JEPSON POWER® GERMANY
Leading Through Innovation

Magnetic Drilling Machine

MAGPRO 40/ 1S Adjust Swivel
OPERATOR'S MANUAL

CE

EC Declaration of Conformity
according to EC Machinery Directive 2006/42/EC

We, **Jepson Power GmbH**

Ernst-Abbe-Straße 5

52249 Eschweiler

Germany

declare under our sole responsibility that the product

Product : Electromagnetic Drilling Machine
Type Designation(s): MAGPRO 40/1S Adjust Swivel
Serial No. :
Year of Manufacture : 2019

to which this declaration relates is in conformity with the following standard(s) or other normative document(s);

EN ISO12100 (2010)	Safety of machinery - General principles for design – Risk assessment and risk reduction
EN60204-1/A1 (2009)	Safety of machinery - Electrical equipment of machines Part 1 : General requirements

following the provisions of Directive(s);

2006/42/EC	Directive on the approximation of the laws of Member States relating to machinery (OJ L157 Jun, 9, 2006)
2006/95/EC	Directive on the laws of Member States relating to electrical equipment designed for use with certain voltage limits (OJ L374 27.12.2006)

Pierre Michiels, Managing Director

Name, Position

Eschweiler, 01.01.2019

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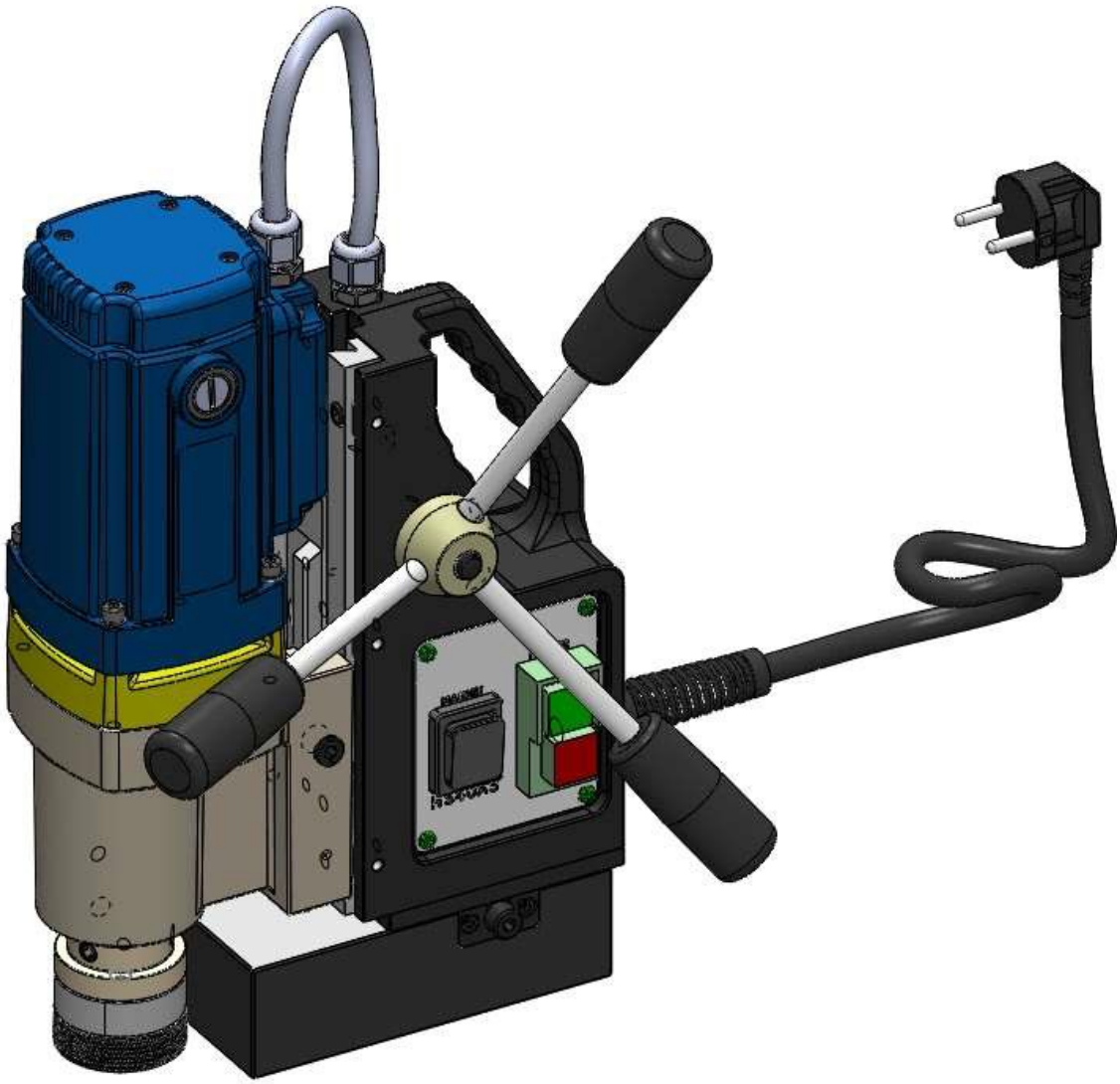
CONTENTS OF THE MANUAL.

	List of Contents with Magnetic Drill Unit	Check List
1	Operator's Manual	YES/NO
2	Coolant Bottle	YES/NO
3	Pilot Pin for 25mm cutters	YES/NO
4	Pilot Pin for 50mm cutters	YES/NO
5	5mm Hexagon Key	YES/NO
6	Drill drift	YES/NO



MAGPRO 40/ 1S Adjust Swivel
(Ref.: 490140S)

[1] SPECIFICATIONS OF MAGNETIC DRILLING MACHINE

[MODEL Magpro40/ 1S Adjust Swivel, Reference: 490140S]

Maximum hole cutting capacity in .2/.3C steel = 40mm dia. x 50mm depth

Motor Unit	
Voltages	220/240V(100/110V), 50/60Hz
Rated output	1,100 W
Magnet Size	155 x 78 x 45 mm
Magnet Force at 20°C with 20 mm minimum plate thickness **The use on any material less than 20mm thick will progressively reduce the magnetic performance. If possible, substitute material should be positioned under the magnet and work piece to equate to a suitable material thickness. If this is not possible, an alternative secure method of restraining the machine MUST be used.**	420kgf at drilling point
Overall Dimensions	
Height - maximum extended	540mm
Height - minimum	340mm
Width (including Hand wheel)	190mm
Length Overall (including Guard)	230mm
Stroke	150(200)mm
RPM (No LOAD)	450
Net Weight	12.0kg
Maximum hand/arm vibration magnitude (measured at handle during operation in accordance with ISO5349, using a 22mm cutter through 13mm MS plate)	0.82 m/s²
Average noise level during cutting at operators ear position.	90dB(A)

READ BEFORE USING THE MACHINE

[2] SAFETY PROCEDURES

- When using electrical tools, basic safety precautions should always be followed to reduce the risk of electric shock, fire, and personal injury.
- Do **NOT** use in wet or damp conditions. Failure to do so may result in personal injury.
- Do **NOT** use in the presence of flammable liquids or gases. Failure to do so may result in personal injury.
- ALWAYS SECURE THE MACHINE WITH THE SAFETY CHAIN WHEN WORKING VERTICALLY OR OVERHEAD BEFORE STARTING TO OPERATE.
- Always wear approved eye and ear protection when the equipment is in operation. Failure to do so may result in personal injury.
- Disconnect from the power source when changing cutters or working on the machine.
- When changing cutters, or removing swarf, ALWAYS wear approved gloves.
- ALWAYS ENSURE CUTTER RETAINING SCREWS ARE SECURE – they sometimes vibrate loose when the machine is in continuous use.
- Regularly clear the work area and machine of swarf and dirt, paying particular attention to the underside of the magnet base.
- With a gloved hand, and after switching off, remove any swarf which might have gathered around the cutter and arbor before proceeding with the next hole.

- Before operating the machine, always remove tie, rings, watches and any loose adornments which might entangle with the rotating machinery.

- Should the cutter become 'fast' in the workpiece, stop the motor immediately to prevent personal injury. Disconnect from the power source and turn arbor to and fro. DO NOT ATTEMPT TO FREE THE CUTTER BY SWITCHING THE MOTOR ON AND OFF.

- If the machine is accidentally dropped, always thoroughly examine the machine for signs of damage and check that it functions correctly before trying to drill a hole.

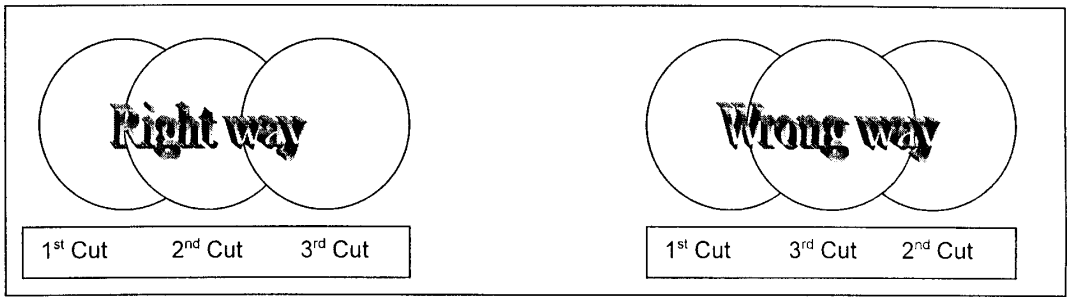
- Regularly inspect the machine and check that nuts and screws are tight.

- Always ensure when using the machine in an inverted position that only the minimum amount of coolant is used and that care is taken to ensure that coolant does not drip on to the motor unit.

- On completion of the cut, a slug will be ejected. DO NOT operate the machine if the ejected slug may cause injury.

[3] OPERATING INSTRUCTIONS

- Keep the inside of the cutter clear of swarf. It restricts the operating depth of the cutter.
- Ensure that the coolant bottle contains sufficient cutting oil to complete the required operating duration. Refill as required.
- Occasionally depress the pilot to ensure cutting fluid is being correctly metered.
- To start the machine, first switch on the magnet. And then start the motor by depressing the GREEN start button.
- Apply light pressure when commencing to cut a hole until the cutter is introduced into the work surface. Excessive pressure is undesirable, it does not increase the speed of penetration.
- Always ensure that the slug has been ejected from the previous hole before commencing to cut the next.



(Right) (Wrong)

- Always cut overlapping holes as illustrated above – do not use excessive pressure and ensure cutting fluid is reaching teeth of the cutter.
- If the slug sticks in the cutter, move the machine to a flat surface, switch on the magnet and gently bring the cutter down to make contact with the surface. This will usually straighten a cocked slug and allow it to eject normally.
- Cutter breakage is usually caused by insecure anchorage and a loosely fitting slide. (Refer to routine maintenance instructions).

[4] EXTENSION CABLE SELECTION

The machines are factory fitted with a 2 metre length of cable having three conductors 1.5mm² LIVE, NEUTRAL and EARTH.

If it becomes necessary to fit an extension cable from the power source, care must be taken in using a cable of adequate capacity. Failure to do so will result in a loss of traction by the magnet and a reduction of power from the motor.

Assuming a normal AC supply of the correct voltage, it is recommended that the following extension lengths shall not be exceeded:

For 110v supply: **3.5metres of 3 core x 1.5mm²**

For 230v supply: **26metres of 3 core x 1.5mm² or**
17metres of 3 core x 1.0mm²

ALWAYS DISCONNECT THE MACHINE FROM THE POWER SOURCE WHEN CHANGING CUTTERS.

[5] MOUNTING OF CUTTERS

The machine has normal Weldon shank, 3/4".
The following procedure is to be used when mounting cutters.

- Take appropriate pilot and place through hole in shank of cutter.

- The machine is delivered with a qick release system. To open the shank turn the release anti clockwise.

- Put the Weldon arbor into the shank and close the release.

[6] REMEDIES FOR HOLE MAKING PROBLEMS

Problem	Cause	Remedy
1) Magnetic base won't hold effectively	Material being cut may be too thin for efficient holding of magnet	Attach an additional piece of metal under work-piece where magnet will be located, or mechanically clamp magnetic base to work-piece
	Swarf or dirt under magnet	Clean magnet
	Irregularity on magnet face or work-piece	Use extreme care, file only imperfections flush to surface
	Insufficient current going to magnet during drilling cycle	Confirm power supply and output from control unit.
2) Cutter skips out of centre-punch mark at initiation of cut	Magnetic base is not holding effectively.	See causes and remedies above.
	Too much feed pressure at start of cut.	Light pressure until a groove is cut. The groove then serves as a stabilizer.
	Cutter is worn, chipped or incorrectly sharpened	Replace or re-sharpen. Sharpening service is available.
	Poor centre-punch mark; weak pilot spring; pilot not centred in centre-punch mark.	Improve centre-punch and/or replace worn parts.
	Worn or bent pilot, worn pilot hole	Replace parts.

Problem	Cause	Remedy
3) Excessive drilling pressure required.	Incorrectly re-sharpened, worn or chipped cutter	Re-sharpen or replace
	Coming down on swarf lying on surface of work-piece	Clean work-piece. Take care not to start a cut on swarf
	Gibs out of adjustment or lack of lubrication	Lubricate gib and/or adjust grub screws
	Swarf accumulated (packed) inside cutter	Clear cutter
	Incorrect speed selection.	Select appropriate speed.
4) Excessive cutter breakage	Steel swarf or dirt under cutter	Remove cutter, clean part thoroughly and replace
	Incorrectly re-sharpened or worn cutter	Always have a new cutter on hand to refer to for correct tooth geometry, together with instruction sheet
	Cutter skipping	See causes and remedies (2)
	Slide-ways need adjustment	Tighten slide-way
	Cutter not attached tightly to arbor	Retighten

	Insufficient use of cutting oil or unsuitable type of oil	Fill arbor with an oil of light viscosity and check to be sure oil is being metered into cutter when pilot is depressed. If not, check pilot groove and arbor internally for dirt or apply oil externally. Even a small amount of oil is very effective.
	Incorrect speed selection.	Select appropriate speed.
5)) Excessive cutter wear	Incorrectly re-sharpened cutter.	Refer to instructions and a new cutter for proper tooth geometry
	Insufficient or spasmodic cutting pressure	Use sufficient steady pressure to slow the drill down. This will result in optimum cutting speed and chip load.