

# ALFRA *ROTABEST* 40 RL – E



**Metallkernbohrmaschine**  
**Metal Core Drilling Machine**  
**Perceuse *ROTABEST* à socle magnétique**

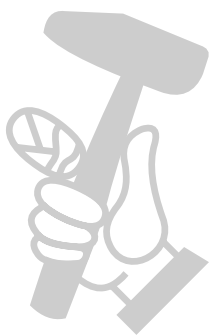


**Bedienungsanleitung**  
**Operation Manual**  
**Mode d'emploi**



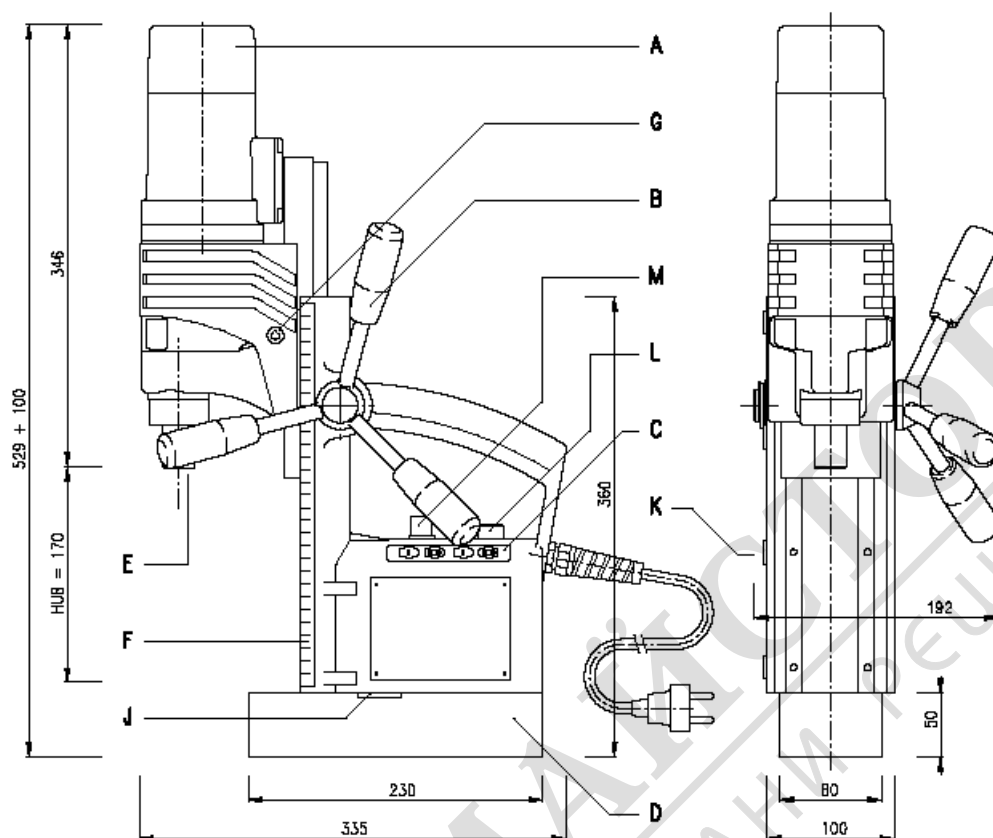
## Technical Data

Prod.-No.:	18611
Name:	ROTABEST 40 RL-E
Input :	1200 Watt
Load RPM:	100-250/180-450 <sup>1</sup> -min
Tool Holder:	MT 2
Voltage:	(see nameplate)
Magnetic Adhesion:	16000 N
Boring Ø max. in steel:	
- Core Cutters	40 mm
- Twist Drills	20 mm
Cutting Depth:	50 mm
Stroke:	170 mm
Size of Magnet Foot:	80 x 230 mm



МАГАЗИН МАЙСТОРА  
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## Description



- A) Motor
- B) Spindle
- C) Control Panel
- D) Magnet Foot
- E) Arbor MT 2
- F) Depth Scale
- G) Hexagon screw for the adjustment of the motors' stroke range
- H) Clamping lever for clamping the magnet foot
- J) Recess for safety belt
- K) Adjusting screws for adjusting the slide
- L) Push button for „Left-hand rotation“
- M) Rotation speed control

## Description

- Transport Case
- Coolant Unit
- Coolant Spray
- Chip Remover
- Safety Belt
- Allen Key 2,5 mm
- Allen Key 6,0 mm
- Drill Chuck 3 -16 mm MT 2

## Prior to use:



**Read Operation Manual!**

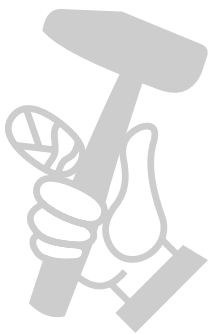


**Pay attention to Safety Precautions!**

## Appropriate Use

This device is destined to:

Cut material with magnetizable surface with core cutters, twist drills and to tap threads in sheltered environment for commercial use industry and craft. The device is suitable for drilling vertical, horizontal and overhead.



## Safety Precautions



### Danger of Injuries

During drilling operations on walls and ceilings, the Metal Core Drilling Machine must be safeguarded with the included safety belt (f). **The magnetic adhesion is not maintained in case of a failure of circuit.**

The cut core will be ejected automatically by the ejector pin. **Danger of accident! The ejector pin could possibly break in case of improper use.**

Only use undamaged power cord and extension cords and regularly check on damages!

**Power supply and voltage details at the device must correspond.**

### Personal protection equipment

When working with this device, wear the following protection equipment: Safety goggles, appropriate footwear, ear protection, hair net (for long hair), possibly also apron and safety helmet.

## Precautions of use

The place of installation for the magnet foot must be clean and rustfree. Remove lacquer- and filler.

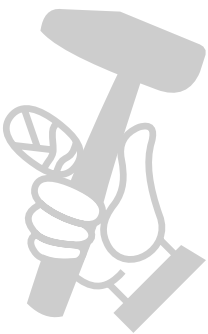
For non-magnetizable materials, please use the ROTABEST Vacubest (Prod.-No. 18150).

Do not execute any electric welding on the workpiece, on which the Metal Core Drilling Machine is used.

Prior to all operations, mount coolant unit (b).

### Danger of injuries! Danger of an electric shock

For operations on walls and ceilings, we recommend cooling with our spray (ALFRA BIO 2000, Prod.- No. 21010).



## Switching on and off.

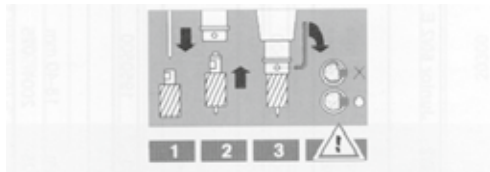
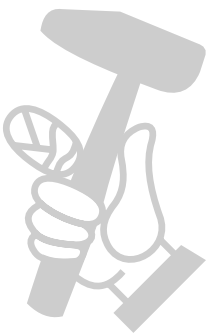


- Check connecting line and plug on damages first!
- Push button MAGNET ON, in order to initiate the magnet and the magnetic adhesion is guaranteed.
- When working on walls and ceilings, safe machine with safety belt (f).
- Push the button MOTOR ON to start the Motor.
- The magnet foot now reaches its maximum magnetic adhesion! In case of a damaged magnet, the motor won't start.
- To switch off machine proceed in reverse order : MOTOR OFF and then MAGNET OFF!
- Adjustment of the rotation speed  
The machine has one gear with two mechanical reduction stages and a full-wave electronic.  
At first you need to adjust the correct mechanical adjustment. Afterwards you need to adapt the rotation speed with the help of the electrical rotation speed regulator.  
If it's possible always choose the adjustment with low gear shifting and high engine speed. Then the motor is set at a high torque and therefore it's protected against overheating due to high load.
- Thermo protection  
The thermo protection stops the motor when it's overheated automatically. Afterwards you need to let it run with a high rotation speed at the idle speed for about two minutes.

## Change of tools

### **How to work with annular cutters ( Weldon shank)**

- Mount Tool Holder AMK 2 in arbor.
- Push ejector pin (center pin) through head of annular cutter.
- Mounting of ROTABEST Cutter according to drawing. Setscrew must be positioned in the center of the lateral flat side of the Weldon shank. Fix tightly.



## How to work with twist drills.

- The drill chuck 3-16 mm with MT 2 shank is only to be used with twist drills.
- Insert drill chuck with adaptor in the arbor.
- Insert twist drill in drill chuck and tighten drill chuck key.
- Twist drills with MT 2 shank can be inserted directly into the arbor.



## Tapping

With the Quick Change Tapping Adaptor, there is the possibility to tap threads from M3 up to M 14.

Insert the Quick Change tapping Adaptor ( 1 ) in the arbor of the machine. Pay attention to a tight fit. Subsequently mount the tap (3) in the tap collet (2). Now insert the tap collet (2) with tap (3) in the Quick Change Tapping Adaptor (1).



Please adjust the motor to the corresponding cutting speed.



When drilling, please note, that the tap has to be placed on the tapping drill hole.

**When stopping the forward motion, please proceed as follows:**

Speed Control      Left-hand rotation  
Drehzahlregler      Linkslauf



Switch off motor  
 Push button „Left-hand rotation“ – Tap can be led back, switch off the motor after tap is completely led back.

**Left –hand rotation is only activated, when corresponding button was pushed, which means that after stopping the motor, automatically the right –hand rotation is activated.**

Tapping: the tap must be adjusted on the prepared boring in the workpiece. Put down spindle, until the tap touches the surface and the process can be started. Please comply with below chart for metric ISO thread.

### Bore Hole Chart metric ISO-thread

Dimension	Thread Pitch	drill-Ø
M3	0,5	2,5
M4	0,7	3,3
M5	0,8	4,2
M6	1	5
M8	1,25	6,8
M10	1,5	8,5
M12	1,75	10,2
M14	2	12
M16	2	14
M18	2,5	15,5
M20	2,5	17,5

### Metric Fine Thread

Dimension	Thread Pitch	drill-Ø
M8x1	1	7
M10x1	1	9
M12x1	1	11
M12x1,5	1,5	10,5
M14x1	1	13
M14x1,5	1,5	12,5
M16x1	1	15
M16x1,5	1,5	14,5
M20x1	1	19
M20x1,5	1,5	18,5

### Tips for tapping

#### 1. Clearance Hole

For Clearance Holes we recommend alongside mentioned taps, which safely conveys the chips out of the hole. The specially shaped grinding guarantees a safe re-mounting, when the tap opted out of the thread hole and returns in left hand rotation.

#### 2. Tapped Blind Holes

For Tapped Blind Holes we recommend alongside mentioned taps. The chips are conveyed out of the hole contrary to the cutting direction. Important: do not run aground with tap, as otherwise the automatic return run won't be activated. A correspondingly larger pre-drilling depth must be carried out.

In case of a disregard, the tap must be manually released.

#### 3. Pocket Holes up to 1,5 x D

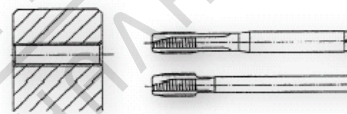
Taps according to alongside mentioned image are suitable. Here as well, the chips are conveyed out of the hole contrary to the cutting direction. Important: do not run aground with tap. A correspondingly larger pre-drilling depth must be carried out.

In case of a disregard, the tap must be manually released.

**Beside our taps with reinforced shanks, other taps according to DIN 376 with taper shank are suitable as well**

**Please work with sufficient recommended for tapping by the corresponding manufacturer.**

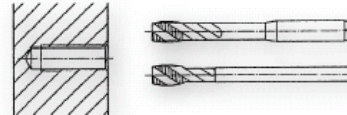
#### Chip ejection downwards trough the bore



DIN 371 with reinforced shank Shape B, with spiral face inclination, 3,5 to 5 convolutions.

DIN 376 with taper shank Tap depth 3 x D

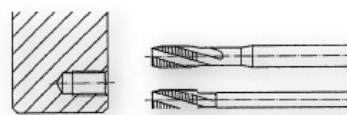
#### Chip ejection alongside the tool



DIN 371 with reinforced shank spiral grooved, ca. 35° right hand twist, Section chape C, ca. 3 convolutions

DIN 376 with taper shank Tap depth 2,5 x D

#### Chip ejection alongside the tool



DIN 371 with reinforced shank spiral grooved, ca. 17° right hand twist, Selection C, ca. 2 to 3 convolutions

DIN 376 with taper shank Tap depth 1,5 x D

## **Operating tips.**

First, place annular cutter with ejector pin on a marked center or marking. Drilling with ALFRA ROTABEST cutters does not require much expenditure of force. Set the cutter and spot-drill, until the entire cut edge is formed as a circle.

During the drilling process, the cutter should be cooled permanently. Optimal Cooling is possible by internal cooling with our coolant unit.

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

Remove chips and core after each drilling. Remove chips with Chip-Remover – do not touch with bare hands – **DANGER OF INJURY!**

## **Cleaning**

**Danger of injuries** by unintentional switching on. Pull plug prior to cleaning.

Clean motor by means of dry compressed air (from the outside).

Check connecting lines on damages.

Clean and grease sliding surfaces regularly. Should, nevertheless, lateral play arise by wear of the dovetail guide, this could be adjusted by adjusting the laterally positioned set screws (K).

Carbon brushes should be replaced after appr. 250 hours running time.

After the work is finished, we recommend to store the Metal Core Drilling Machine in the transport case in a lying position.

## **Maintenance and repair**

**Maintenance, check and repairs are only to be made by electronics specialists according to the valid regulations of the respective country.**

The Metal Core Drilling Machine ALFRA ROTABEST should be serviced after appr. 250 hours running time by our ALFRA workshop or appointed dealers.

Only use genuine ALFRA spare parts.

Spare part list at the end of this operation manual.



## Guarantee

For our ALFRA ROTABEST Metal Core Drilling Machines we grant guarantee according to the legal and regional regulations (proven by invoice).

## CE Declaration of Conformity

We declare in our exclusive responsibility, that this product correspond to the following standards and specifications:

**Specification 89/392/EWG, 91/368/EWG**  
**DIN EN 292 part 1 and 2**  
**DIN EN 60204 part 1**  
**DIN VDE 0740 T**

**The proof of an electromagnetic compatibility took place according to the appropriate EC-Specification 89/336/EWG after the following norms:**

**EN 61000-3-2:1995/A1:1998/A2:1998**  
**EN 61000-3-3:1995**  
**EN 55014-1:1993/ A1:1997 55014-2:1997**

**If the electric tool is modified without our authorization, this declaration will lose its validity and the guarantee expires.**

The sound pressure level at the work place might exceed 85 dp(A). In case the user must wear hearing protectors.

