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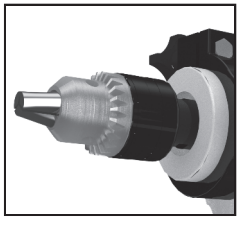
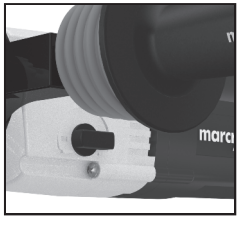
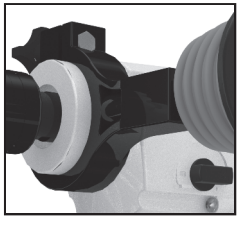
DDM1 – Hammer drill operating instructions

Original operating instructions







WARNING – To reduce the risk of injury please read the operating instructions.

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Read these operating instructions thoroughly before using the hammer drill.

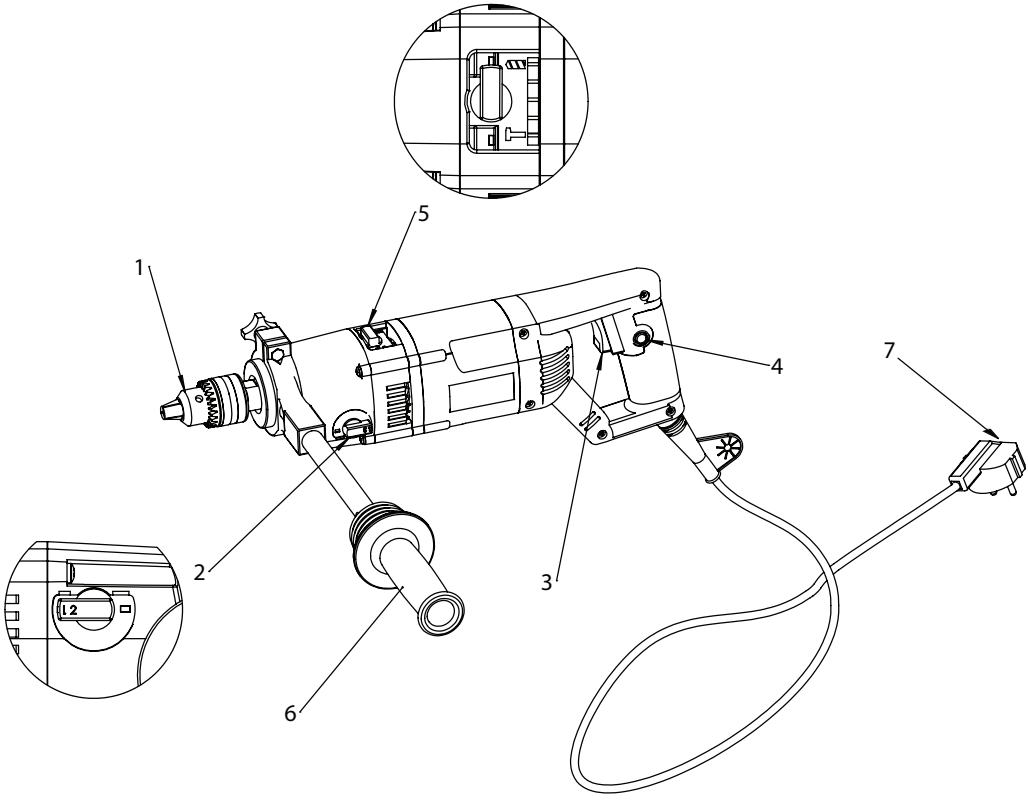
Wear ear protectors whenever you use the hammer drill.

Wear protective glasses when working with the hammer drill.

Within the EU, this symbol indicates that the product in question may not be disposed of together with household waste. Used equipment contains valuable materials that should be recycled to avoid environmental and personal health issues caused by uncontrolled garbage disposal. Please therefore dispose of used equipment via suitable collection systems or return the tool in question to the place where you bought it for safe disposal. This establishment will then ensure that the device is recycled.

Product description

1 Drill chuck
2 Speed selector switch
3 On/off switch
4 Locking button
5 Regular drilling / Hammer drilling selector switch
6 Side handle
7 Plug



Intended use

This product is intended exclusively for drilling holes in wood, plastic, concrete, bricks and stone

Improper use

All applications of the drill that are not listed in the "Intended use" chapter are classed as improper use.
The drill must not be used for the following purposes:
- To mix paint or building materials
- To polish, grind, sharpen or engrave with corresponding attachments
- To drive other devices

There is a risk of injury.
The user of the hammer drill is liable for any and all material and personal damage caused by improper use.
Using other or non-original parts with the drill will void the manufacturer warranty.
Never use the hammer drill as a screwdriver.

Residual risks

Even when the drill is used properly, there is still a certain residual risk which cannot be ruled out.
Due to the nature and design of the drill, the following potential risks may occur:
- Contact with the rotating chuck (crushing type injuries)
- Reaching into the area of the rotating drill bit (cutting type injuries)
- Contact with the sharp edges of the holes drilled and drilling chips (cutting type injuries)
- Hearing loss if the stipulated ear protectors are not worn
- Inhalation of particles given off during drilling
- Electric shock when touching non-insulated electrical components.

If the operating instructions are not observed, other residual risks may occur due to improper use.

Specification

Model	**DDM1-230**
Voltage	230-240V
Frequency	50Hz
Total input power	1200W
Idle speed	Setting I: 0-1500 rpm Setting 2: 0-3000 rpm
Drill chuck size	Ø13mm
Weight	3.8Kg
Sound pressure level LpA	91 dB(A), KpA: 3 dB
Sound power level LwA	102 dB(A), KpA: 3 dB
Vibration emission values	Holes in concrete ah ID: 8,75 m/s^2 K ID: 1,5 m/s^2 Holes in metal ah ID: 3,08 m/s^2 K ID: 1,5 m/s^2

Model	**DDM1-110**
Voltage	110V
Frequency	50Hz
Total input power	1200W
Idle speed	Setting I: 0-1500 rpm Setting 2: 0-3000 rpm
Drill chuck size	Ø13mm
Weight	3.9Kg
Sound pressure level LpA	90 dB(A), KpA: 3 dB
Sound power level LwA	101 dB(A), KpA: 3 dB
Vibration emission values	Holes in concrete ah ID: 8,36 m/s^2 K ID: 1,5 m/s^2 Holes in metal ah ID: 3,30 m/s^2 K ID: 1,5 m/s^2

Measured values determined in line with EN60745-2-1 and EN60745-1

Warning:

The actual vibration emission value encountered while the drill is being used can deviate from the value stated in the operating instructions or specified by the manufacturer. This can be caused by the following influencing factors, which should be observed prior to and also during use:

- Is the tool being used correctly?
- Is the correct type of material being processed?
- Is the tool in proper working order?
- Are the standard handles, and any optional vibration-damping handles, fitted correctly and sitting tightly with the body of the drill?

If you experience an unpleasant sensation or notice skin discoloration on your hands while using the drill, stop working immediately. Make sure that you take adequate breaks when working with the drill. If you fail to take adequate breaks, this can lead to hand-arm vibration syndrome.

You should assess the load/stress based on the work being performed or the way in which the drill is being used and then schedule breaks accordingly. This allows the physical load/stress to be significantly reduced throughout the working time. Minimize your vibration exposure risk. Maintain this drill as per the directions in the operating instructions.

If the drill is to be used frequently, you should contact your dealer and, if expedient, purchase vibration-damping accessories (handles).

Avoid using the machine at temperatures of 10°C and below. Draft a work plan that allows exposure to vibration to be limited.

Warning:

A certain degree of noise exposure is unavoidable when using this drill. Schedule noise-intensive work to be performed during approved and suitable times. Comply with any rest periods and limit the duration of work to the necessary minimum. Suitable ear protectors should be worn for your personal protection and the protection of anyone else in the vicinity.

II. GENERAL SAFETY PRECAUTIONS FOR POWER TOOLS

WARNING:

Read all of the safety precautions and instructions. Failure to observe the safety precautions and instructions can result in electric shock, fire and/or serious injury. Keep all safety precautions and instructions in a secure place for future reference. The term "power tool" used in these safety precautions refers to mains-operated tools (with a mains cable) and battery-operated tools (without a mains cable).

1) Safety at the workplace

a) Keep your working environment clean and well illuminated. Cluttered or unlit working environments can result in accidents.

b) Do not operate the power tool in explosive atmospheres where there is a presence of flammable liquids, gas or dust. Power tools generate sparks which can ignite the dust or fumes.

c) Keep children and bystanders at a safe distance when operating the power tool. Distractions can make you lose control of the tool.

2) Electrical safety

a) The connecting plug used by the power tool must be suitable for the power socket. The plug should not be modified in any way. Do not use any adapter plugs in conjunction with earthed power tools. Unmodified plugs and corresponding power sockets reduce the risk of electric shock.

b) Avoid physical contact with earthed surfaces such as pipes, radiators, cookers and refrigerators. There is an increased risk of electric shock if your body is earthed.

c) Do not expose power tools to rain or wet conditions. The ingress of water into a power tool increases the risk of electric shock.

d) Do not use the cable for any purpose other than that for which it is intended; i.e. do not use it to carry or suspend the power tool or use it to pull the plug from the power socket. Keep the cable away from heat, oil, sharp edges or moving power tool parts. Damaged or entangled cables increase the risk of electric shock.

e) When using a power tool outdoors only use extension cables that are also suitable for outdoor use. The use of an extension cable which is suitable for outdoor use reduces the risk of electric shock.

f) If the use of a power tool in a damp environment cannot be avoided, a residual current device should be used. Use of a residual current device reduces the risk of electric shock.

3) Personal safety

a) Be vigilant, pay attention to what you are doing and use common sense when operating a power tool. Do not use any power tools if you are tired or under the influence of drugs, alcohol or medication. A momentary lapse in concentration when operating a power tool can result in serious injury.

b) Use personal protective equipment and always wear safety glasses. The use of personal protective equipment such as dust masks, non-slip safety shoes, hard hats and ear protection will reduce the risk of injury depending on the type and application of the power tool.

c) Prevent the power tool from being started accidentally. Make sure the power tool is switched off before picking it up, carrying it or connecting it to the mains supply and/or battery pack. If you carry a power tool with your finger on the switch or connect the tool to the mains supply when it is switched on, it can result in an accident.

d) Remove any adjusting tools or wrenches before switching on the power tool. A tool or wrench that is located in a rotating part can result in injury.

e) Avoid adopting an abnormal posture. Make sure you have a secure footing and keep your balance at all times. Doing this will enable you to maintain better control of the power tool in unexpected situations.

f) Wear suitable clothing. Do not wear any loose-fitting clothes or jewellery. Keep hair, clothing and gloves away from moving parts. Loose-fitting clothes, jewellery or long hair can become entangled in moving parts.

g) If dust extraction and collection equipment can be fitted, make sure it is connected and used correctly. Use of a dust extraction system can reduce hazards caused by dust.

4) Operating and handling the power tool

a) Do not overload the power tool. Use the appropriate power tool for the job. Using the correct power tool will enable you to do the job safer and more efficiently in the specified power range.

b) Do not use a power tool if it has a defective switch. A power tool that cannot be switched on or off is dangerous and must be repaired.

c) Disconnect the plug from the socket and/or remove the battery before making any adjustments, changing accessories, or storing the power tool. This precaution will prevent the power tool from starting accidentally.

d) Keep any unused power tools out of the reach of children. This power tool should not be used by

anyone who is unfamiliar with its operation and operating instructions. Power tools are dangerous if they are operated by inexperienced users.

e) Treat power tools with care. Check to make sure that moving parts are working properly and do not jam; also check to see if any parts are broken or damaged in such a way as could impair the correct functioning of the power tool. Make sure damaged parts are repaired before operating the machine. Many accidents are caused by poorly maintained power tools.

f) Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges jam less and are easier to control.

g) Use the power tool, accessories, bits, etc. in accordance with these instructions. Also take the working conditions and the work to be conducted into account. Using power tools for applications other than those intended can result in hazardous situations.

5) Service

a) Your power tool should only be repaired by specialist personnel using original spare parts. Doing this will ensure the tool retains its safety.

III. Special safety precautions:

Safety precautions for hammer drills

- **Wear ear protectors when using hammer drills.** Exposure to noise can cause hearing loss.
- **Use the side handles supplied with the power tool.** Losing control of the power tool can result in injury.
- **Hold the power tool by the insulated handle areas when performing work during which the insert tool might hit hidden power lines or its own supply cord**. Contact a live wire can energize the metal parts of the power tool and result in an electric shock.
- **Only use the speed selector switch when the motor is at a standstill.** Attempting to change the speed while the drill is running can damage the gearbox
- **Never use the hammer drill as a screwdriver.** Tightening and slackening screws, nuts, etc. with the hammer drill is prohibited.
- **Do not leave the chuck key in the chuck.** Before switching on, check that the key is no longer in the chuck.
- **Ensure that the power tool and any person working with it do not come into contact with water**

The tool's supply cord must be disconnected from the socket prior to any adjustments, servicing, or maintenance. The electrical power rating of your extension cable must at least equal the power required by the tool.

Check that the mains voltage matches the specifications on the drill's rating plate.

Check the walls and ceilings to prevent damage to any hidden cables.

Never touch the drill's outer housing directly after drilling. It gets very hot during drilling.

Only use the supplied key housing for

attaching the chuck key to the tool. Do not leave the chuck key in the chuck. Before switching on, check that the key is no longer in the chuck.

IV. Noise and dust emissions

If the noise level is too high, this can cause hearing loss. Ear protectors should therefore be worn particularly when using the tool in closed rooms/areas.

Dust and splinters can cause eye injuries: you should therefore always wear protective goggles or glasses.

Dust represents a particular hazard. Wear a face mask to prevent dust from being inhaled.

Always wear a helmet and safety gloves.

Always wear appropriate, tight-fitting protective clothing. Long hair must be tied up and any loose jewellery removed.

V. Instructions for start-up

1. Connection to the power supply

The tool is suitable for use with an AC power supply in line with the specifications on the rating plate.

Make sure that the voltage (V) and frequency (Hz) of the drill, as written on the rating plate and described in the specifications, match the specifications of the mains connection being used.

The drill is double insulated and equipped with a two-core cable with moulded plug.

For extension cables up to a length of 22m, you should use a cable with a cross-section of 2.0mm Please also adhere to local regulations. For extension cables longer than 22m,you should use the next thickest cable (one grade higher). Any cables smaller than this will lead to power loss in the drill and can cause the cable itself to overheat.

2. Hammer drilling into stone and concrete

Drilling dust can either be removed immediately by extraction or caught directly using corresponding attachments.

Drilling metal, tiles or other smooth surfaces

Use the regular drill setting. If possible, mark the centre of the hole first using a punch to prevent thedrill bit from slipping. Use coolant to cool the drill bit if necessary. You can find suitable coolant at good hardware stores. Staff at the store will be able to provide you with advice on how to use the coolant. Please always follow the instructions given.

Never use the power tool as a screwdriver.

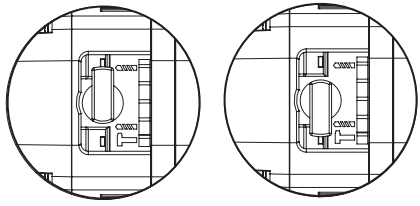
3. Restrictions with regard to ambient conditions

Ensure that the work surface is clean, dry, and well lit and that no combustible or explosive objects/chemicals are in the direct vicinity.

Prevent any unauthorized persons from touching the drill or the supply cord.

When the drill is not being used, it should be stored in a dry and safe place that is out of reach and cannot be accessed by unauthorized persons.

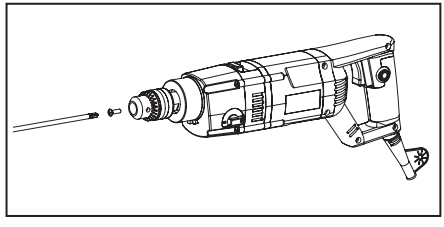
VI. Operating instructions



1. Making settings and performing checks Regular drilling / Hammer drilling selector switch

The power tool must be powered off before switching over the selector switch.If you intend to drill hard material such as stone or concrete, move the Regular drilling / Hammer drilling selector switch to the Hammer drilling position.

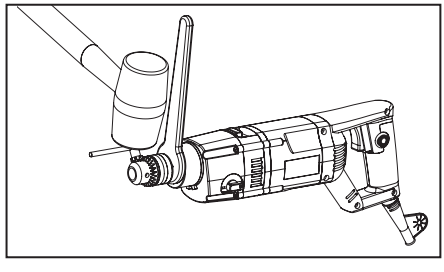
If you intend to drill soft material such as wood or plastic, move the Regular drilling / Hammer drilling selector switch to the Regular drilling position.



2. Tool change

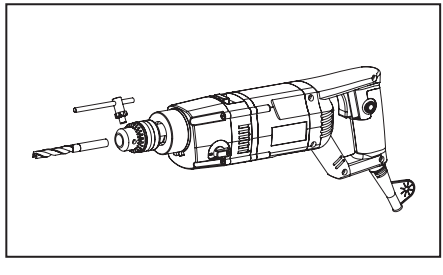
Always disconnect the drill's plug from the power socket before performing any maintenance work or changing the drill bit.

3. Changing the chuck:



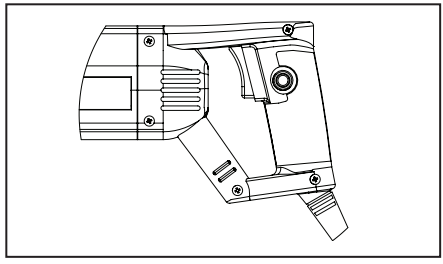
1. Open the chuck and use a screwdriver to remove the fastening screw (turning clockwise).
2. Use an open-end wrench to hold the rotary shaft firmly in place
3. Insert the chuck key into the chuck and then tap it carefully counterclockwise using a wooden hammer to release the chuck.
4. When fitting the chuck, follow the same procedure in the reverse order.

Inserting the drill bit



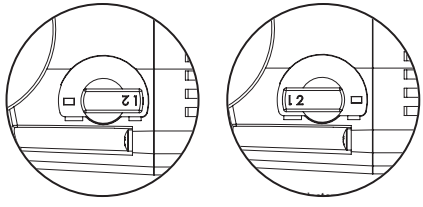
Opening the chuck: Insert the chuck key into one of the holes on the chuck and turn it counterclockwise. Inserting the drill bit:Insert the drill bit and turn the collar of the chuck so that the chuck pins grip the shaft of the drill bit. Make sure that the drill bit is seated and aligned correctly. Tighten the chuck using the chuck key (turning clockwise).
Make sure that the drill bit is seated and aligned correctly.Use all three holes to tighten the chuck and ensure correct alignment here. **CAUTION: Never leave the chuck key in the chuck.**

Power trigger switch
Switching on: Press the trigger switch, then press the self-locking button and release the trigger switch.
Switching off: Press the trigger switch and then release it again



Speed selector switch
The two-position sliding switch increases or reduces the rotary speed of the drill.
Turn the speed selector switch until the "2" symbol lines up with the alignment dot on the housing of the drill. The high speed setting is activated with a speed of 0-3,000 rpm

Turn the speed selector switch back clockwise until the "1" symbol lines up with the dot on the drill housing to activate the low speed setting with a speed of 0-1,500 rpm



ield of use and safety precautions

- Use the "Regular drilling" setting when drilling into facing bricks, flooring, soft stone, lime cement, and marble.
- Use the 'Hammer Drilling" setting when drilling into concrete, bricks, stone & cement.
- Remove and clean the drill bit head regularly to remove any dust.
- When drilling into smooth surfaces, such as facing bricks, first cover the area to be drilled with adhesive tape to ensure that the drill bit does not slip.
- Drilling into steel: The centre of the hole should first be marked out using a punch.
- Sheet metal plates must be safely secured in position.
- When drilling thin metal sheeting, place a piece of wood under the metal to prevent any deformations.
- When drilling large diameter holes, first use a small drill bit to create a guide hole.
- Use lubricating oil prudently as and when necessary
  - For steel: machine oil
  - For aluminium: turpentine, hard paraffin
  - Lubricating oil is not used for iron or copper.
- To prevent the material from breaking up or tearing, Place a piece of wood underneath or drill from both sides.

VII. Maintenance and customer service

1. Regular cleaning, maintenance, and lubrication

Always unplug the power cord after you have finished working with the drill.

Make sure that the ventilation slots are always clean and clear. You can use a soft brush to clean.

If necessary, wipe the drill down with a lightly damp cloth. Do not use any caustic or abrasive chemicals.

No water, oil, or other soiling should be allowed to get into the tool.

The chuck should be checked for damage from time to time.

Unused tools should be kept out of the reach of children. Protect the tool from dampness and excessive heat.

2. Customer service provided by the manufacturer and representatives.

If the tool's power supply cord gets damaged, it must be replaced with a special cable that is available from the manufacturer or customer service representatives.

Repair and maintenance work may only be performed by authorized specialists.

Accessories
Operating instructions
Side handle
Depth gauge
Chuck key

VIII. Warranty policy

Irrespective of statutory warranty claims, the manufacturer grants a warranty in line with the legislation applicable in your country for a period of no less than 1 year (in Germany 2 years). The warranty period starts with the date on which the tool was sold to the end user.

The warranty is limited exclusively to deficiencies caused by material or manufacturing defects.

Warranty repairs may only be performed by an authorized customer service representative.

To assert a warranty claim, the original receipt (with date of purchase) must be included.

The warranty does not cover any of the following cases:

- Normal wear
- Improper use, such as overloading the tool or using non-approved accessories
- Damage caused by outside influences, use of force, or foreign bodies
- Damage caused by failure to observe the operating instructions, e.g. connecting the tool to the wrong mains voltage or failure to observe the assembly instructions
- Fully or partially disassembled tools

Customer service

MARCRIST INTERNATIONAL LTD
Kirk Sandall Ind Est, Doncaster, S.Yorks. England. UK

Do not dispose of electrical appliances with household waste.
In accordance with European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical equipment that has reached the end of its service life must be collected separately and transferred to a recycling facility. Recycling alternative to the request to return electrical devices to the manufacturer: As an alternative to returning the electrical device, the owner is obliged to cooperate in ensuring that the device is properly recycled if ownership is relinquished. This requirement can also be met by handing over the used device to a returns centre, which will dispose of it in accordance with national commercial and industrial waste management legislation. This does not apply to accessories and auxiliary equipment without any electrical components which were included when the now used device was originally supplied.

EC Declaration of Conformity

We, MARCRIST INTERNATIONAL LTD
Kirk Sandall Ind Est, Doncaster, S.Yorks. England. UK

hereby declare that the design and construction of the machine designated below, as well as the various models, fulfils the relevant, basic health and safety requirements of EC Directives.

If any modifications are made for which we have not given our consent, this declaration shall lose its validity.

Machine designation:	**Electric hammer drill**
Model/Type:	DDM1-230 This machine is exclusively designed for drilling holes in wood, metal, plastics condrete and stone.
Relevant EC Directives:	EC Machinery Directive 2006/42/EC EC Directive for Electromagnetic Compatibility 2004/108/EC
Applied harmonised standards	- EN 55014-1: 2006 +A1: 2009 - EN55014-2: 1997+A1: 2001 +A2: 2008 - EN 61000-3-2: 2006 +A1: 2001 +A2: 2008 - EN 61000-3-3: 2008 - EN 60745-1: +A11 2010 - EN 60745-2-1: 2010

Responsible for documentation: Richard O'Malley
Date: 5.9.12
Authorised Signature

Title of Signatory: Quality Manager

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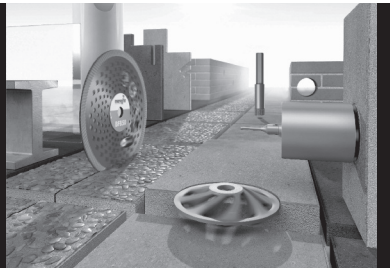

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