

Translation of the original operating instructions

MAB 1300 V



Fig. 1

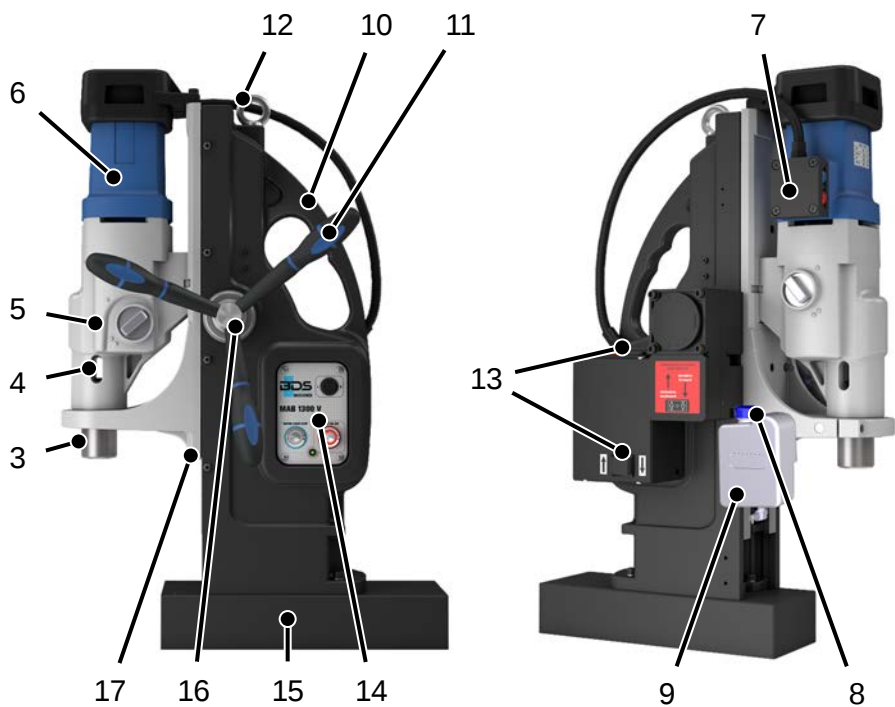


Fig. 2



Fig. 3

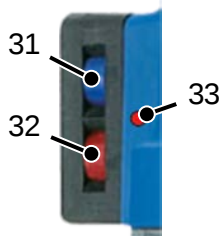


Fig. 4

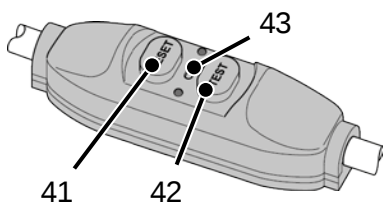


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General instructions

Introduction

Before using the MAB magnetic core drilling machine, hereinafter referred to as drilling machine, read the notes in these operating instructions on startup, safety, intended use as well as cleaning and care.

The links and illustrations in these instructions refer to the illustrations on the inside of the cover.

Keep these operating instructions for later user and pass them on to the next owner of the drilling machine.

Copyright

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Liability disclaimer

All technical information, data and instructions contained these operating instructions for startup, operation and care correspond to the latest requirements at the time of printing.

The manufacturer assumes no liability for damage or injury resulting from failure to observe the operating instructions, use for other than the intended purpose, unprofessional repairs, unauthorised modifications or use of non-approved spare parts and accessories, tools and lubricants.

Instructions on disposal



The packaging materials used can be recycled. Dispose of the packing materials no longer required according to local environmental regulations.



Do not dispose of the product in the normal household waste but instead via communal collection points.



The lubricant used can contain substances dangerous to the environment. Dispose of the lubricant according to local regulations. Pay attention to the disposal instructions from the manufacturer.

Safety warning structure

The following warnings are used in these operating instructions:

DANGER

A warning of this category indicates an impending dangerous situation!

If the dangerous situation is not avoided, it may lead to severe injury or even death.

- ▶ Follow the instructions in this warning to avoid possible danger of serious injury or even death.

WARNING

A warning of this category indicates a potentially dangerous situation!

If the dangerous situation is not avoided, it may lead to serious injury or even death.

- ▶ Follow the instructions in this warning to avoid the danger of serious injury to persons.

CAUTION

A warning of this category indicates a potentially dangerous situation!

If the dangerous situation is not avoided, it may lead to minor or moderate injuries.

- ▶ Follow the instructions in this warning to avoid the danger of minor or moderate injuries to persons.

CAUTION

This warning indicates potential danger to property!

If the situation is not avoided, it may lead to material damage.

- ▶ Follow the instructions in this warning to avoid material damage.

SAFETY INSTRUCTIONS

Safe working during ...

This note includes important information and instructions on safe working during the following actions.

- ▶ Follow the instructions in this warning to avoid accidents and injury.

NOTE

A note contains additional information that is important for further processing or for simplifying the procedure step explained.

Intended use

The drill is intended solely for drilling operations in magnetic metals, and for cutting threads, countersinking and reaming within the limits specified in the technical data.

The drilling machine is intended to be used exclusively in the commercial sector.

Foreseeable misuse

Any use of the unit for other than the purpose prescribed in the "[Intended use](#)" section is considered as improper use and is therefore not permitted.

For example, misuse is when

- the specifications in these operating instructions are not observed
- the drilling machine is used in private households
- the drilling machine is used in a potentially explosive zone
- the drilling machine is used for processing non-approved materials such as wood, stone, concrete,...
(see "[Technical data](#)" for processing approved materials)
(non-magnetic metals may be processed with an additional holding device, see "[NF metals or workpieces with an uneven surface](#)")
- the limits specified in the technical data are not complied with (see "[Technical data](#)")
- the drilling machine is operated in a modified or in faulty condition

NOTE

No claims of any kind will be accepted for damage resulting from use for other than its intended purpose.
The risk is borne solely by the operator.

Safety

WARNING

Read all safety notes and instructions!

Failure to comply with the following instructions may result in electric shock, fire and/or serious injury.

- Keep all safety notes and instructions for future reference.

NOTE

When using power tools, pay attention to the following basic safety measures to protect against electric shock, injury and fire!

General safety instructions

SAFETY INSTRUCTIONS

Working safely!

For safe handling of the drilling machine, pay attention to the general safety instructions for power tools in addition to the safety instructions listed in these operating instructions.

- ▶ The general safety instructions for power tools can be found in the separately supplied document "[Allg. SiHi_MAB Profi BASIC/START/PLUS](#)".
- Persons with heart pacemakers or other medical implants must not use this drilling machine.
- If necessary, a second person must help to lift the drilling machine or use suitable lifting gear.
- Before beginning work, check the condition of the safety strap.
- The drilling machine may only be repaired by a service centre authorised by the manufacturer or by the manufacturer himself.
- Do not leave the drilling machine unsupervised during operation.
- Store the drilling machine in a dry, temperate location.
- Keep the drilling machine clean, dry and free of oil and grease.
- Follow the instructions on lubricating and cooling the tool.
- Pay attention to the safety data sheets for the cooling lubricants used.
- Adhere to the local accident prevention regulations and operational safety regulations.

Danger from electric current!

DANGER

Danger to life from electric current!

Contact with live wires or components can lead to serious injury or even death! Pay attention to the following safety precautions to avoid any danger from electric current:

- ▶ Only operate the drilling machine in a dry environment.
- ▶ The machine may only be connected to an electrical connector that meets the current technical requirements and has been tested. Special attention must be paid to the safety equipment appropriate to the local conditions.
- ▶ Do not open the housing of the drilling machine. Risk of electric shock from touching live connections.
- ▶ Only use extension cables or cable drums with a cable cross-section of at least 1.5 mm² (Line type: H07RN-F3G1.5).
- ▶ Check the condition of the extension cable regularly. Replace a damaged extension cable.
- ▶ Modifications to the electrical equipment (e.g., changing the connecting plug, ...) of the drilling machine are generally prohibited.
- ▶ Work on the electrical equipment (e.g., power cord, ...) of the drilling machine may only be done by a qualified electrician of a service centre authorised by the manufacturer or by the manufacturer himself.

⚠ WARNING**Risk of electric shock!**

Coolant/lubricant leaking from the lubricating oil tank and entering the machine could create a conductive connection to the outside of the machine if it comes into contact with live components inside the machine. This could present a risk of electric shock for the operator.

Therefore strictly observe:

- ▶ Do not overfill the cutting oil tank.
- ▶ Remove the cutting oil tank only when the shut-off valve is closed.
- ▶ Remove the cutting oil tank to fill and empty the machine.
- ▶ After using each time:
Empty the cutting oil tank and machine completely.
- ▶ **Leaking cooling lubricant can lead to various hazards if the drilling machine is not in a vertical or upright position.**
Do not use the cooling lubrication device of the machine. Empty the tank completely.
Use grease spray or cutting paste when working in a non-vertical position.

Risk of injury!**⚠ WARNING****Improper handling of the drilling machine increases the risk of injury!**

Pay attention to the following safety notes:

- ▶ Operate the drilling machine only with the protective equipment specified in these operating instructions (see section "[Personal protective equipment](#)").
- ▶ Do not wear protective gloves when the drilling machine is running. A glove can be caught by the drilling machine and torn off the hand. Risk of losing one or more fingers.
- ▶ Remove loose jewellery before beginning work.
- ▶ Wear a hair net if you have long hair.
- ▶ Check the tool for firm seating before using each time (see section "[Inserting the tool](#)").
- ▶ Check for secure clamping of the electromagnets on the substrate before use each time (see section "[Preparation](#)").
- ▶ Always switch off the drilling machine before changing tools, doing maintenance or cleaning. Wait until the drilling machine has come to a complete standstill.
- ▶  Remove plug from the mains socket.
- ▶ Do not reach into the tool while it is running. Only remove swarf when the drilling machine is stationary. Wear protective gloves when removing swarf, use swarf hooks if necessary.
- ▶ Do not allow the connecting cable to hang over edges (trip wire effect).

► **Risk of falling when working on a ladder!**

The operator must be secured with a safety strap because the drilling machine can oscillate dangerously in the event of interruption to the power supply.

► **The drilling machine could fall down if the magnet is loosened or the power fails.**

Secure the drilling machine with the safety strap supplied when working from an inclined or horizontal position or during overhead work.

 WARNING

Risk of injury due to unintentional starting of the motor!

Pay attention to the following safety notes to avoid danger from motor starting unintentionally:

For safe stopping of the motor:

- Press "O" on Motor (21) the on/off switch.
- Switch the drilling machine off with the "Magnet" on/off switch (Main switch) (23).
-  Disconnect the voltage supply (pull out the mains plug).

 WARNING

Danger of injury from noise!

The measured sound pressure level of the machine is > 85 dB(A). The actual sound pressure level at the place of use may vary.

For protection against injury.

- Wear ear protection.

 WARNING

Risk of injury from the drill core!

The drill core produced during core drilling can cause various injuries when falling or being ejected.

For protection against injury.

- Make sure that nobody can be hit by the drill core.
- Cordon off the place of use to protect against danger to third parties.

 WARNING

Risk of injury when transporting the drilling machine!

Due to the high weight of the drilling machine, pay attention to the following instructions.

- Only transport the drilling machine with a suitable means of transport.
- Lifting the drilling machine manually should be done by two persons.
- When transporting the drilling machine with a crane, use suitable lifting equipment. Pay attention to the carrying capacity of the lifting equipment.

Preventing damage

CAUTION

Potential damage to property if the drilling machine is used improperly!

Pay attention to the following notes to avoid damage to property:

- ▶ Before connecting the drilling machine, compare the connection data (voltage and frequency) on the type plate with those of your mains power supply. The data must correspond in order to avoid damage to the drilling machine.
- ▶ Always carry the drilling machine by the handle.
- ▶ Lay the connecting cable in such a way that it cannot be caught and wound up in the rotating part of the drilling machine.

CAUTION

Possible material damage by using non-approved spare parts, auxiliary materials and accessories!

Pay attention to the following note to avoid damage to property:

- ▶ Only use original spare parts and operating materials and original accessories specified and approved by BDS.
- ▶ Especially when replacing the connecting cable, it is obligatory to use an identical type.

Environmental protection

Possible environmental damage

Severe damage to the environment can result from improper handling and in particular, improper disposal of environmentally hazardous materials.

- Collect used cooling lubricants during operation by suitable means (e.g. collecting tray, ...) and dispose of them according to the locally applicable legal regulations.
- Pay attention to the product datasheets for operating/auxiliary materials.

Symbols on the drilling machine

The symbols on the drilling machine have the following meaning:

Symbol	Meaning
	Electric shock hazard!
	Read the operating instructions before beginning work!
	Wear protective goggles and ear protection!

Personal protective equipment

Wear the following protective equipment at all times when operating the drilling machine:

Symbol	Meaning
	Close-fitting work protection clothing with a low tear strength
	Goggles for protecting eyes against flying parts and liquids and ear protection in areas with noise emission >80 dB(A)
	Safety shoes for protecting feet against falling objects

Also wear the following protective equipment during special work:

Symbol	Meaning
	Helmet for protecting your head against falling objects
	Wear a harness where there is a danger of falling
	Gloves for protection against injuries

Components / delivery contents

Machine overview

See [Fig. 1](#)

1	Tools (not supplied as standard)/ (no figure)
2	Tool mounting (no figure) 19 mm Weldon (3/4") 32 mm Weldon (1 1/4")
3	MK4 spindle taper
4	Opening for ejector
5	4-speed gearbox with selector
6	Drive motor
7	Electronic control (see Fig. 3)
8	Filler neck for cutting oil
9	Cutting oil tank
10	Handle
11	Hand lever
12	Transport lug
13	Control panel for "Automatic feed" (see Fig. 5)
14	Operating panel (see Fig. 2)
15	Magnetic foot
16	Control for engaging the "Automatic feed" (see Fig. 8 and Fig. 9)
17	Machine slide and guide

Operating/display elements

See [Fig. 2](#)

21	Motor ON/OFF switch
22	Magnet indicator (Magnet Power)
23	Magnet ON/OFF switch (Main switch)
24	Direction of rotation switch

See [Fig. 3](#)

31	Speed setting
32	Setting of the torque
33	Carbon brush wear indicator

See [Fig. 4](#)

41	"RESET" button
42	"TEST" button
43	Function display

See [Fig. 5](#)

51	Indicator "POWER - Automatic feed"
52	Indicator "ALARM - Automatic feed"
53	Rotary control Speed selection "Automatic feed LOW/HIGH" Scale mark 0 - 3: Feed rate Scale mark 4 - 10: Rapid feed
54	Selector switch "Automatic feed RUN/STAND-BY"
55	"Automatic feed UP/DOWN direction of motion" selector switch

Scope of supply

Please refer to the catalogue for details of the components and the scope of supply.



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- Magnetic core drilling machine
- ZAK 075 ejector pin
- ZAK 090 ejector pin
- ZAK 100 ejector pin
- ZAK 120 ejector pin
- Safety belt
- MK4 ejector pin
- MK4/19 mm Weldon industrial holder (3/4")
- MK4/32 mm Weldon industrial holder (1 1/4")
- Hexagonal screwdriver, SW6 + SW8
- Transport case with wheels
- Operating instructions/Guarantee card

Before using for the first time

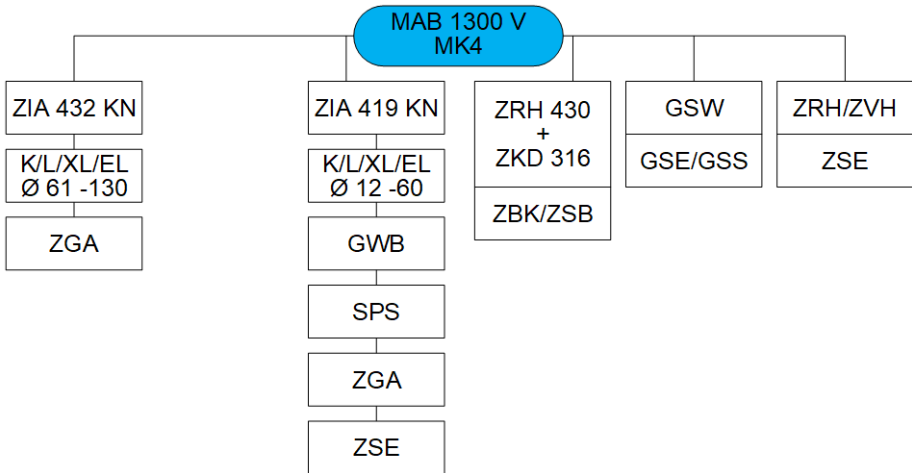
Transport inspection

As standard, the drilling machine is supplied with the components indicated in the section "[Scope of supply](#)".

NOTE

Check for visible signs of damage or missing items on delivery. Report an incomplete or damaged delivery to your supplier/retailer immediately.

Overview of applications



Abbrevia- tion	Meaning	Abbrevia- tion	Meaning
K/L/XL/EL	Core drill cutting depth 30/55/75/110 mm	GWB	Thread taps with 19 mm (3/4") Weldon shaft
ZKD	Tapered mandrel MK2/3 B16	SPS	Twist drill with 19 mm (3/4") Weldon shaft
ZBK/ZSB	Gear rim drill chuck/Keyless Quick-Action Drill Chuck	ZSE	Countersinking tools
ZGA	Thread tap adapter	ZRH	MK reducer sleeves
GSW	Quick-change thread tap chuck	ZVH	MK extension sleeves
GSE	Quick-change insert	ZIA	Industrial tool holder
GSS	Quick-change insert with slip clutch	ZAP	Adapter

Preparation

This section contains important instructions on the required preparation before beginning any work.

Additional safety measures for certain work

Non-vertical work position

WARNING

Risk of injury from a falling drilling machine.

When working in an inclined or horizontal position or during overhead work, the drilling machine must be secured using the safety strap supplied to prevent it from falling.

- ▶ Check the safety strap for correct function before using. Replace a damaged safety strap immediately.
- ▶ Attach the safety strap so that the drilling machine slips away from the operator.
- ▶ Make the safety strap as tight as possible around the handle of the drilling machine.
- ▶ Check the secure fitting of the safety strap and lock before starting work.
- ▶ Use the protective equipment stipulated in the section "[Personal protective equipment](#)".

CAUTION

Risk of injury from leaking cooling lubricant!

Leaking cooling lubricant can lead to various hazards if the drilling machine is not in a vertical or overhead position.

- ▶ Do not use the cooling lubricant device of the drilling machine. Empty the tank completely.
- ▶ Use grease spray or cutting paste when working in a non-vertical position.

Working with the risk of falling

WARNING

Risk of falling from sudden oscillating movements of the drilling machine.

The drilling machine can make a sudden oscillating movement in the event of interruption to the power supply. Risk of falling when working on a ladder!

- ▶ Wear a harness where there is a danger of falling.
- ▶ Secure the drilling machine with the safety strap supplied.

Check the condition of the substrate

The magnetic holding force is dependent on the condition of the substrate. The clamping force is significantly reduced by paint, zinc, scale coatings and rust.

The substrate must satisfy the following conditions in order to achieve sufficient magnetic holding force:

- The substrate must be magnetic.
- The clamping surface and the magnetic foot (13) must be clean and grease-free.
- The clamping surface must be completely smooth and level.

NOTE

Before use, clean the substrate and the magnetic foot (13) of the drilling machine.

Remove any unevenness and loose rust from the substrate.

The BDS range of accessories includes special holding devices.

The best clamping effect is obtained on low-carbon steel substrate with a thickness of at least 20 mm.

Steel with low thickness

For drilling into steel with low thickness:

- Attach an additional steel plate under the workpiece.
Minimum dimensions:
⇐ 120 x 400 x 20 mm
- Secure the steel plate to prevent it from falling.

NF metals or workpieces with an uneven surface

Use a special holding device when drilling into NF metals or into workpieces with an uneven surface.

NOTE

BDS offers a range of accessories with special clamping devices for tubes and non-magnetic materials.

Filling the cutting oil tank

⚠ CAUTION

Risk of injury from leaking cooling lubricant!

Leaking cooling lubricant can lead to various hazards.

- ▶ Do not overfill the cutting oil tank.
 - ▶ Remove the cutting oil tank only when the shut-off valve is closed.
 - ▶ Remove the cutting oil tank to fill and empty the drilling machine.
- Close the shut-off valve below the cutting oil tank (9).
 - Pull the cutting oil tank upwards out of the drilling machine. Remove the cover of the filler neck (8) on the cutting oil tank.
 - Fill the cutting oil tank.
 - Close the lid of the filler neck and put it back on the mounting of the drilling machine from above.
 - Opening the shut-off valve.

NOTE

To ventilate the cutting oil tank, open and close the lid of the filler neck briefly as required.

Use of the safety devices

Personal safety switch

The drilling machine has a personal safety switch (PRCD - Portable Residual Current Device) that is integrated in the mains connecting cable. The power supply is interrupted if residual current occurs.

Check the function of the personal safety switch regularly as follows before startup.

- Set up the drilling machine in a vertical working position and switch on the Motor with the on/off switch (21).
- Press the "TEST" (42) button.
 - ⇨ The power supply is interrupted.
 - ⇨ Tripping of the personal safety switch is shown in the function indicator (43).
- Press the "RESET" (41) button.

Switching on again after the personal protection switch was tripped

- Eliminate the cause of the tripping of the personal protection switch.
- Press the "RESET" (41) button.

Overheating protection

The drilling machine is protected against overheating. If the drilling machine becomes too hot, it switches off automatically.

Carry out the following steps before continuing work with the drilling machine:

- Remove any blockages.
(see section "[Eliminating blockages](#)")
- Allow the drilling machine to run at idle speed for approx. 2 minutes.
- ⇨ The drilling machine is then ready for operation again.

Magnet indicator

The magnet indicator (22) provides a visual indication of the magnetic clamping force.

- Magnet indicator (22) lights up GREEN:
The magnetic holding force corresponds to the minimum requirements. Processing can be done.
- Magnet indicator (22) lights up RED:
Insufficient magnetic clamping force
For example, this can be the case if material is too thin, surface is uneven or if coated with lacquer, scale or zinc. No machining may be done with the drilling machine.

Restart protection

The drilling machine stops automatically when the magnetic clamp is switched off or if the power supply is interrupted.

In order to prevent the drilling machine from starting unexpectedly after switching on the magnetic clamp again or after reconnection following interruption to the power supply (Restart protection), the drilling machine must be switched on using the motor ON/OFF switch (21).

Slip clutch

If the drill blocks, the gearbox is protected by a slip clutch.

"Safety Control" shutdown

The "Safety Control" switches the machine off as soon as the magnet is triggered by the automatic feed.

This is designed to prevent the machine from running without magnetic holding force.

There is no pressure monitoring for the automatic feed.

This safety equipment is not designed as protection against tool breaking.

Carry out the following steps before continuing work with the machine:

- Reduce the feed rate and restart the drilling process (see [Automatic feed](#)).

Swarf protection

An optional chip guard is available as an accessory for all machines.

NOTE

During work, observe the local guidelines and regulations applicable at the point of use of the machine.

Use of the operating elements

Activating/deactivating the magnetic clamp

Activating the magnetic clamp

CAUTION

Risk of overheating!

The magnetic clamps can overheat on non-magnetic surfaces.

- ▶ Activate the switch on the magnetic clamps only when the drilling machine is on a magnetic surface.
- Switch the magnet ON/OFF switch (23) on. The indicator lamp in the magnet ON/OFF switch (23) lights up.
- Check the magnet holding force with the magnet indicator (MAGNET POWER (22) indicator lamp).

MAGNET POWER indicator lamp	Magnetic holding force condition
GREEN	Minimum requirements fulfilled for the magnetic holding force
RED	Insufficient magnetic holding force

NOTE

The maximum magnetic holding force is only available after switching on the motor.

Deactivating the magnetic clamp

- Secure the drilling machine at the handle (10) to prevent it from slipping.
- Switch the magnet ON/OFF switch (23) off. The indicator lamp in the magnet ON/OFF switch (23) extinguishes.

Switching the drilling machine on/off.

- Switch the drilling machine on or off with the on/off switch (21)

NOTE

The drilling machine can only be switched on when the magnetic clamp has been activated and the magnetic indicator lamp (22) lights up GREEN.

Allow a severely overheated drilling machine to run on at idle speed for approx. 2 minutes to cool it down.

The drilling machine switches off automatically in the event of a power failure or if the magnetic clamp is deactivated.

Setting the speed

⚠ CAUTION

Outward spinning parts!

Improperly set parameters can break the tool.

- ▶ Operate the drilling machine only with the parameters permitted for the tool.

The drilling machine has a gearbox with two mechanical gear stages. The gear stage is set with the selector lever (5).

The drilling machine is also equipped with full-wave control electronics for stepless variable speed adjustment.

CAUTION

Damage to equipment!

Switching the gearbox during a rotary movement will cause damage.

- ▶ Switch the gear stages only when the drilling machine is at a standstill.

NOTE

Select the speed range according to the material and drilling diameter.

- Set the gear stage to the desired speed using selector lever (5) with the drilling machine switched off. For details of the speeds, see [Technical data](#).
- Adjust the speed on the electronic control (7) with the "Speed setting" (31).

NOTE

If possible, always select a setting with low gear stage and high motor speed. The motor is then set with a higher torque and therefore protected against overheating under heavy load.

The necessary settings can be calculated using a speed calculator app.



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Gear stage	Selector lever	
	left	right
Step 1	•	•
Step 2	••	•
Step 3	•	••
Step 4	••	••

Setting the torque cut-off

⚠ CAUTION

Outward spinning parts!

Improperly set parameters can break the tool.

- ▶ Operate the drilling machine only with the parameters permitted for the tool.
- ▶ Do not use the drilling machine cut-off via the "torque cut-off" function when cutting blind hole threads.

When the maximum set torque is reached, the drilling machine switches off. After switching off, the drilling machine must be switched off and on again using the ON switch (21).

In order to protect the tool, set the maximum torque of the drilling machine.

- Set the torque control (32) to the maximum desired torque.
- ⇨ The drilling machine switches off when it reaches the maximum set torque.

Automatic feed

CAUTION

Damage to equipment!

Possible damage to the machine.

- ▶ Only use this function for drilling.
- ▶ Select the automatic feed rate according to the tool used to avoid breaking the tool.

Using feed

To use the automatic feed, proceed as follows:

- Inserting the tool (see section "[Inserting the tool](#)").
- Position and fix the drilling machine at the location of use.
- Activate the clamping magnet and check the magnetic holding force (see section "[Activating/deactivating the magnetic clamp](#)").
- Make sure that the feed unit is disengaged.
 - ⇨ The hand lever (11) is in the extended position (see [Fig. 8](#)).
- Set the rotary control (53) for selection of the feed rate to the "LOW" position (scale mark 0).
- Switch on the automatic feed unit using the "RUN/STAND-BY" selector switch (54).
 - ⇨ Indicator "POWER - Automatic feed"(51) lights up.

"RUN/STAND-BY" selector switch

Feed unit status

RUN

Automatic feed unit switched on

STAND-BY

Automatic feed unit switched off

- Select the "Lower machine slide" feed direction (↓) using the selector switch (55).

"UP/DOWN" selector switch	Direction of motion
Arrow direction downwards (↓)	Lower the machine slide
Arrow direction upwards (↑)	Raising the machine slide

- Engage feed unit. For this, move the hand lever (11) to the inserted position (see [Fig. 9](#)).
- Switch the drilling machine on.
- Set the feed rate using the rotary control (43) (Scale mark 0 (LOW) to scale mark 3).

"LOW/HIGH" rotary control	Selection range
Scale mark 0 (LOW) to scale mark 3	"Selectable feed rate" range
Scale mark 4 to scale mark 10 (HIGH)	Range: "Rapid feed"

CAUTION

Damage to equipment!

Possible damage to the machine.

- ▶ The "Selectable feed rate" range (scale mark 0 (LOW) to scale mark 3) may not be exceeded for workpiece processing.
- ▶ The "Rapid feed" range is only for the rapid feed function.

- ⇨ The machine slide moves to the lower end position and the feed motor is switched off automatically.

Raising the machine slide

Two variants are available for moving the machine slide back to the upper position after processing.

Variant 1

The machine slide is located at the lower position and the feed motor is switched off.

- Disengage feed unit. For this, move the hand lever (12) to the extended position (see [Fig. 8](#)).
- Guide the machine side upwards with the hand lever (12).

Variant 2

The machine slide is located at the lower position and the feed motor is switched on.

- Set the rotary control (53) for selection of the feed rate to the "LOW" position (scale mark 0).
- Select the "Raising the machine slide" feed direction (↑) using the selector switch (55).
- Turn the rotary control (53) to the "Rapid feed" range (scale mark 4 to scale mark 10).
- ⇨ The machine slide moves into the upper end position and the feed motor is switched off automatically.

Feed unit faults

In the event of a fault, the feed unit stops automatically and an "ALARM" (52) error is indicated.

This occurs, for example, when "Safety Control" is triggered (see ["Safety Control shutdown"](#)).

Inserting the tool

Special notes

WARNING

Risk of injury!

Pay attention to the following instructions to avoid injury.

- ▶ Do not use damaged, soiled or worn tools.
- ▶ Never look for the correct position for the ejector by tapping the motor switch.
- ▶ Change tools only when the drilling machine is switched off and at a standstill.
- ▶  Pull the plug out of the mains socket.
- ▶ After inserting, check that the tool is firmly seated.
- ▶ Only use tools, adapter and accessories that match the drilling machine.
- ▶ Allow hot tools to cool down before changing.

All drilling machines are equipped with an MK tool holder.

Depending on the type of tool to be used, corresponding drill chucks, quick-clamping systems or adapters must be used (see following Overview of applications).

Preparing Work

WARNING

Risk of injury from incorrectly inserted tool!

An insufficiently secured tool can lead to serious injuries.

- ▶ Check the proper seating of the tool, adapter or drill chuck in the MK tool mounting.
 - ▶ Tighten the gear rim drill chuck only with the chuck key provided.
 - ▶ Always remove the chuck key from the gear rim drill chuck after tightening or loosening.
- ➡ Before inserting the tool, clean the tool shank, clean the adapter or industrial tool holder and the spindle taper (3) of the drilling machine.

Weldon industrial tool holder

Insert tool (see [Fig. 6](#))

NOTE

To insert the tool, one of the two Weldon industrial tool holder 19 mm (3/4") resp. 32 mm Weldon 1 1/4") must be inserted into the spindle taper (3) of the machine.

- Loosen both hexagonal socket screws in the tool holder using the hexagonal screwdriver supplied.
- Insert the tool into the tool holder from below.

NOTE

Insert the appropriate ejector pin before inserting a core drill.

- Tighten both hexagonal socket screws in the tool holder using the hexagonal screwdriver supplied.

Removing the tool

- Loosen both hexagonal socket screws in the tool mount using the hexagonal screwdriver supplied and remove the tool from below.

Remove the industrial tool holder

- Turn the industrial tool holder until the ejector slips into the opening for the ejector (4).
- Lever out the industrial tool holder with the ejector or loosen it by tapping against the ejector.

Using the drill chuck

NOTE

Use an appropriate drill chuck according to the overview of applications (see [Overview of applications](#)).

Inserting the drill chuck

- Push the drill chuck onto the tapered mandrel and insert the combination into the spindle taper (3) of the drilling machine.
- Open the drill chuck and insert the tool into the drill chuck.
- Close the drill chuck by hand and then tighten it with the chuck key (only for gear rim drill chuck).

Removing the drill chuck

- Open the drill chuck and remove the tool.
- Turn the drill chuck until the ejector slips into the opening for the ejector (4).
- Lever out the drill chuck with the ejector or loosen the drill chuck by tapping against the ejector.

Quick-change thread tap chuck system

NOTE

Use a matching GSW quick-change drill chuck according to the overview of applications (see [Overview of applications](#)).

Insert the GSW quick-change chuck

- Insert the GSW quick-change chuck into the spindle taper (3) of the drilling machine from below.
- Select the matching quick-change insert (GSE or GSS) from the BDS catalogue and install in the quick-change drill chuck.

Remove the quick-change chuck

- Open the GSW quick-change drill chuck system by pushing up the sleeve and remove the quick-change insert from below.
- Turn the quick-change chuck until the ejector slips into the opening for the ejector (4).
- Lever out the quick-change chuck with the ejector or loosen the quick-change chuck by tapping against the ejector.

Adapter for thread taps

([Fig. 7](#))

Industrial tool holder ZIA

Inserting the tool

- Insert the thread tap into the appropriate adapter for thread taps.
- Insert the adapter with thread tap into the industrial tool holder ZIA.

Removing the tool

- Loosen both hexagonal socket screws in the industrial tool holder ZIA and remove the adapter for the thread tap from below.
- Remove the thread tap by pulling downwards out of its adapter.

Use of the drilling machine

Drilling

NOTE

Make sure that swarf is removed regularly. With larger drilling depths, break up the swarf.

Twist drill:

Under excessive pressure, the drilling machine can burn out. The drilling machine can be overloaded.

Core drill:

Drilling with core drills does not require great force. The drilling process is not accelerated by higher pressure. The drill wears faster and drilling machine can be overloaded.

Use the high-performance BDS 5000 cutting oil or cooling lubricant BDS 6000 for the cooling lubricant system of the drilling machine.

NOTE

Core drill:

The cooling lubricant system may not be used when working overhead.

When working overhead, use the high-performance grease spray ZHS 400 or ZHS 550/570 cutting paste. Spray the drill with grease spray before drilling or apply cutting paste. In the case of larger drill depths, repeat this procedure.

- Inserting the tool (see section "[Inserting the tool](#)").
- Position and fix the drilling machine at the location of use.
- Activate the clamping magnet and check the magnetic holding force (see section "[Activating/deactivating the magnetic clamp](#)").
- Select a suitable speed and switch the drilling machine on.
- Make sure that the feed unit is disengaged.
 - ⇨ The hand lever (11) is in the extended position (see [Fig. 8](#)).
- Guide the drilling machine to the material with the hand lever (11).

Cutting threads

CAUTION

Damage to equipment!

Possible damage to the machine.

- The "Automatic Feed" function may **not** be used for cutting threads.

The drilling machine is equipped with reversible direction of rotation and can also be used for cutting threads.

Proceed as follows for cutting threads:

- Inserting the tool (see section "[Inserting the tool](#)").
- Position and fix the drilling machine at the location of use.
- Activate the clamping magnet and check the magnetic holding force (see section "[Activating/deactivating the magnetic clamp](#)").

- Set the lowest gear stage and speed.
- Set the direction of rotation using switch (24).
- Switch the drilling machine on and position the tap drill at the hole.
- Move the machine slide on the hand lever (11) with light pressure until the desired thread length has been cut.
- Switch off the drilling machine off and set the opposite direction of rotation at switch (24).
- Switch on the drilling machine and pull the thread tap completely out of the workpiece. Then use the hand lever (11) to guide the machine slide upwards in order to avoid damaging the top of the thread.

Reaming/counter-sinking

Thanks to its wide range of operating speeds, the drilling machine can also be used for reaming or counter-sinking.

CAUTION

Damage to equipment!

Overloading leads to damage.

- ▶ When reaming and counter-sinking, observe the limits stated in the technical data for the tools to be used.

Eliminating blockages

⚠ WARNING

Risk of injury!

Danger of cut injuries from broken tool parts or swarf.

- ▶ Put protective gloves on before starting work.

Blockages caused by a broken tool:

- Switching off the drilling machine.
-  Remove plug from the mains socket.
- Move the machine slide to the upper position with the help of the hand lever (11).
- Replace defective tool.
- Remove swarf.

Other blockages:

- Switch the drilling machine off at the motor switch. Leave the magnetic clamp activated.
- Move the machine slide to the upper position with the help of the hand lever (11).
- Remove swarf and check tool.

NOTE

The BDS range of accessories includes special devices (e. g., POW 200) for removing swarf.

Cleaning/maintenance

⚠ WARNING**Risk of injury!**

Unqualified cleaning/maintenance can lead to considerable danger for the user.

- ▶ Always switch off the drilling machine before starting maintenance or cleaning work.
- ▶  Remove plug from the mains socket.
- ▶ When using compressed air for cleaning, wear protective goggles and gloves.
- ▶ Protect other persons in the work area.

CAUTION**Damage to equipment!**

Damage by penetrating liquids.

- ▶ Never immerse the drilling machine in water or other liquids.

Cleaning

After each use

- Remove the inserted tool.
- Remove swarf and coolant residues.
- Empty the cutting oil tank and machine completely. To do this, remove the container as described in section "[Filling the cutting oil tank](#)" and empty the coolant using the filler neck into a suitable container.
- Clean the tool and the tool holder on the drilling machine.
- Clean the guide of the machine slide.
- Pack the drilling machine and accessories back into the transport case.

Maintenance

⚠ WARNING**Danger caused by unqualified repairs!**

Unqualified repairs can lead to considerable danger for the user and cause damage to the drilling machine.

- ▶ The drilling machine may only be repaired by a service centre authorised by the manufacturer or by the manufacturer himself.
- ▶ Work on the electrical equipment (e.g., power cord, ...) of the drilling machine may only be done by a qualified electrician of a service centre authorised by the manufacturer or by the manufacturer himself.

Adjusting the machine slide guide

If the machine slide guide exhibits too much clearance, it must be adjusted. For this purpose, proceed as follows:

- ➡ Loosen the clamping bolts.
- ➡ Tighten the adjusting screws evenly.
- ➡ Tighten the clamping screws again.

Replacing the carbon brushes

Replacement of the carbon brushes may only be carried out by BDS or by an authorised specialist workshop. Unauthorised repairs will invalidate the guarantee.

Check hoses

Hose lines are subject to ageing and wear. Therefore, do regular visual inspections and replace old or worn hose lines if necessary.

Check the safety strap

Check the safety strap for damage before using each time. Replace a damaged safety strap immediately and replace it with a new safety strap.

Customer service/service

Should you have any questions on customer service/service, please contact BDS. We will be happy to give you the address of your nearest service partner.

Storage

When storing the drilling machine for a longer period of time, clean as described in section "[Cleaning](#)". Store the drilling machine and all its accessories in the transport case at a dry, clean and frost-free location.

Troubleshooting

Fault	Possible cause	Remedy
The motor does not start after pressing the ON/OFF switch or stops during operation.	Plug not inserted in the socket.	Insert plug.
	Circuit breaker switched off.	Switch on circuit breaker.
	The magnetic clamp is not activated.	Activate the magnetic clamp.
	Direction of rotation not selected.	Select direction of rotation.
	The internal safety switch has switched the drilling machine off due to overheating.	Allow the drilling machine to cool down.
	The torque cut-off has tripped.	Switch the drilling machine off and on again.
The automatic feed unit does not start or does not move during operation ("ALARM" (52) indicator).	Feed unit not engaged.	Engage feed unit.
	Alarm indicator lights up during overload.	Move the direction of motion UP/DOWN (55) selector switch to the middle position. The alarm indicator extinguishes. Select the desired feed and switch on.
The circuit breaker in the power distributor trips.	Too many appliances connected to the same power circuit.	Reduce the number of appliances on the power circuit.
	Drilling machine is defective.	Contact customer service.
The magnetic clamp does not function.	Magnet not switched on.	Switch on magnet.
	The surface is not magnetic.	Use a suitable base.
The lubrication system does not function.	No lubricant available.	Top up the lubricant.
	Lubricant tap closed.	Open the lubricant tap.
	Connecting nipple clogged.	Clean the tank and nipple.

NOTE

If you cannot resolve the problem with the steps described above, please contact customer service.

Technical data

Model	MAB 1300 V	
Dimensions (L x W x H)	495 x 327 x 560/870	mm
Magnetic foot (L x W)	360 x 120	mm
Approx. net weight	51	kg
Operating voltage (see type plate)	230 V / 50-60 Hz and/or 110-125 / 50-60 Hz	
Power consumption	2300	W
Connecting		
- Standard equipment	Safety plug type F - CEE 7/4, 16 A (with PRCD)	
- Special version	Standard mains plug in the national version of the country of use	
Stroke	310	mm
Core drill with manual feed:		
- short Ø	12 - 130	mm
- long Ø	12 - 100	mm
- extra long Ø	20 - 100	mm
Core drill with automatic feed:		
- short Ø/long Ø	12 - 60	mm
- extra long Ø	20 - 60	mm
Twist drill with manual feed:		
- max. Ø	45	mm
Twist drill with automatic feed:		
- max. Ø	32	mm
Thread max. Ø	M42	
Reaming max. Ø	50	mm
Counter-sinking max. Ø	80	mm
Speed stage 1	$n_0 = 30 - 80$	rpm
Speed stage 2	$n_0 = 50 - 120$	rpm
Speed stage 3	$n_0 = 130 - 350$	rpm
Speed stage 4	$n_0 = 210 - 550$	rpm
Thermal protection	Yes	
Slip clutch	Yes	
Full-wave control electronics	Yes	
Variable torque	Yes	
Clockwise/anticlockwise rotation	Yes	
Automatic feed	manual regulation	
Spindle taper	MK4	
Core drill mount	MK4/19 mm (3/4") Weldon MK4/32 mm (1 1/4") Weldon	

Model	MAB 1300 V	
Connecting cable length	4	m
Protection class	I	
Protection type	IP20	
For processing approved materials (non-magnetic metals may only be processed with an additional holding device, see " NF metals or workpieces with an uneven surface ")	Pure metals, NF metals, ferrous metals (steel, stainless steel)	

Emissions

Model	MAB 1300 V	
Noise measuring		
Sound pressure level (L _{pa})	91	dB(A)
- Uncertainty (K _{pa})	3	dB(A)
- Sound power level (L _{wa})	100	dB(A)
- Uncertainty (K _{wa})	3	dB(A)
Vibration	< 2.5	m/s ²

NOTE

The total declared vibration value and the declared noise emission value have been measured according to a standardised test procedure and can be used to compare one power tool with another.

The specified total vibration value and the specified noise emission value can also be used for a preliminary assessment of the load.

WARNING

Risk of injury!

Risk of injury from the emissions emanating from the machine.

- ▶ The vibration and noise emissions during actual use of the power tool may differ from the specified values, depending on the way the power tool is used, in particular the type of workpiece being processed; and
- ▶ lead to the need to establish safety measures for protecting the operator, based on an estimation of the vibration exposure during the actual conditions of use (taking into account all parts of the operating cycle, such as periods when the power tool is switched off and periods when it is switched on but running without load).

EC Declaration of Conformity**in accordance with Machinery Directive 2006/42/EC, Annex II 1A**

Name/address of the manufacturer:	BDS Maschinen GmbH Martinstraße 108 D-41063 Mönchengladbach
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We hereby declare that the product:

Model:	Magnetic core drilling machine
Model:	MAB 1300 V

conforms to the following relevant regulations:

- **EC Directive 2006/42/EC on machinery**

The following harmonised standards were applied in whole or in part:

- DIN EN ISO 12100:2011-03
- DIN EN 61029-1/A11:2011-11

Authorised person for compiling the technical documentation:	BDS Maschinen GmbH
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Full technical documentation is available.

The operating instructions associated with the product are available.

It is required that the product is only operated as intended. Information on the intended use can be found in the technical documentation.

Mönchengladbach, 01.09.2016

Wolfgang Schroeder, Technical Director
(Legally binding signature of the issuer)

Fig. 5

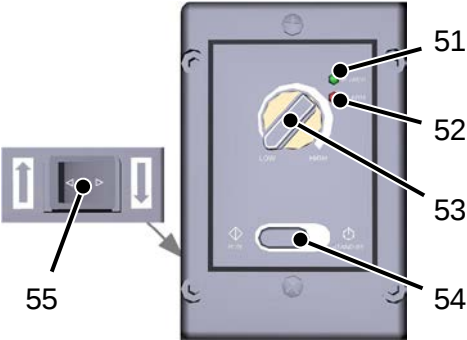


Fig. 6



Fig. 7



Fig. 8

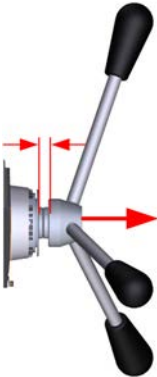


Fig. 9



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