

IMPORTANT: Read before using



## Operating / Safety Instructions

# MM-1000



### **Call for consumer information**

#### **Customers from outside the U.S.**

STEPCRAFT GmbH & Co. KG  
An der Beile 2  
58708 Menden  
Germany  
Phone: 0049-2373-179 11 60  
E-mail: [info@stepcraft-systems.com](mailto:info@stepcraft-systems.com)

#### **Customers from the U.S. / Canada**

STEPCRAFT Inc.  
59 Field Street, Rear Building  
Torrington, CT, 06790  
United States  
Phone: 001-203-5561856  
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Original Operating and Safety Instructions

Date of 04/16/2019

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### WARNING

Please read all safety instructions and directions. Failure to comply with the safety instructions and directions can cause electric shock, fire and/or serious injuries. Please retain all safety instructions and directions for future reference.

## 1 Signs and symbols



**This symbol appears at places where you will find instructions for your own safety.**

Non-compliance with these instructions may result in very serious injuries.



**This symbol indicates a potentially hazardous situation.**

If this situation is not avoided, the product or objects in its vicinity may get damaged.



This symbol indicates tips for the user and other useful information.

## 2 Product information



98/37/EG 89/336/EWG

EN 60745, EN 55014-1, EN 55014-2, EN 61000-3, EN 12100 T1, EN 12100 T2, EN 1037, EN 847-1

DD40G / DD40P

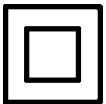
Art.-Nr. 916001, 916002, 916010, 916020, 916021, 916025, 916030, 916031, 916034, 916040, 916041, 916045

### 2.1 Manufacturer's data

STEPCRAFT GmbH & Co KG, An der Beile 2, 58708 Menden, Germany, Phone +49 (0)2373 / 179 11 60, Fax +49 (0)2373 / 179 11 59.

### 2.2 Machine identification

All details required for machine identification are available on the attached rating plate.



Protection class II



CE symbol to document compliance with the basic safety and health requirements according to Appendix I of the Machinery Directive.



For EU countries only

Do not dispose of electric tools together with household waste material!

In accordance with the European directive 2002/96/EC on waste electrical and electronic equipment and transposition into national law, obsolete electrical tools must be collected separately and recycled in an environmentally-compatible manner.



To reduce the risk of injury, please read the operating instructions.

### 2.3 Technical data

Universal motor, radio and TV

Interference suppressed

Power input (nominal load)

Current at nominal load

Idling speed

Tool holding fixture with collet  $\varnothing$

Tool shank maximum

Tool shank minimum

Milling cutter  $\varnothing$ , maximum

Abrasive wheel  $\varnothing$ , maximum

Weight without mains cable

Dimensions (W x L x H)

230 V~, 50 Hz

1000 W

4.6 A (230 V)

4.000 – 25.000 rpm

3,175 mm (0.24 in.)

8 mm

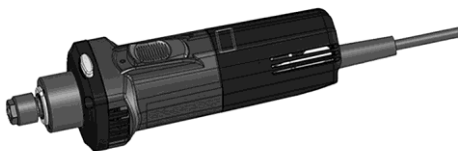
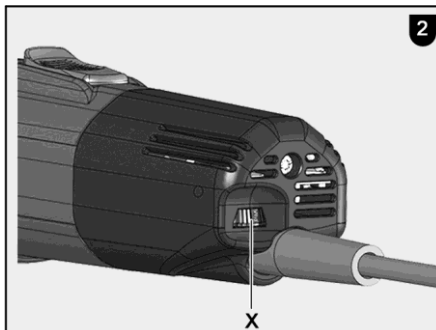
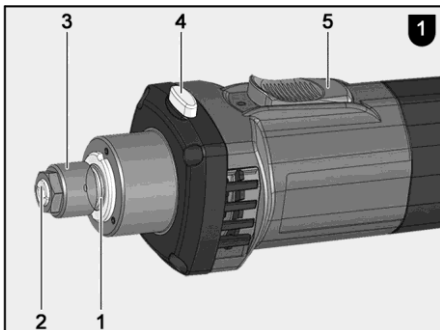
3 mm (0,12 in.)

36 mm

40 mm

1.6 kg (3.53 lbs)

73 x 254 x 79 mm (2.87 x 10 x 3.11 in.)



X	MM-1000
1	4.000 min <sup>-1</sup>
2	7.500 min <sup>-1</sup>
3	12.000 min <sup>-1</sup>
4	16.000 min <sup>-1</sup>
5	21.000 min <sup>-1</sup>
6	25.000 min <sup>-1</sup>

## 2.4 Emissions

The values stated are emission levels. Although there is a correlation between emission and imission level, it cannot be reliably derived from this whether additional precautions are necessary. Factors influencing the current imission level existing at the workplace comprise the duration of exposure, the room characteristic, other source of noise, etc. such as e.g. the number of machines and other adjacent machining operations. In addition, the permissible imission level may differ from country to country. This information is nevertheless suitable for providing the machine user with an improved assessment of the hazard and risk.

### 2.4.1 Noise emission specifications

Noise emission values determined according to EN 60745:

Sound pressure level	$L_{PA} = 71 \text{ dB (A)}$
Uncertainty	$K_{PA} = 3 \text{ dB (A)}$
Sound power level	$L_{PA} = 82 \text{ dB (A)}$
Uncertainty	$K_{PA} = 3 \text{ dB (A)}$

The noise measurement was done without tool at idling speed.

## 2.5 Scope of delivery

Milling motor MM-1000 complete with:

1 collet  $\varnothing 3,175 \text{ mm OZ8A 401E DIN 6388A}$

1 open-ended spanner AF 17

1 operating manual

## 2.6 Use according to intended purpose

The milling motor is intended for permanent installation in guiding machining systems with  $\varnothing 43 \text{ mm}$  clamping collar. Tools are selected depending on the materials to be processed and the capacity of the feed drives.

Please take into account the milling motor capacity at maximum tool diameter and anticipated machining depth.

We exclude the use as hand-guided power tool.

The appliance is not designed for non-stop industrial operation. The maximum speed can be referenced in chapter 2.3 "Technical data".

The milling motor is considered an incomplete machine. The incomplete machine may only be commissioned once it has been determined that the machine that is to be incorporated into the incomplete machine complies with the provisions of the current and valid Machinery Directive.

Please also note the corresponding warranty conditions for the milling motor and any supplementary appliances.

## 2.7 Residual risks



### Danger

Even if used in accordance with its intended purpose and despite conforming with the safety instructions, residual risks caused by the intended use will always remain.

- Breakage of the tools and risk of the tools or parts of them being hurled away.
- Touching live parts with the housing open and the mains plug not removed.
- Hearing can be impaired when working for long periods without ear protectors.
- Emission of hazardous dusts (all types) during longer lasting operation without extraction. Please note the safety data sheet of the material to be machined.

### 3 Safety instructions



#### **Danger**

Always observe the following safety instructions and the safety regulations applicable in the respective country of use!

#### **General instructions:**

- Children and adolescents must not operate this machine. This rule does not apply to young persons receiving training and being supervised by an expert.
- Never work without the protection devices stipulated for the respective operating sequence and do not effect any modifications on the machine that could impair safety.
- Damaged cables or plugs must be immediately replaced.
- Avoid sharp bends in the cable. Especially when transporting and storing the machine, do not wind the cable around the machine.

#### **Do not use:**

- Damaged tools or tools that have changed their shape.
- Blunt tools due to the excessive engine load.
- Tools that are not suitable for the tool speed during idling.

#### **Instructions on the use of personal protective equipment:**

- Always wear ear protectors during work.
- Always wear a dust mask during work.
- Always wear protective goggles during work.

#### **Instructions on operation:**

- Do not reach into the danger zone of the tool with your hands.
- Examine the workpiece for foreign objects.

#### **Instructions on service and maintenance:**

- Regular cleaning of the device is an important safety factor.
- Only original STEPCRAFT spare parts and accessories may be used. Otherwise, the

manufacturer will not accept any warranty claims and cannot be held liable.

### 4 Setting / Adjustment

#### 4.1 Mains connection

Prior to commissioning make sure that the mains voltage complies with the operating voltage stated on the machine's rating plate.

#### 4.2 Tool change



#### **Danger**

Pull the power plug during all service work.



Wear protective gloves during a **tool change**. The insertion tool can get very hot during longer operation and/or the insertion tool's cutting edges are sharp.

The spindle 1 (Fig. 1) of the milling and grinding motor is equipped with a precision collet 2 (Fig. 1) to hold the tools. Tightening and releasing the unit nut 3 (Fig. 1) is made easy with a spindle lock 4.

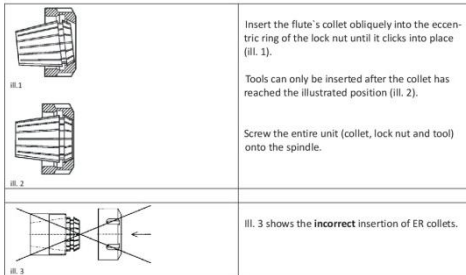
Proceed as follows for the tool change:

- Lock the spindle 1 (Fig. 1) to unclamp the tool by pressing the locking button 4 (Fig. 1).
- Detach union nut 3 with an open-ended spanner AF 17.
- Pull off the tool to the front.
- Push the new tool into the tool holding fixture up to the limit stop.
- Check the tool's seat.
- Spindle 1 is locked when the tool is clamped.
- Tighten union nut 3 with the open-ended spanner.

### 4.3 Replacing the Collets

The collets must snap into the clamping nut. Only then, a correct clamping of the end mill and, above all, a rerelease of the collet are possible.

Inserting ER collets into a collet chuck



## 5 Operation

### 5.1 Initial operation

Personnel entrusted to work with the machine must be made aware of the operating instructions, calling particular attention to the chapter "Safety instructions".

This operating manual only deals with the milling motor and not with the installation situation. Please take note of any other operating manuals.

### 5.2 Switching on and off

- **Switching on:** Push the switch 5 (Fig. 1) forward until it engages.
- **Switching off:** Push onto the rear end of the switch. The switch jumps into off position.

The built-in electronic system provides for jerk-free acceleration when the machine is switched on and under load readjusts the speed to the fixed setting.

In addition, this electronic system reduces the motor output in case of an overload, i. e. the spindle stops.

Switch the machine off. Then switch the machine on again and continue working at a reduced feed speed.

With the setting wheel **X** (Fig. 2) you can continuously adjust the speed between 4,000 rpm and 25,000 rpm.

### 5.3 Collets



#### Danger

To protect the thread, only screw the union nut 3 lightly onto the spindle 1, but do not tighten when no tool is inserted. Collet 2 could get pressed together too much and be damaged in the process.

- Unscrew the union nut 3 with the collet 2 (Fig. 1).
- Tilt out the collet 2 to the side.

## 6 Service and maintenance



#### Danger

Pull the power plug during all service work.

STEPCRAFT machines are designed to be low in maintenance.

Replace the carbon brushes at the latest after 125 - 150 operating hours.

The ball bearings used are greased for life. When the machine has been in operation for a longer period of time, we recommend to hand the machine in at an authorised STEPCRAFT customer service shop for inspection.

### 6.1 Storage

If the machine is not used for a longer period of time, it has to be carefully cleaned. Spray bright metal parts with a rust inhibitor.

## 7 Troubleshooting



### Danger

Determining the causes for existing defects and eliminating these always requires increased attention and caution. Pull the mains plug beforehand!

Some of the most frequent defects and their causes are listed in the following chart. In case of other defects, contact your dealer or the MAFELL customer service.

Defect	Cause	Elimination
Machine cannot be switched on	No mains voltage	Check power supply
	Mains fuse defective	Replace fuse
	Carbon brushes worn	Take the machine to a STEPCRAFT customer service shop
Machine stops while working	Mains failure	Check mains back-up fuses



## 8 EC Manufacturer's Declaration of Conformity



### EC Manufacturer's Declaration of Conformity

in terms of the directive 2006/42/EC, appendix II part 1 A

Manufacturer: STEPCRAFT GmbH & Co. KG  
Address: An der Beile 2, 58708 Menden, Deutschland  
Type of product: STEPCRAFT Milling Motor  
Type designation: MM-1000

Hereby we declare that the device named above is consistent with the following relevant regulations:

- EU machine directive 2006/42/EC
- EC EMC directive 2004/108/EC
- The machine observes the protection targets of the EC low voltage directive (LVD) 2006/95/EC.

Applied harmonized standards, whose references have been published in the Official Journal of the European Communities:

EN 61029-1 11/2010 Safety of transportable motor-operated electric tools,  
Part 1: General requirements

Representative for the compilation of the technical documentation is the signatory of this declaration.

This declaration becomes void if not authorized modifications are made to the device.

Menden, 3<sup>rd</sup> of April 2018

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