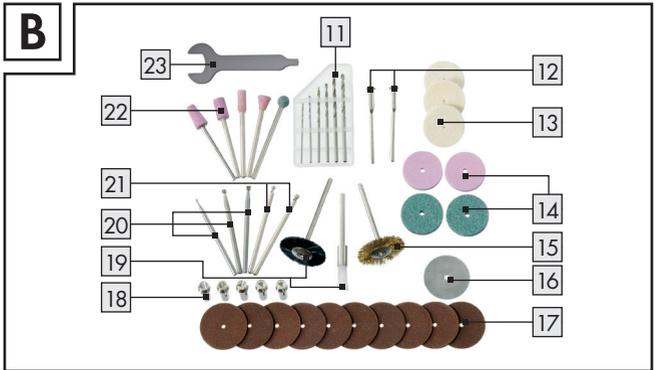
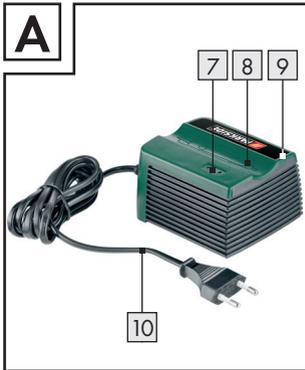


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Before reading, unfold the page containing the illustrations and familiarise yourself with all functions of the device.



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The following pictograms are used in these operating instructions / on the device:

	Read instruction manual!		Keep children away from electrical power tools!
	Volt (AC)		Caution – electric shock! Danger to life!
	Watts (Effective power)		For indoor use only!
	Direct current (Type of current and voltage)		Risk of loss of life by electric shock from damaged mains lead or mains plug!
	Design no-load speed		Wear hearing protection, dust protection mask, protective glasses and protective gloves.
	Milliamps / Amps / Amp-hours		Avoid contact with rapidly rotating tools!
	Safety class II		Risk of fire!
	Observe caution and safety notes!		Proper procedure and handling.
	Risk of explosion!!		Dispose packaging and appliance in an environmentally-friendly way!

**Modelling and engraving set
PMGS 12****● Introduction**

 Please make sure you familiarise yourself fully with the way the device works before you use it for the first time and that you understand how to handle electrical power tools correctly. To help you do this please read the accompanying operating instructions. Keep these instructions in a safe place. If you pass the device on to anyone else, please ensure that you also pass on all the documentation.

● Proper use

The small drill is to be used for drilling, milling, engraving, polishing, cleaning up, grinding, separating

and sawing of wood, metal, plastic, ceramic or stone in dry rooms. Any other use or modification to the drill / grinder shall be considered as improper use and could give rise to considerable dangers. The manufacturer will not accept liability for loss or damage arising from improper use. Not intended for commercial use.

● Features and equipment**Small drill:**

- 1 ON / OFF switch / Rotational speed control
- 2 Metal stirrup hanger
- 3 Plug for mains adapter
- 4 Clamping nut
- 5 Spigot nut
- 6 Spindle lock

Mains adapter (see Fig. A):

- 7 Plug-in device for plug 3
- 8 Tray
- 9 Mains adapter
- 10 Power cable (with mains plug)

Accessories (see Fig. B):

- 11 6 HSS drills
- 12 2 Mandrels for mounting tools
- 13 3 Polishing wheels
- 14 4 Grinding wheels
- 15 1 Metal brush
- 16 1 Saw blade
- 17 10 Cutting wheels
- 18 5 Collets
- 19 2 Plastic brushes
- 20 3 Milling bits
- 21 2 Engraving bits
- 22 5 Grinding bits
- 23 Combination tool

Included items

- 1 Small drill
- 1 Mains adapter
- 1 Plastic case
- 1 Accessory kit (45-piece)
- 1 Operating instructions

Technical information**Small drill PMGS 12:**

Nominal voltage:	12 V ---
Nominal output:	22 W
Idle-running speed:	n_0 5,000-20,000 min ⁻¹
Max. drill bit diameter:	3.2 mm
Certified acc. to:	EN60745-1; EN60745-2-1

Noise and vibration data:

Values determined in accordance with EN 60745
The sound pressure level (A-weighted) of the device is typically 61 dB (A). Uncertainty K = 3 dB. The sound level while working can exceed 75 dB (A).

Evaluated acceleration, typical:

Hand/arm vibration: 2,63 m/s²
Uncertainty K = 1,5 m/s²

⚠ WARNING! The vibration level given in these instructions has been measured in accordance with a standardised measurement procedure specified in EN 60745 and can be used to compare devices. Different uses of the device give rise to different vibration levels and in many cases they may exceed the values given in these instructions. It is easy to underestimate the vibration load if the electrical power tool is used regularly in particular circumstances.

Note: If you wish to make an accurate assessment of the vibration loads experienced during a particular period of working, you should also take into account the intervening periods of time when the device is switched off or is running but is not actually in use. This can result in a much lower vibration load over the whole of the period of working.

Mains adapter PMGS 12-1:**INPUT:**

Rated voltage: 230V ~ 50Hz

OUTPUT:

Nominal voltage: 12 V ---
Nominal current: 1 A
Protection class: II / \square
Certified acc. to: EN61558

**General safety advice for electrical power tools**

⚠ WARNING! **Read all the safety advice and instructions!** Failure to observe the safety advice and instructions may result in electric shock, fire and/or serious injury.

KEEP ALL THE SAFETY ADVICE AND INSTRUCTIONS IN A SAFE PLACE FOR FUTURE REFERENCE! THE TERM "ELECTRICAL TOOL" USED IN THE SAFETY ADVICE REFERS TO ELECTRICAL TOOLS POWERED BY MAINS ELECTRICITY (BY

MEANS OF A MAINS LEAD) AND ELECTRICAL TOOLS POWERED BY RECHARGEABLE BATTERIES (WITHOUT A MAINS LEAD).

1. Workplace safety

- a) **Keep your working area clean and well lit.** Untidy or poorly lit working areas can lead to accidents.
- b)  **Do not work with the device in potentially explosive environments in which there are inflammable liquids, gases or dusts.** Electrical power tools create sparks, which can ignite dusts or fumes.
- c)  **Keep children and other people away while you are operating the electrical tool.** Distractions can cause you to lose control of the device.

2. Electrical safety

-  **To avoid danger to life from electric shock:**
- a) **The mains plug on the device must match the mains socket. The plug must not be modified in any way. Do not use an adapter plug with devices fitted with a protective earth.** Unmodified plugs and matching sockets reduce the risk of electric shock.
- b) **Avoid touching earthed surfaces such as pipes, radiators, ovens and refrigerators with any part of your body.** There is an increased risk of electric shock if your body is earthed.
- c) **Keep the device away from rain or moisture.** Water entering an electrical device increases the risk of electric shock.
- d)  **Do not use the mains lead for any purpose for which it was not intended, e.g. to carry the device, to hang up the device or to pull the mains plug out of the mains socket.**

Keep the mains lead away from heat, oil, sharp edges or moving parts of the device. Damaged or tangled mains leads increase the risk of electric shock.

- e) **When working outdoors with an electrical power tool always use extension cables that are also approved for use outdoors.** The use of an extension cable suitable for outdoor use reduces the risk of electric shock.
- f) **Use a residual current device (RCD) for protection if operating the electrical power tool in a moist environment is unavoidable.** The use of an RCD reduces the risk of electric shock.

3. Personal safety

- a) **Remain alert at all times, watch what you are doing and always proceed with caution. Do not use the device if you are tired or under the influence of drugs, alcohol or medication.** One moment of carelessness when using the device can lead to serious injury.
- b)  **Wear personal protective equipment and always wear safety glasses.** The wearing of personal protective equipment such as dust masks, non-slip safety shoes, safety helmets or ear protectors, appropriate to the type of electrical power tool used and work undertaken, reduces the risk of injury.
- c) **Avoid unintentional operation of the device. Check that the electrical power tool is switched off before you connect it to the mains, pick it up or carry it.** Accidents can happen if you carry the device with your finger on the ON/OFF switch or with the device switched on.
- d) **Remove any setting tools or spanners before you switch the device on.** A tool or spanner left attached to a rotating part of a device can lead to injury.
- e) **Avoid placing your body in an unnatural position. Keep proper footing and balance at all times.** By doing this

you will be in a better position to control the device in unforeseen circumstances.

- f) **Wear suitable clothing. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves clear of moving parts.** Loose clothing, jewellery or long hair can become trapped in moving parts.
- g) **If vacuum dust extraction and collection devices are fitted do not forget to check that they are properly connected and correctly used.** The use of these devices reduces the hazard presented by dust.

4. Careful handling and use of electrical power tools

- a) **Do not overload the device. Always use an electrical power tool that is intended for the task you are undertaking.** By using the right electrical power tool for the job you will work more safely and achieve a better result.
- b) **Do not use an electrical power tool if its switch is defective.** An electrical power tool that can no longer be switched on and off is dangerous and must be repaired.
- c) **Pull the mains plug out of the socket before you make any adjustments to the device, change accessories or when the device is put away.** This precaution is intended to prevent you from unintentionally starting the device.
- d) **When not in use always ensure that electrical power tools are kept out of reach of children. Do not let anyone use the device if he or she is not familiar with it or has not read the instructions and advice.** Electrical power tools are dangerous when they are used by inexperienced people.
- e) **Look after the device carefully. Check that moving parts are working properly and move freely. Check for any parts that are broken or damaged enough to detrimentally affect the functioning of the device. Have damaged parts repaired before you use**

the device. Many accidents have their origins in poorly maintained electrical power tools.

- f) **Keep cutting tools clean and sharp.** Carefully maintained cutting tools with sharp cutting edges are less likely to jam and are easier to control.
- g) **Use the electrical power tool, accessories, inserted tools etc. in accordance with these instructions and advice, and the stipulations drawn up for this particular type of device. In doing this, take into account the working conditions and the task in hand.** The use of electrical power tools for purposes other than those intended can lead to dangerous situations.



Device-specific safety instructions for small drill KH3037 and mains adapter KH3037-1

-   **When you use the drill / grinder wear the following protective equipment: safety glasses and protective gloves.**
- ⚠ **CAUTION! The tool continues to rotate after it has been switched off!**  Avoid contact with rapidly rotating drill / grinder components.
- **⚠ WARNING! Securely support the workpiece.** Use clamps or a vice to grip the workpiece firmly. This is much safer than holding it in your hand.
- **⚠ WARNING! Never support yourself by placing your hands near or in front of the device or the workpiece surface. A slip can result in injury.**
- **Avoid contact with moving sanding or grinding tools.**
-  **DANGER OF FIRE FROM FLYING SPARKS!** Abrading metal creates flying sparks. For this reason, always make sure that nobody is placed in any danger and that there are no inflammable materials near the working area.

- **⚠ WARNING! DUST HAZARD!** Any harmful / noxious dusts generated from machining represent a risk to the health of the person operating the device and to anyone near the work area.



Wear a dust mask!

- **⚠ WARNING! NOXIOUS FUMES!** Ensure that there is adequate ventilation when machining surfaces containing plastic or covered with paint, varnish etc.
- **Do not soak the materials or the surface you are about to work on with liquids containing solvents.**
- **Avoid abrading paints containing lead or other substances hazardous to health.**
- **Do not machine materials containing asbestos.** Asbestos is a known carcinogen.
- **Do not machine moist materials or damp surfaces.**
NOTE! Do not allow the tool to come to a standstill by overloading it!
- **⚠ WARNING! Switch the device off and allow it to come to a standstill before you put it down.**
- **⚠ WARNING! Always keep the device clean, dry and free of oil or grease.**
- Children or persons who lack the knowledge or experience to use the device or whose physical, sensory or intellectual capacities are limited must never be allowed to use the device without supervision or instruction by a person responsible for their safety. Children must never be allowed to play with the device.

● Operation

Take note of the mains voltage:

The mains voltage at the mains socket must match that shown on the rating plate on the device. Devices marked with 230 V can also be operated at 220 V.

- Never use the device for a purpose for which it was not intended or with non-original parts / accessories. The use of tools or accessories other

than those recommended in the operating instructions could lead to you suffering an injury.

● Inserting or replacing a tool / collet

- Press the spindle lock **6** and keep it pressed.
- Rotate the clamping nut **4** until the lock engages.
- Loosen the clamping nut **4** with the combination key **23**.
- If a tool is already inserted, remove it.
- First insert the tool you wish to use through the clamping nut **4** before you insert it into the collet **18** suitable for the tool shaft.
- Press the spindle lock **6** and keep it pressed.
- Insert the collet **18** into the threaded insert and tighten the clamping nut **4** on the thread using the combination key **23**.

Using the Insertion tool with mandrel **12**:

NOTE: Use the screwdriver end of the combination key **23** to release or tighten the screw of the mandrels **12**.

- Insert the mandrel **12** into the electrical tool as described.
- With the aid of the combination wrench **23**, unscrew the screw from the mandrel **12**.
- Place the insertion tool you wish to have onto the screw between the two washers.
- With the aid of the combination wrench **23**, tighten the screw on the mandrel **12**.

● Switching on and off / Setting the speed range

Switching on / Setting the speed range:

- Connect the plug **3** to the power supply unit **9** by inserting it into the plug-in device **7** provided for such purposes (see Fig. C).
- Connect the device to the power supply by inserting the mains plug into the socket.
- Set the ON / OFF switch **1** to a position between "5" and "20".

Switching off:

- Set the ON/OFF switch **1** to position "0".

● **Advice on working with materials / Tools / Speed ranges**

- Use the highest speed when working on steel or iron with the milling bits **20**.
- Use a short trial on a test piece to determine the optimum rotational speed range for working on zinc, zinc alloy, aluminium, copper and lead.
- Use the low speed range for working on plastics and low-melting point materials.
- Use high speeds on wood.
- Use the medium speed range for cleaning, polishing and buffing.

The following information shall be considered as recommendatory only. Learn by practical experience which tools and settings are the best for the materials you work with.

Setting the appropriate speed:

Symbols on ON/OFF switch 1	Material to be worked on
OFF	(Drill / grinder switched off)
5	Plastics and low melting point materials
7	Stone, Ceramics
10	Softwood, metal
17	Hardwood
20	Steel

Examples of appropriate tool selection
Function:

Function	Accessory	Application
Drilling	HSS drill 11	Drilling wood
Milling	Milling bits 20	Various tasks, e.g. hollowing out, gouging, shaping, grooving or slotting

Function	Accessory	Application
Engraving	Engraving bits 21	Making marks, craft projects (see Fig. D)
Polishing, derusting	Metal brush 15	Derusting
	Polishing wheel 13	Working on various metals and plastics, in particular noble metals like gold or silver (see Fig. E)
Cleaning	Plastic brush 19	E.g. cleaning complex plastic housings or the area around a door lock
	Metal brush 15	E.g. cleaning cutlery, jewellery, tools (The metal brush is softer than steel)
Grinding	Grinding wheels 14 , grinding bits 22	Grinding work on stone, wood; fine work on hard materials such as ceramic or alloyed steel (see Figs. F, G)
Cutting and sawing	Cutting discs 17	Cutting metal, plastic or wood
	Saw blade 16	Saw blade, Sawing steel, metal, wood or plastic (see Fig. H)



CAUTION!

Use only the lightest contact pressure of the tool on the workpiece.

● **Tips and tricks**

If you use press too hard you run the risk of breaking the tool or damaging the workpiece. You will achieve the best results by operating the tool at a constant rotational speed and using a low contact pressure on the workpiece.

● Maintenance and cleaning

The device is maintenance-free.

- Clean all the dirt off the drill / grinder. Use a dry cloth for cleaning.

● Service

- **⚠ WARNING!** Have your device repaired at the service centre or by qualified specialist personnel using original manufacturer parts only. This will ensure that your device remains safe to use.
- **⚠ WARNING!** If the plug or lead needs to be replaced, always have the replacement carried out by the manufacturer or its service centre. This will ensure that your device remains safe to use.

● Warranty

This appliance is guaranteed for 3 years from the date of purchase. It has been carefully produced and meticulously checked before delivery. Please keep your receipt as proof of purchase. Contact your service centre by telephone in case of questions pertaining to the warranty. Your goods can be transmitted free of cost only in this manner. This warranty applies only to the initial purchaser and is non-transferable.

The warranty covers only material or manufacturing faults, not normal wear or damage to fragile parts such as switches or rechargeable batteries. The appliance is intended solely for private, not commercial, use.

If this product has been subjected to improper or inappropriate handling, abuse, or interventions not carried out by one of our authorised sales and service outlets, the warranty will be considered void. This warranty does not affect your statutory rights.

GB

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IE

Kompernaß Service Ireland

Tel.: 1850 930 412 (0,082 €/Min.)

*** Standard call rates apply.**

Mobile operators may vary.

e-mail: support.ie@kompernass.com

● Disposal



The packaging is wholly composed of environmentally-friendly materials that can be disposed of at a local recycling centre.



Do not dispose of electric tools in the household waste!

In accordance with European Directive 2002 / 96 / EC about waste electrical and electronic equipment and its transposition into national legislation, worn out electric tools must be collected separately and taken for environmentally compatible recycling.

Please contact your municipal or city council to ask about how to dispose of old electrical tools.

● **Manufacturer's Declaration of Conformity / Manufacturer CE**

We, Kompernaß GmbH, Burgstr. 21,
D-44867 Bochum, Germany, declare that this
product complies with the following EU directives:

**Machinery Directive
(98 / 37 / EC)**

**EU Low Voltage Directive
(2006 / 95 / EC)**

**Electromagnetic compatibility
(2004 / 108 / EC)**

Type / Device description:

Modelling and engraving set PMGS 12

Bochum, 31.07.2009



Hans Kompernaß
- Managing Director -

We reserve the right to make technical modifications
in the course of further development.

IAN 33382
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