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1 Signs and symbols



This symbol is found in all places where you will find information for your 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

for machines with product no. 91D001, 91D021

2.1 Manufacturer's data

MAFELL AG, Beffendorfer Straße 4, D-78727 Oberndorf / Neckar, Phone +49 (0)7423/812-0, Fax +49 (0)7423/812-218, e-mail: mafell@mafell.de

2.2 Machine identification

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



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 electrical tools together with domestic waste!

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.



Read the operating instructions. This reduces the risk of injury.



Protect the rechargeable battery from heat, excessive solar radiation, fire, frost, water and humidity.

Protect rechargeable battery packs from humidity!



Protect rechargeable battery packs from fire!

There is danger of explosion!



Cordless Alliance System (=CAS) is a cross-manufacturer battery pack system. Further information is available at www.cordless-alliance-system.com

2.3 Technical data

Model:		A12
Voltage	V	12
Speed level 1	rpm	0-510
Speed level 2	rpm	0-1710
Torque (soft)	Nm	18
Torque (hard)	Nm	45
Max. diameter chuck	Ø mm	10
Min. diameter chuck	Ø mm	1.5
Max. bore diameter:		
Steel	Ø mm	10
Wood	Ø mm	25
Weight	kg	1 (with rechargeable battery, without chuck)

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 62841-1 and EN 62841-2-1:

	Sound pressure level (L_{pA})	Sound power level (L_{WA})
A12	72 dB (A)	83 dB (A)
Uncertainty (K _{WA})	3 dB (A)	3 dB (A)

2.4.2 Vibration value specification

The typical hand-arm vibration is less than 2.5 m/s².

The measuring inaccuracy is 1.5 m/s²

2.5 Scope of supply

Cordless drill driver A12 complete with:

- 1 cordless screwdriver
- 1 quick-release chuck
- 2 rechargeable batteries 12 M 43 (4.0 Ah)
- 1 charger
- 1 angle attachment
- 1 belt clip

1 operating manual
1 folder "Safety instructions"

2.6 Use according to intended purpose

The drill driver A12 M is suitable for drilling in metal, wood, plastic and similar materials as well as for screwing and tapping.

Any other use than described above is not permissible. The manufacturer cannot be held liable for any damage arising from such other use.

In order to use the appliance as intended, you must comply with the operating, maintenance and repair instructions specified by MAFELL.

Corrective maintenance work must be carried out by MAFELL authorised dealers or MAFELL customer service stations.

The safety instructions applicable in the respective country of use as well as other generally recognised rules pertaining to safety and occupational health must be observed.

Unauthorized changes to the appliance shall rule out any manufacturer liability for damages resulting thereof.

Only use original Mafell / CAS rechargeable batteries and accessories.

3 Safety instructions



Danger

Electrical appliances may be dangerous if used incorrectly. Therefore, always observe the safety instructions summarised in this chapter and the safety regulations applicable in the respective country of use!

3.1 Safety instructions for all types of work

- **Wear ear protectors during the use of drill drivers.** Exposure to noise can cause loss of hearing.
- **Always hold the appliance by the insulated gripping surfaces when carrying out work during which the bit may hit concealed power lines.** Cutting accessory contacting a "live" wire

may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

3.2 Safety instructions for the use of long drill bits

- **Always start drilling at low speed and with the drill bit in contact with the workpiece.**
- **On no account may you work at a speed that exceeds the maximum speed permitted for the drill bit.** At higher speeds, the drill bit can easily bend if allowed to turn freely (without contact with the workpiece); this can lead to injuries.
- **Do not apply excessive pressure and only apply pressure in the longitudinal direction to the drill bit.** Drill bits can bend and thus break or lead to a loss of control and injuries.

3.3 Additional safety instructions

- Ensure that the machine is switched off when you push in the rechargeable battery.
- Remove the rechargeable batteries from the machine before carrying out any setting, retooling, maintenance or cleaning tasks.
- Dust originating from materials such as leaded paint, some types of wood, minerals and metal can be harmful to health. Touching or inhaling these dusts can cause allergic reactions and/or respiratory disorders in the user or persons staying in the vicinity.
- As far as possible, make use of a dust extraction system.
- Provide for good ventilation of the workplace.
- It is recommended to wear a respirator mask with filter class P2.
- Observe the regulations valid in your country for the materials to be machined.
- Secure the workpiece against shifting, e. g. by means of fastening devices.
- LED light (Fig. 1, 10): Do not directly look at the LED radiation with optical instruments.






4 Layout

4.1 Depicted components

(see Fig. 1)

- (1) Exchangeable attachment (chuck)
- (2) Adjusting ring – torque preselection
- (3) Gear change slide - first or second gear
- (4) Sense of rotation selector switch, double sided
- (5) Bit adapter
- (6) Belt clip, can be used on both sides
- (7) Button - capacity display
- (8) Rechargeable battery
- (9) Capacity and signal display
- (10) LED light
- (11) Switch trigger

4.2 Symbols

	Movement direction
	First gear
	Second gear
	Screwing
	Drill bit
Nm	Torque

5 Operation

5.1 Rechargeable battery, capacity and signal display

(see Fig. 1)

- Charge the rechargeable battery prior to use.
- Recharge the rechargeable battery in case of loss of power.
- Press the button (7) to query the charge condition of the rechargeable battery. The capacity can be read off the LED lights (9).
- If a LED light (9) flashes, the rechargeable battery is almost empty. Recharge the rechargeable battery.
- The optimum storage temperature is between 10 °C and 30 °C.

5.2 Removing and inserting the rechargeable battery

(see Fig. 2)

Removing: Press the unlocking mechanism (12) and pull the rechargeable battery (8) out to the front.

Inserting: Push on the rechargeable battery until it clicks into place.

5.3 Sense of rotation, transport lock

(see Fig. 1)

R = Clockwise rotation

L = Anti-clockwise rotation

0 = Centre position: Transport lock

(Switch-on lock)

5.4 Selecting the gear speed

(see Fig. 1)



Actuate the switch slider (3) only when the motor is standing still!

 1

First gear: low speed, high torque; preferably for screwing

 2

Second gear: high speed; preferably for drilling

5.5 Setting the torque

(see Fig. 1)

Set the torque by turning the adjusting ring (2).

1...10 = Torque limiting (setting range 0.5 - 5 Nm)



= Adjusting the drill setting (max. torque, without torque control). Do not block the spindle to avoid overloading the motor.

5.6 Switching on/off, setting the speed

(see Fig. 1)

Switching on: Press the switch trigger (11) and keep it depressed. The speed at the switch trigger can be changed by the depth to which it is depressed.

Switching off: Release the switch trigger (11).

5.7 Tool change



Only use high-grade tools, which are suitable for the forces and torques occurring! Broken tools will lead to a machine defect. If repairs are necessary, contact the customer service stations for MAFELL electrical tools.

The spindle enables a quick change between the accessory attachments and a direct 1/4" hexagonal adapter.

Demounting the attachment: (see Fig. 3) Pull the locking ring (13) forward and pull off the attachment to the front.


Mounting the attachment: Pull the locking ring (13) forward and push the attachment onto the spindle up to the limit stop. (If necessary, turn the attachment slightly to and fro.)


Turning the attachment: With the angle and eccentric attachment (optional accessories) you can adjust the angle of the attachment in 30° steps to the screwdriver axis.

Pull the locking ring (13) forward and push the attachment onto the spindle into the desired position until it clicks into place again.

5.7.1 Quick-release chuck

(see Fig. 1)

Opening the chuck: Turn the chuck (1) in direction of rotation .

Place the bit as deeply as possible into the open chuck. Turn the chuck (1) in direction of rotation  until the tool is firmly mounted.

5.7.2 Angle attachment

The angle attachment can be used to work at right angles to the screwdriver axle.

Mount the bits directly by means of the 1/4" hexagon adapter or by attaching the chuck or bit holder.

5.7.3 Quick-release bit holder (optional accessories)

Inserting the bit: Push the bit into the bit holder until it audibly clicks into place.

Removing the bit: Pull the sleeve at the bit adapter forward until it clicks into place and remove the bit.

5.7.4 Eccentric attachment (optional accessories)

With the eccentric attachment it is possible to work close to the edge of inside corners.

Inserting the tool: Pull the sleeve at the adapter backwards and insert the tool up to the stop into the 1/4" hexagon adapter.

Removing the tool: Pull the sleeve at the adapter backwards and remove the tool.

5.8 Switching the LED light on/off

(see Fig. 1)

- Press the switch trigger (11) to switch on the LED light (10).
- After releasing the switch trigger (11), the LED light (10) still glows for approx. 5 sec. and then switches off.

5.9 Belt clip



For an easier handling of the belt clip, remove the rechargeable battery (see chapter 5.2)

(see Fig. 4)

Detaching:

- Press the belt clip (6) together at the rear.
- Swivel it out of the rear opening.
- Slacken the belt clip and remove it from the front opening.

Attaching:

- Press the belt clip (6) together and insert it into the openings provided.
- The belt clip (6) can be attached on both sides.

5.10 Bit adapter

(see Fig. 1)

A screw bit can be fitted in the bit adapter (5) on both sides.

6 Service and maintenance



Danger

Unplug the rechargeable battery for all service work.

MAFELL machines are designed to be low in maintenance.

Always keep the appliance clean.

Should the appliance fail despite thorough manufacturing and testing procedures, the repair must be carried out by an authorised customer service station for MAFELL electrical tools.

Store the appliance in a dry and frost-proof place.

Only use MAFELL accessories and spare parts. Where components, the replacement of which has not been described, are replaced at a MAFELL customer service station.

6.1 Storage

Clean the machine thoroughly if the machine is not used for a longer period of time. Spray blank metal parts with a rust-proofing agent.

6.2 Transport

The included Li-ion rechargeable batteries are subject to the requirements of dangerous goods legislation. The rechargeable batteries can be transported by the user on the road without any further requirements.

For the dispatch by third parties (e.g.: air transport or forwarding agent), special requirements for packaging and labelling must be observed. In this case, a dangerous goods expert must be consulted when preparing the package.

Only dispatch rechargeable batteries if their housing is undamaged. Tape open contacts and pack the rechargeable battery so that it does not move in the packaging.

Please also observe any further national regulations.

6.3 Disposal of rechargeable batteries/batteries



Electrical tools, rechargeable batteries, accessories and packaging should be recycled in an environmentally friendly manner.

Do not dispose of electrical tools together with domestic waste!

For EU countries only:



According to the European Directive 2002/96/EC, power tools that are no longer serviceable, and according to the European Directive 2006/66/EC, defective or used rechargeable batteries/batteries must be collected separately and recycled in an environmentally sound manner.

Return unusable rechargeable batteries/batteries directly to:

Germany

Stiftung

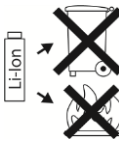
GRS Batterien

Heidenkampsweg 44

20097 Hamburg

Germany

Rechargeable batteries/batteries:



Li-ion:

Please comply with the information in Section "Transport", page 21.

Subject to changes.

7 Troubleshooting



Danger

Determining the causes for existing defects and eliminating these always requires increased attention and caution.

If the machine switches off automatically, the electronic system has activated self-protection mode. Despite this protective function, overload and as a consequence damage to the machine may occur during certain applications.

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

Defect	Cause	Remedy
Machine switches off and an LED on the capacity display (9) flashes.	Rechargeable battery is almost empty. The electronic system protects the rechargeable battery from deep discharge.	Charge the rechargeable battery.
The machine switches off and cannot be switched on again. A warning signal sounds and the LED light (10) flashes.	Overload A sustained load has overheated the machine or the rechargeable battery.	Signal goes out after releasing the switch trigger (11). Allow the machine and the rechargeable battery to cool down. Note: The machine cools down faster when it is allowed to idle after it is switched on again.
Machine switches off. A warning signal sounds and the LED light (10) flashes. Machine restarts when it is switched on again.	Excessive current rating. This leads to the machine being switched off, e.g. in the event of prolonged blockage.	Switch off the machine by releasing the switch trigger (11). Afterwards, you can switch the machine back on again and resume work. Try to avoid further blockages.

8 Optional accessories

- | | |
|-------------------------------------|------------------|
| - Rechargeable battery 12 M 43 LiHD | Order No. 094508 |
| - APS M charger - GB | Order No. 094493 |
| - APS M charger | Order No. 094492 |
| - APS M + quick-charger | Order No. 094509 |
| - APS M + quick-charger - GB | Order No. 094511 |
| - Angle attachment A-SWV 10 | Order No. 206773 |
| - Chuck A-SBF 10 | Order No. 209338 |
| - Quick bit holder A-SBH | Order No. 206766 |
| - Eccentric attachment A-SEV | Order No. 209339 |

9 Exploded drawing and spare parts list

The corresponding information in respect of spare parts can be found on our homepage: www.mafell.com