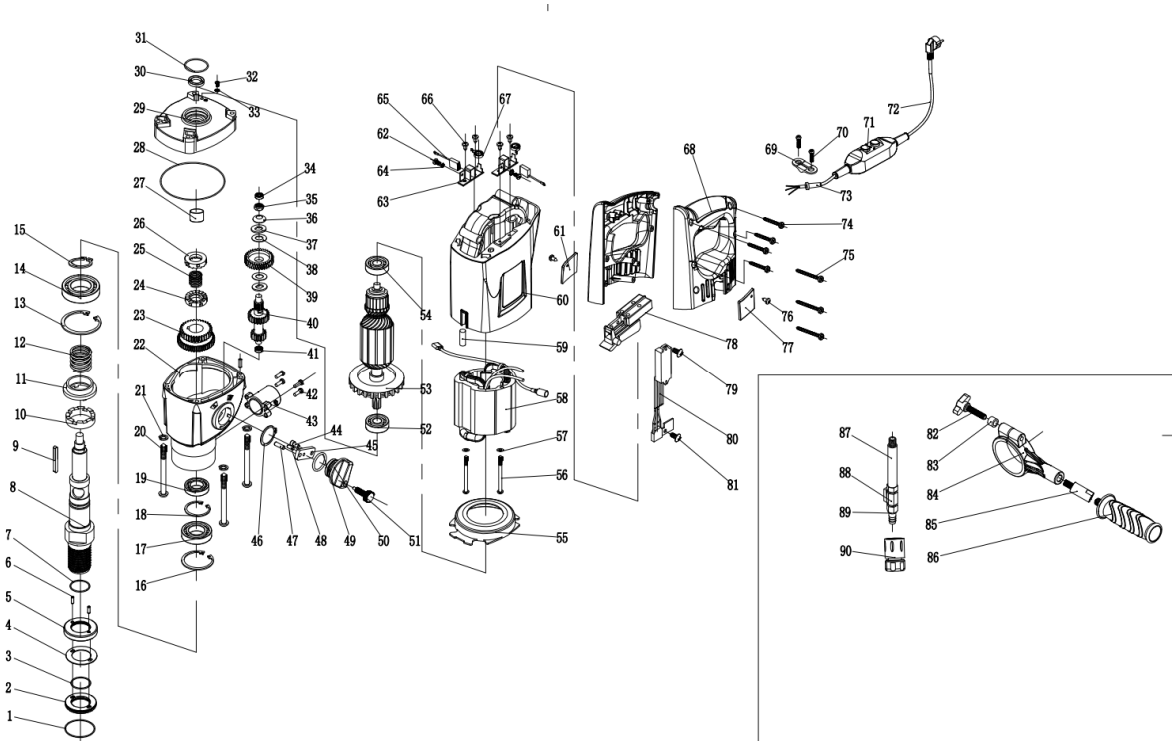
Contact local authorities for information on your local recycling facility.

TROUBLESHOOTING

Problem	Possible Cause	Solution
The generator does not start.	The power supply is blocked or loose connections.	1. Check and restore the power supply. 2. Inspect all connections and tighten them.

	Carbon brushes are worn out or not contacting the commuter.	Replace the carbon brushes.
	The leakage protector was triggered but did not reset.	Press the reset button to restart the generator.
	The leakage protector is damaged.	Replace the leakage protector.
Drilling speed is too slow.	The bit has reached the end of its lifespan.	Replace the drill bit.
	Insufficient feed pressure.	Increase feed pressure.
	The drill bit is clogged with debris.	1. Clean the bit. 2. Increase hydraulic pressure.
	The rotational speed is too high.	Switch to a lower speed setting.
	It is difficult to cut through thick reinforcing bars.	1. After the slight reduction in feed pressure. 2. Apply cross-reinforcement bar drilling technique. 3. Increase the feed pressure again.
	Excess debris accumulation in the hole.	1. Clear debris from the bottom of the hole. 2. Apply pressurization.
	Electrical current is unstable, there is leakage or no return flow.	Inspect the water valve and check the electrical current.
	The drill bit has become dull.	Sharpen the bit using fire-resistant brick or energy wheel.
The drill bit gets stuck.	Broken pieces of the bit or reinforcing bar are lodged between the bit and the hole wall.	1. Stop the machine. 2. Rotate the drill bit in reverse. 3. Gently tap the bit to dislodge the broken piece.
	The frame is not securely fixed, leading to displacement.	Recheck and adjust the gap of the sliding sleeve.
Rapid wear of the drill bit wall.	Misalignment of the main shaft.	Repair or replace the main shaft.
	The drill bit is not properly aligned.	Replace the drill bit.
	Reinforcing bars or thin debris are obstructing the hole and cannot be removed.	1. Improve current flow. 2. Remove the drill bit. 3. Clean the hole.
Water leakage in the water supply system.	The sealing ring is worn out or aged.	Replace the sealing ring.

3.4. Parts list



No.	Description	Qty.	Specification
1	O-ring	1	52×1.2
2	Balancer inner ring	1	-
3	O-ring	1	34×1.5
4	Needle roller washer	1	32×52x1
5	Balancer outer ring	1	-
6	Cylinder pin	2	4×12
7	O-ring	1	34×1.5
8	Main shaft	1	-
9	Square pin	1	5×40
10	Impact switch	1	-
11	Impact switch	1	-
12	Spring	1	Φ1.2×28×40

13	Internal circlip	1	Φ52
14	Bearing	1	-
15	External circlip	1	Φ28
16	Internal circlip	1	-
17	Water seal	1	27×45×8
18	Internal circlip	1	-
19	Oil seal	1	27×40×5
20	Pan head phillips self-tapping screw	4	M5×70 (Half thread)
21	Spring washer	4	M5
22	Gear box	1	-
23	Main gear	1	-
24	Impact teeth	1	-
25	Spring	1	-
26	Impact teeth	1	-
27	Needle roller bearing	1	-
28	O-ring	1	Φ85×1.5
29	Middle cover	1	-
30	Oil seal	1	15×21×3
31	O-ring	1	Φ31.5×1.8
32	Pan head phillips screw	1	-
33	Wave washer	2	-
34	Bearing	1	-
35	Nut	1	-
36	Curved spring washer	1	-

37	Milling tool holder washer	2	-
38	Clutch disc	2	-
39	Grade I gear	1	-
40	Grade I gear shaft	1	-
41	Bearing	1	-
42	Pan head phillips screw	4	M4×16
43	Universal port	1	-
44	Hex socket screw	1	M4×10
45	Shifting plate	1	-
46	External circlip	1	Φ26
47	Cylinder pin	1	5x15
48	Cylinder pin	1	4x12
49	O-ring	1	Φ22.4×2.65
50	Gear shift knob	1	-
51	Locking pin	1	-
52	Bearing	1	6002
53	Rotor	1	-
54	Bearing	1	6200
55	Windshield ring	1	-
56	Pan head phillips self-tapping screw	2	M4×80
57	Flat washer	2	M4
58	Stator	1	-
59	Level meter	1	8×23
60	Stator housing	1	-

61	Brush cover - right	1	-
62	Pan head phillips screw	2	M4×8
63	Brush holder	2	-
64	Wave washer	2	M4
65	Carbon brush	2	-
66	Pan head phillips self-tapping screw	4	M4×8
67	Coil spring	2	-
68	Main handle	1	-
69	Terminal block	1	-
70	Pan head phillips self-tapping screw	2	M4×12
71	Residual current device (rcd)	1	-
72	Power cord	1	3×1.0×3.5
73	Power cord sheath	1	-
74	Pan head phillips self-tapping screw	4	M4×25
75	Pan head phillips self-tapping screw	3	M4×45
76	Hex socket pan head self-tapping screw	2	M4×8
77	Brush cover - left	1	-
78	Switch	1	-
79	Pan head phillips self-tapping screw	1	M4×8
80	Overload protector	1	-
81	Pan head phillips self-tapping screw	1	M4×8

82	Slotted screw	1	M8×45
83	Roller	1	-
84	Handle clamp	1	-
85	Handle joint	1	80-M12×1.75
86	Auxiliary handle	1	-
87	Hose	1	-
88	Mini ball valve	1	-
89	Tap connector	1	-
90	Yellow quick connect fitting	1	-

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

expondo Polska sp. z o.o. sp. k.

ul. Nowy Kisielin – Innowacyjna 7
66-002 Zielona Góra | Poland, EU

e-mail: info@expondo.com