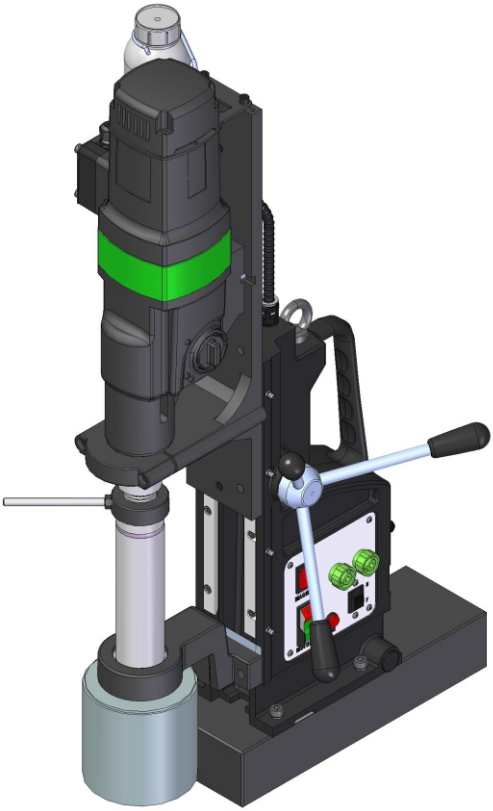
Magnetic Core Drilling

KBM 130.1

CE Certified

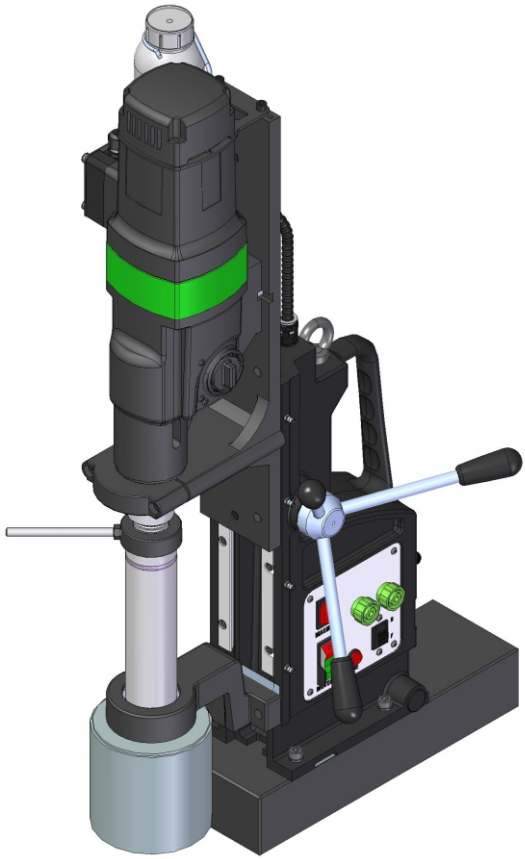


Original Instructions

Read instructions before operating Magnetic Core Drilling Machine.

EIBENSTOCK POSITRON

... the company's most successfull product range



KBM 130.1

PRIOR TO USE :-



Please read these operating and safety instructions carefully and completely. For your own safety, before using this Magnetic Core Drill check that the voltage is correct and that all handles and parts are firmly secured. If you are uncertain about any aspect of using this Magnetic Core Drill, contact your Dealer.

Appropriate Use

This Magnetic Core Drill is designed specifically for drilling holes in steel using annular cutters. We recommend **EIBENSTOCK POSITORN** annular TCT cutters. Please consult your Dealer for a complete range of sizes.

DO NOT modify and / or use your **EIBENSTOCK POSITORN** magnetic core drill for any application other than for which is intended.

For additional safety instructions, read general safety rules from the book provided with this operational manual.

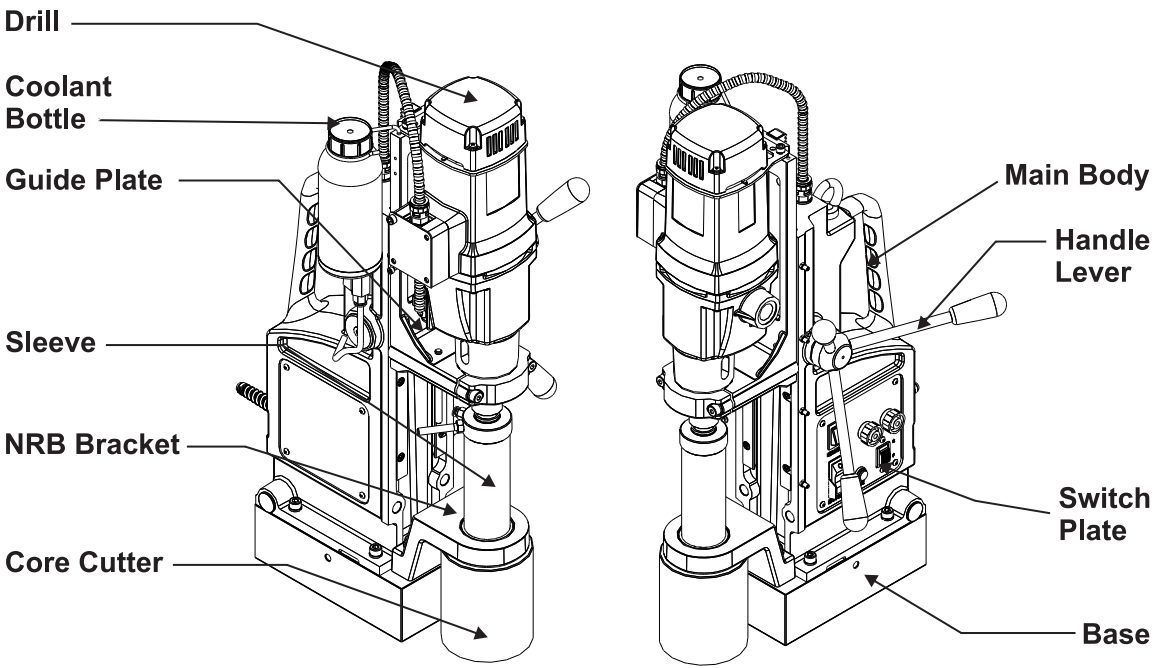
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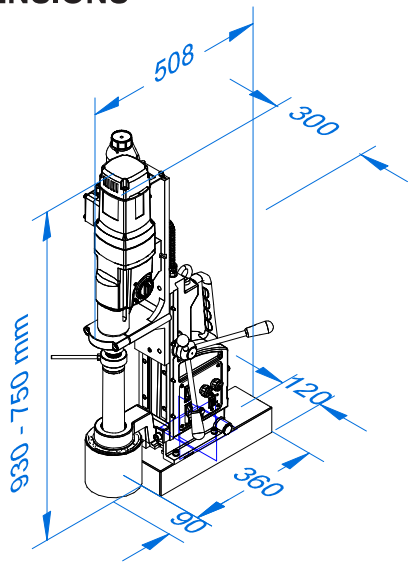
NOTE

- As our engineering is striving for the constant research and development to improve the quality, shape or specification of our product can be changed without prior notice.
- Available in 110V on special request.
- Tapping attachment, tapping collet & Core Bit is not a part of standard accessory.

1. MAGNETIC CORE DRILL PARTS INTRODUCTION



2. OVERALL DIAMENSIONS



Technical Specification :

Specification / Model	KBM 130.1
Input Supply Voltage (V)	220-240
Motor Input (W)	2300
Frequency (Hz)	50/60
Core Cutting Capacity (mm)	12 to 130mm
Core Cutting Depth (mm)	110
Stroke (mm)	180
Rated Speed n (min^{-1})	30 to 85
	50 to 135
	130 to 390
	210 to 620
Tapping Capacity	up to M42
Twist Drill Capacity (mm)	Ø 45
Reaming : (Max)	Ø 50
Direct Arbor	32mm weldon
Morse Taper	MT 4
Weight (Kg)	

3. ASSEMBLY

Attaching Handle Levers SA :-

1. To align & tightening the handle lever Refer (Fig. 1) Tighten securely.
2. For repositioning of Handle Lever SA.
   a) Lossen the opposite side screw (Fig. 2)
   b) Remove the spindle SA (Fig. 3)
   c) Reposition through opposite side of body (Fig. 4) & tight the spindle SA with allen screw.

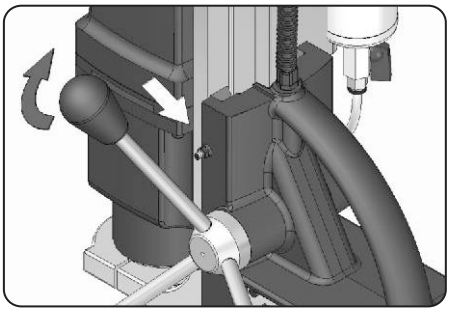


Fig. No. 1

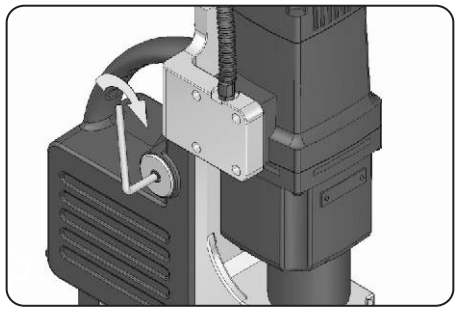


Fig. No. 2

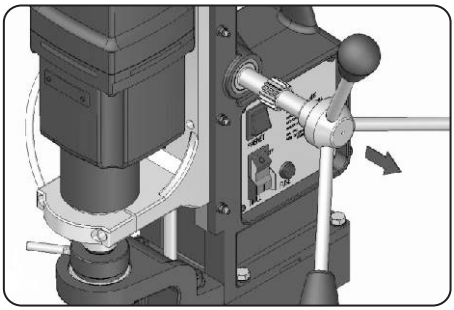


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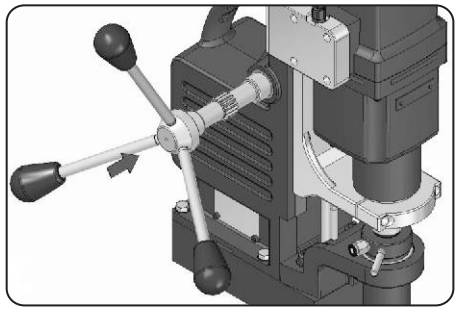


Fig. No. 4

Coolant Bottle SA :-

1. Use transparent flexible pipe to join coolant bottle SA & spindle sleeve. (Fig. 5)
2. Hang the coolant bottle SA to guide plate. (Fig. 6)

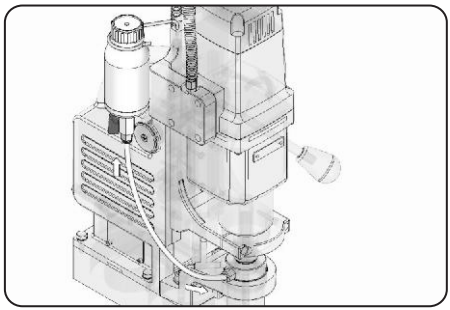


Fig. No. 5

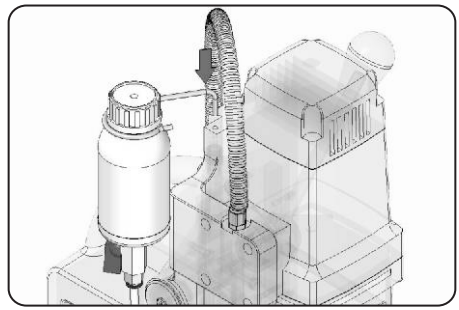


Fig. No. 6

Cutter Assembly

1. To install / remove cutter.
   A. Move up the drill motor to its highest position.
   B. Insert cutter into drill spindle with the two flats of the cutter aligned with grub screws (Fig No. 7 & 8). Make sure the center pin is inserted into the cutter.

   NOTE : Cutter should be fully placed into dril spindle.

   C. Tighten set screws with M4 Allen key provided.
   D. Reverse procedure to remove cutter.

⚠ Do not remove cutter unless slug is removed. Slug may eject unexpectedly. Avoid contact with cutter tips. Periodically inspect the cutter tips for loose or damaged tips.

TCT Universal cutter : TCT cutter shank has one flat that must be aligned with any of the grub screw in sleeve holder, the screw must be tightened evenly.

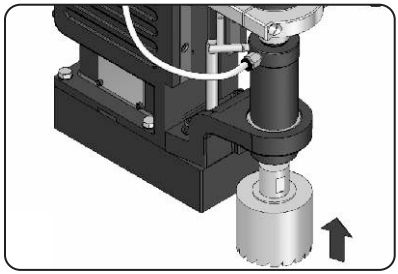


Fig. No. 7

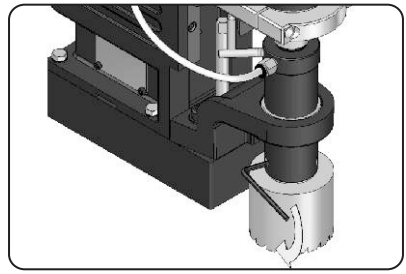


Fig. No. 8

GIB Assembly Setting

1. To set the Gib, use following tools
   4 mm, 2.5 mm Allen key & M5 Spanner
2. Loose front side all allen Bolts as shown in (Fig. 9)
3. Hold Grub Screw by 2.5 mm Allen Key & then loose M5 Nuts by Spanner, Tight Grub Screw towards Gib (Fig. 10),
   All Grub Screws should be set to provide smooth & even travel of Guide Bed over the entire length of Gib.
4. To prevent loosening of Grub Screw tight Lock Nut M5 by Spanner (Fig. 11) (Hold Grub Screw by Allen Key).
5. After adjustment of Gib, Tight front side all allen bolts as shown in (Fig. 12)

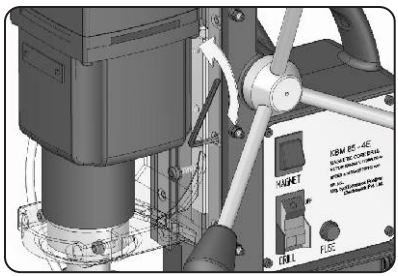


Fig. No. 9

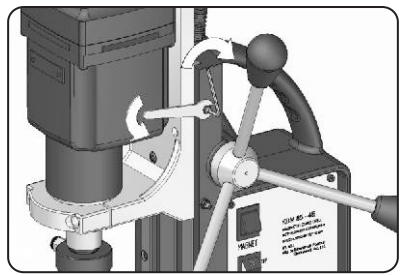


Fig. No. 10

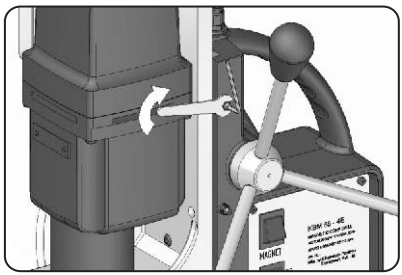


Fig. No. 11

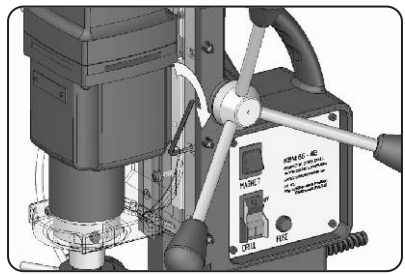


Fig. No. 12

General Safety Rules

WARNING! Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term “power tool” in all of the warnings listed below refers to your mains operated (corded) power tool or battery operated (cordless) power tool.

SAVE THESE INSTRUCTIONS.

1) Work area

a) Keep work area clean and well lit. Cluttered and dark areas invite accidents.

b) Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.

c) Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2) Electrical safety

a) Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.

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

c) Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.

d) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.

e) When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

3) Personal safety

a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.

b) Use safety equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

c) Avoid accidental starting. Ensure the switch is in the off position before plugging in. Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.

d) Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

e) Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.

g) If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of these devices can reduce dust related hazards.

4) Power tool use and care

a) Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.

b) Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

c) Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.

d) Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.

e) Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

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

g) Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

5) Battery tool use and care

a) **Ensure the switch is in the off position before inserting battery pack. I**nserting the battery pack into power tools that have the switch on invites accidents.

b) Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.

c) Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.

d) When battery pack is not in use, keep it away from other metal objects like paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.

e) Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.

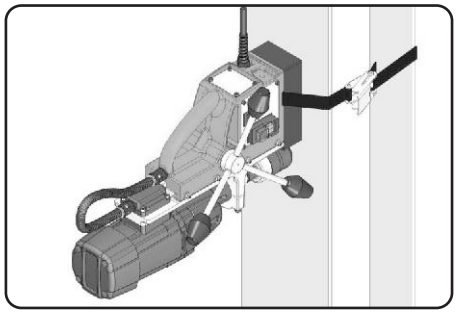
6) Service

a) Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

SAFE OPERATION FOR MAGNETIC CORE DRILLS

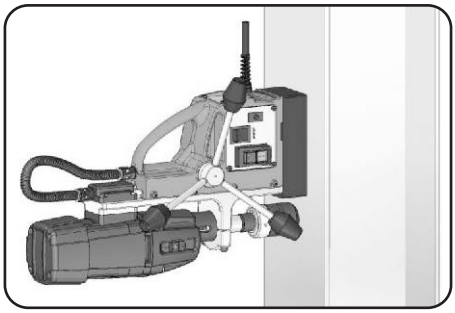


Safety Belt Assembly

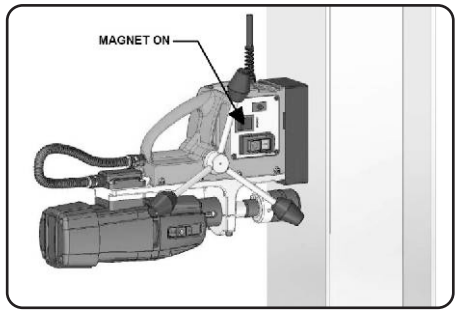


⚠ ALWAYS USE THE SAFETY BELT WHEN USING MAGNETIC CORE DRILL VERTICALLY OR UP-SIDE DOWN POSITION.

The safety belt prevents the drill unit from falling, in the event of a power failure or if the magnet breaks loose from the work surface. The safety belt attaches to the drill by running the safety belt through the gap provided between drill body & magnet of the unit and then continuing around the material and/or work surface. Adjust the belt so it is tight and secure.



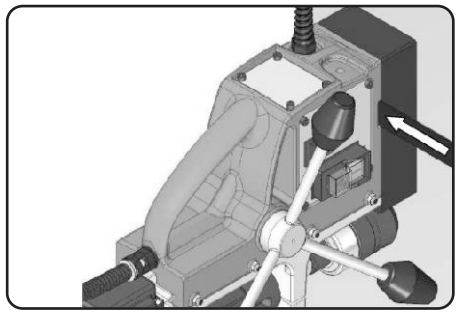
Keep the stand at proposed location.



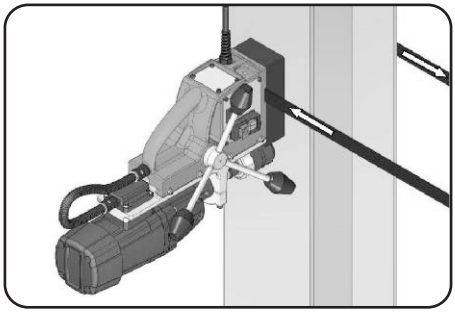
Switch on the magnet.



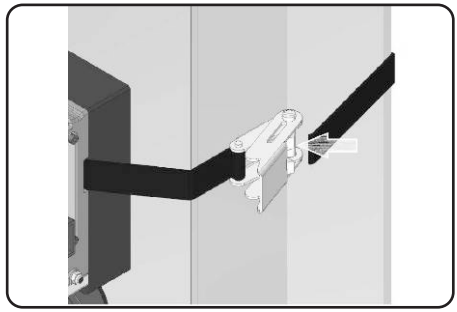
Hold the stand by hand.



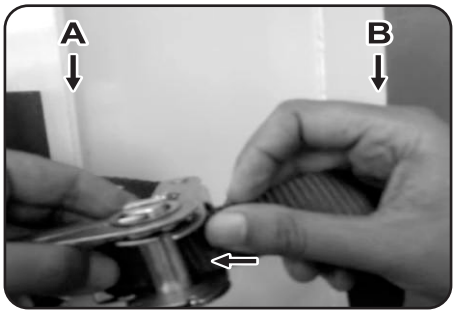
Pass the safety belt through the opening provided in the body.



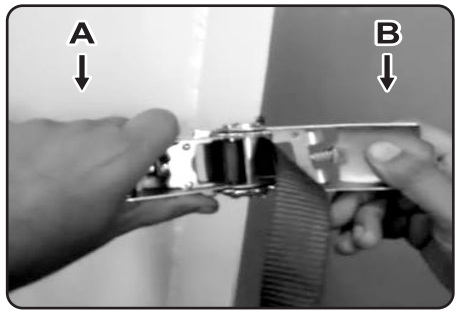
Wrap the safety belt around the work piece.



Insert the belt through clamping slot.



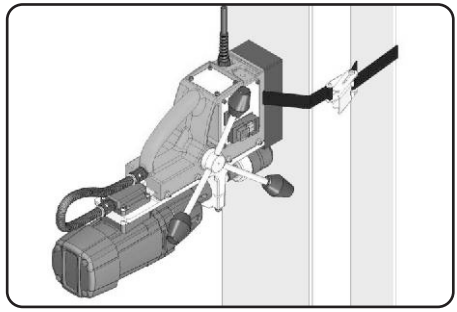
Hold clamp A by left hand insert the belt through slot provided on calmp shaft.



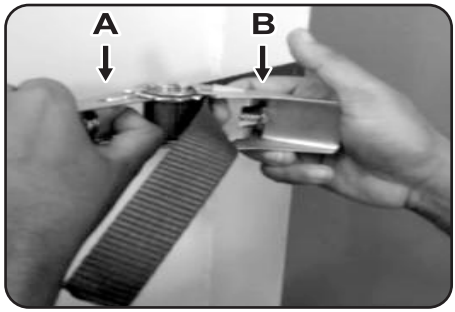
Hold clamp A & tighten the belt by adjusting clamp B.
Stop the locking when securely tighten the belt.



Lock the clamp.



Now magnetic core drill is ready for vertical / overhead drilling application.

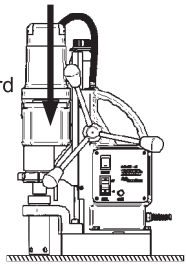


After completion of drilling. Hold the stand and disengaged the belt.
(Press the two A & B lock mechanism & remove the belt.)

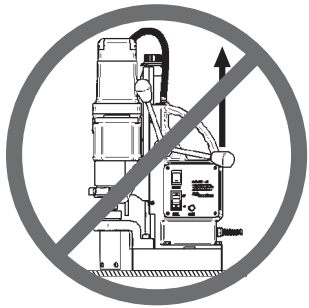
OPERATING INSTRUCTIONS

When drilling, especially in horizontal or overhead positions, always apply feed pressure toward the work surface. Never pull away from the work surface as this can weaken magnetic holding power.

Use handles to feed toward work surface



Never pull handles away from work surface



6. PRECAUTIONS OF USE :-

a) Prior to all operations, mount coolant unit.

b) The Place of installation for the base SA must be clean and rust free. Paint rust, scale or uneven surfaces decreases the holding strength of Magnet.

c) Disconnect the plug from the power source before making any adjustment, changing accessories or storing the tool.

d) Do not execute any electric welding on the work piece, on which the Magnetic Core Drilling Machine is used.

e) The drill's magnetic adhesion depends on the thickness of the work-piece, as shown in fig. No. 1, 1/2" (12mm) is the minimum thickness for safe operation.

f) If workpiece under drilling is thin. use an iron plate larger than base as shown in (Fig. No. 13 & 14)

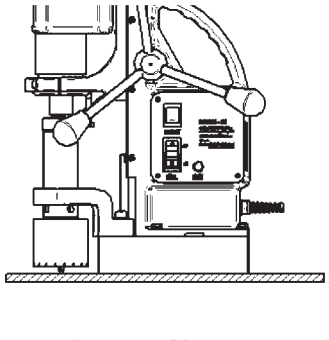


Fig. No. 13

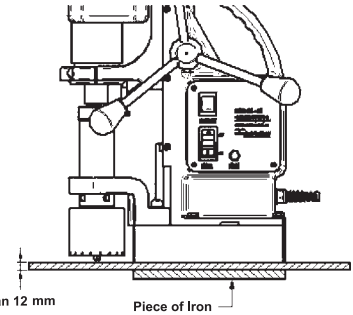


Fig. No. 14

g) Do not attempt to drill a work-piece, which is thicker than the maximum cutting depth of the cutter being used. Never exceed the cutter diameter.

h) Always provide a method of catching slug, where ejected slug may cause injury (slug ejects at end of cut).

i) Do not force tool, Use correct tool for the application.

j) If the cutter jam in the work-piece, stop the machine immediately. Isolate the machine at the main supply. Loosen the cutter rotating the Sleeve Holder. Do not attempt to free cutter by startig and stopping the motor.

k) The slug ejects at the end of cut and is very hot. Don't touch with barehand.

7. OPERATING INSTRUCTIONS :

1. Position the center pin directly over the desired cutting location. (Fig. 15)
2. Cutting fluid must be used at all times to enhance the quality of cut and prolong the cutting tool life. Cutting fluid is applied through small holes located at the top / shank end of the Sleeve Holder and feeds via gravity. (Fig. 16)



Fig. No. 15

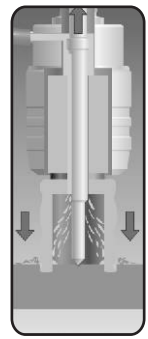


Fig. No. 16

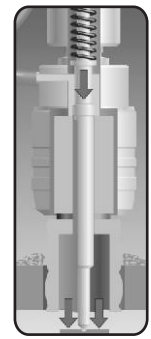


Fig. No. 17

3. Switch on the magnet (Fig. 18), in order to initiate the magnet and the magnetic adhesion is guaranteed, Switch on the DRILL to start the Motor (Fig. 19)

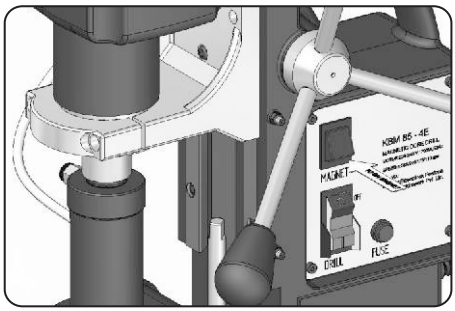


Fig. No. 18

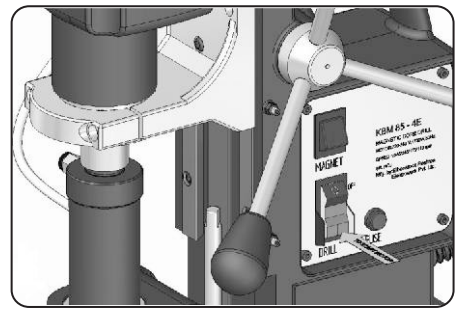


Fig. No. 19

4. Always proceed with caution at the start of drilling operations.
   When using annular cutter apply pressure gradually at first unit the entire cut edge if formed as a circle / a depth of 1/8" (3.2mm) is reached.
5. When hole is complete the slug is automatically ejected from the cutter (Fig. 17)

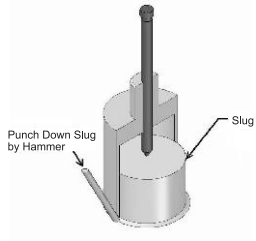


Fig. No. 20

However if the slug, remains inside the annular cutter, next drilling operation won't possible. Use Flat pin or punch to remove the slug as shown in (Fig. 20). Confirm slug is ejected from the annular cutter.

6. During the drilling process, do not stop the motor. After the process, cutter draw back with running motor.

7. Switch off the drill, then the magnet. Ensure the magnet base is clear of chips. Locate the next hole using the above procedures.

8. MAINTENANCE AND TROUBLE SHOOTING

Machine service must be performed only by qualified personnel. When servicing a tool, use only original replacement parts. Use of unauthorized parts will void the warranty. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

Machine service sheet is provided with this operation manual.

Pull out the plug prior to cleaning. Use dry compressed air to clean the motor (from the external).

In case of electrical or mechanical malfunction, immediately switch off the tool and disconnect the plug. Execessive sparking generally indicates the presence of dirt in the motor or worn out carbon brushes. Periodically check brushes for wear and replace when they reach (6mm)

Ordering replacement parts:

Please quote the following data when ordering replacement parts:

- Type of machine
- Article number of the machine
- Identification number of the machine
- For our latest products & information please go to our website

  http://**www.ep-india.in**

Disposal and recycling

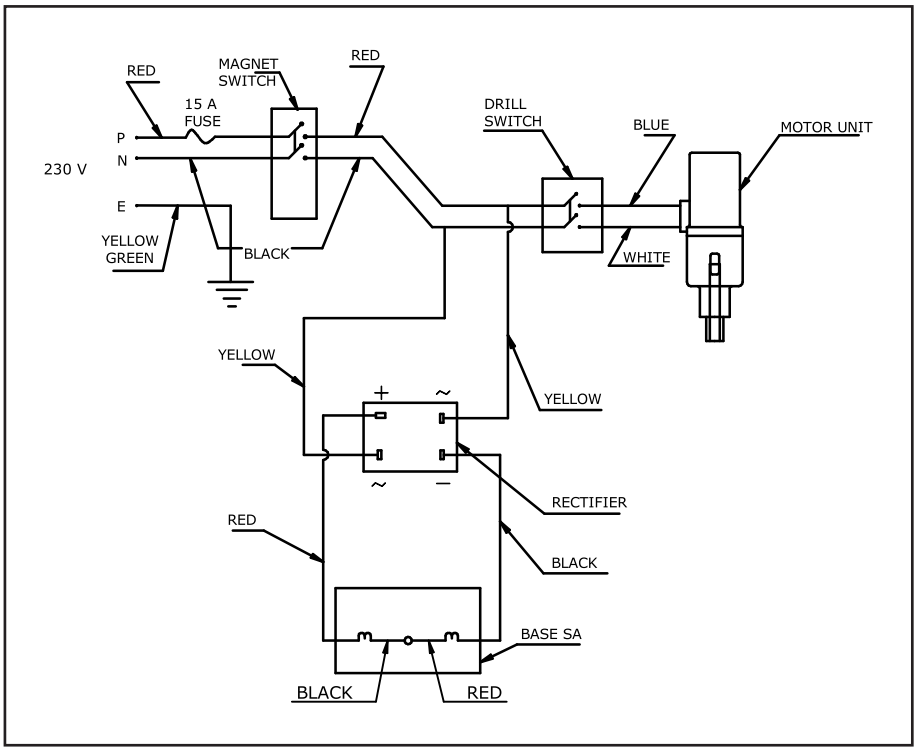
The unit is supplied in packaging to prevent its being damaged in transit. This packaging is raw material and can therefore be reused or can be returned to the raw material system. The unit and its accessories are made of various types of material, such as metal and plastic. Defective components must be disposed of as special waste. Ask your dealer or your local council.

△ Adjustable drilling protection is not provided, Because both hands are engaged during drilling. No chance to come in contact with moving parts.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SUGGESTED SOLUTION
Fuse blows	Wrong connection	Check the connection of bridge rectifier diode. (Ref. Electrical Wiring diagram)
	Rectifier short	Replace the bridge rectifier diode
	Magnet short	Check the resistance of coils separetely. If it is zero or no resistance. Replace the magnetic base. (Ref. Electrical Wiring diagram) New magnet assembly.
Switch not glows	Supply is not available in the mains.	Confirm the supply socket O/P & fuse.
	Switch failed.	Replace the switch.
No Magnetism	Loose Connection	Do the proper connection (Ref. Electrical Wiring diagram)
	Coil open	Check the continuity & resistance of coil. If there is no resistance replace the magnet.
	No stoppage during break or no time to cool	Whenever no work, Switch off the magnet
	Switch failed.	Replace the switch
Drill M/C does not rotate	Switch failed.	Replace the switch
	Carbon brush over/ Armature failure / Field Open	Refer the Owners manual for Drill machine.
More play in machine	Gib & Brass strip wear out	Set Guide bed clearance by fine tuning grub screws on side face of main body with 2.5 mm allen key. Use the wrench provided along with stand.
Drill slips during drilling	Unclean magnet base	Clean the magnetic face & magnet mounting area. Magnet mounting area should be rust free.
	Insufficient thickness of material under drilling	Under drilling plate thickness should be minimum 12 mm. If it is less use iron plate. (Fig. 13 & 14)
Slug blocks in the sleeve	insufficient coolant flow	Use proper & sufficient coolant to cool the cutting area. It will avoid excess heating & blocking of slug.
	Movement of spring	Spring operates in coolant & water after continuous application it becomes rusty & started to struck in guide hole. To avoid this put some oil in sleeve after completion of work.
	Spring tension lost	Remove the circlip & replace spring SA.
Water leakage from sleeve housing	Rubber o ring worn out	After continuous application, o ring will wear out because of friction. Change the O ring.
Heavy noise during drilling	Blunt cutter used	Resharp or replace the cutter.
Cutter breakage	Improper alignment	See respected figure. (Fig. 7 & 8)

9. ELECTRICAL WIRING DIAGRAM



SYMBOLY


Before you start working, read the operating instructions of the machine.


Danger / Caution / Warning


Wear ear protectors


Wear goggles


Danger of being ripped or cut


European Conformity Mark

CE

EC Declaration of Conformity
Certificate No. 01548/3/2019

We declare under our sole responsibility that the product described under "Technical Data" is in confirmity with following standards or standardization documents :

EN ISO 12100:2010
EN 60204-1:2006 + A1:2009
EN 61029-1:2009+A11:2010
DIN EN 60745-2-1:2010
DIN EN 61000-6-4:2007+A1 2011
DIN EN 55014-1-2006+A1 2009 +A2:2008

accordance to the provisions of the directives (2006/42/EC)

Technical File (2006/42/EC) at :
Eibenstock Positron Elektrowerk Pvt. Ltd.
Registered Office: Plot No 144/1, 2, 3, KATP, Industrial Estate, Tardal, Tal-Hatkanangale, Dist - Kolhapur, 416121, Maharashtra, (INDIA)

Sahil Kulkarni

Sahil Kulkarni
Managing Director

18th April 2019