

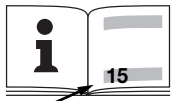
metabo®

KHE 56
MHE 56



(PRC) 使用说明 5

(ENG) Operating Instructions 9

		KHE 56	MHE 56
		SDS-max	SDS-max
P₁	W	1300	1300
P₂	W	650	650
T	Nm (in-lbs)	90 (796)	-
n₁	/min	0 - 450	-
D₁	mm (in)	45 (1 ²⁵ / ₃₂)	-
D₂	mm (in)	100 (3 ¹⁵ / ₁₆)	-
D₃	mm (in)	65 (2 ⁹ / ₁₆)	-
smax	/min bpm	2840	2840
W	J	14	14
C	-	12	12
m	kg (lbs)	6,7 (14.8)	6,3 (13.9)
a_{h,HD}/K_{h,HD}	m/s²	12,3 (1,5)	-
a_{h,Cheq}/K_{h,Cheq}	m/s²	9,7 (2,4)	11,3 (1,9)
L_{pA}/K_{pA}	dB (A)	96 / 3	-
L_{WA}/K_{WA}	dB (A)	107 / 3	-
L_{pA(M)}	dB (A)	-	91
L_{WA(M)}	dB (A)	-	101
L_{WA(G)}	dB (A)	-	104


 EN 60745
 2006/42/EG, 2004/108/EG, 2000/14/EG

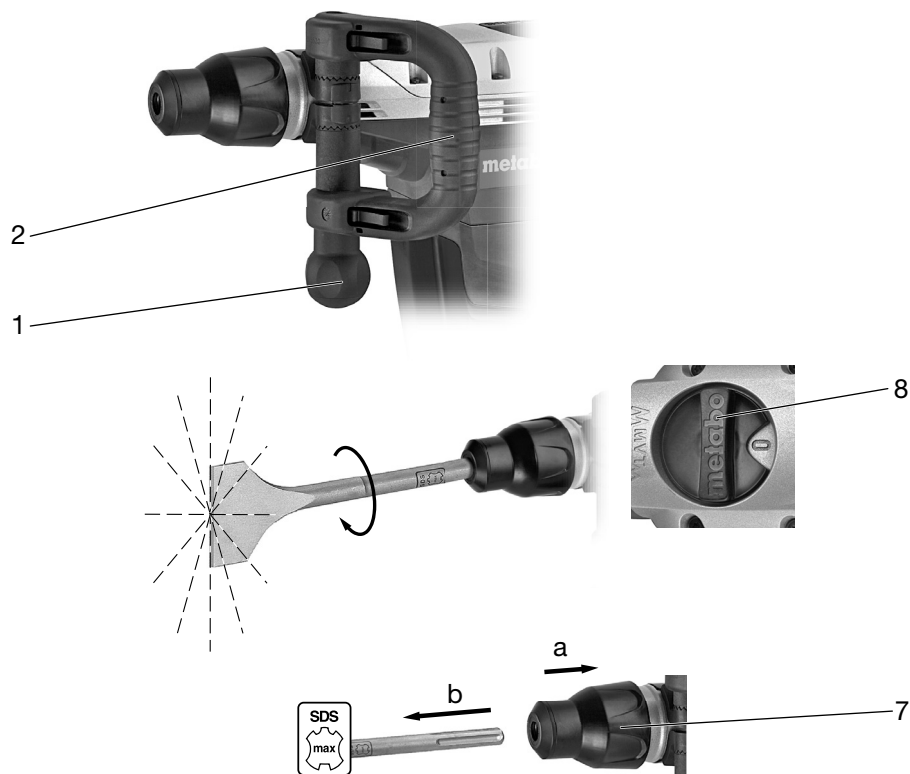
ppac:  Volker Siegle

Director Product Engineering & Quality
 Responsible Person for Documentation
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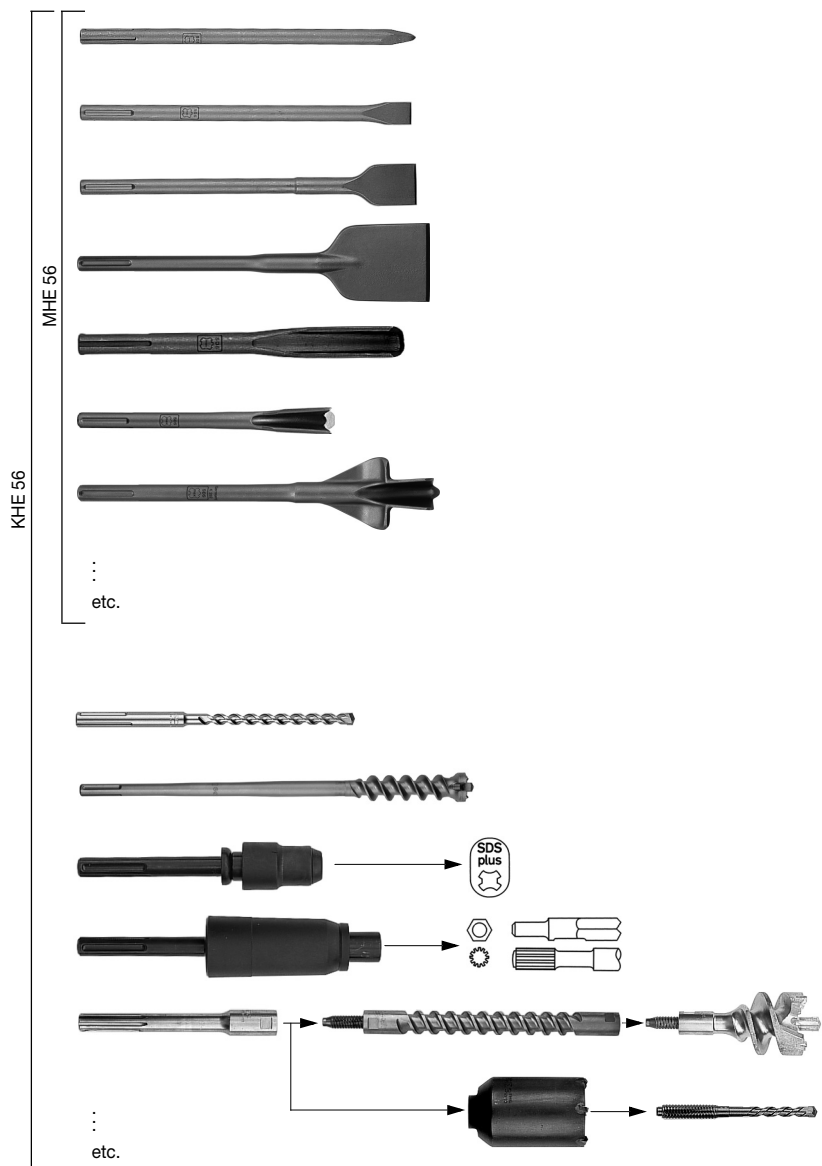
KHE 56



MHE 56



A



B



6.31800

使用说明

亲爱的用户：

感谢您对本公司的信任，购买麦太保电动工具！每一台麦太保电动工具都已经过麦太保质保部门详细的检验测试及严格的质量控制。然而，电动工具的使用寿命与您如何来使用它是息息相关的。因此请您务必注意本说明书及随附文件所提供的信息。当您使用麦太保电动工具时越细心、越得法，它为您效力的时间也就越长。

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1 一致性声明

作为唯一责任人，我们特此声明，本产品符合第2页所列的指令和标准。

MHE 56: 2000/14/EC: 根据附录 VI，评估一致性的步骤。（测试中心：VDE 测试和认证协会，Merianstr. 28, 63069, 德国 奥芬巴赫）。

2 规定用途

KHE 56 与适当的配件结合使用，适用于在混凝土、砖块、石头和类似材料上进行冲击式钻孔和凿边。

MHE 56 与适当的配件结合使用，适用于在混凝土、砖块、石头和类似材料上进行开凿。

因使用不当造成的损坏由用户承担全部责任。

必须遵守通用事故预防规章和随附的安全资料。

3 一般安全规则



警告 请仔细阅读所有安全警告及说明。若不遵守，可能引起电击、火灾甚至严重损伤。

请妥善保管所有安全说明以备日后参考。



在使用本电动工具前，请先仔细阅读通读和熟悉随附的所有安全资料（红色小册子）和使用说明。妥善保管所有随附文件以备日后参考，如需转交电动工具，必须将这些文件一同转交。

4 特殊安全规则



为了您自身的安全及保护您的电动工具，请特别注意有此警示标志的地方！

请戴护耳器。接触噪音可能会导致听力丧失。

请务必使用辅助手柄。失控会导致人员伤害。

如果工作时可能触碰到隐藏的电线或工具本身的电线时，一定要握着绝缘手柄操作工具。若切割配件接触了“带电”的线路，可能导致电动工具的金属部位也“带电”，并可能造成操作者触电。

在进行任何调整或维修工作前，先从插座中拔出插头。

只能在安装了辅助手柄的情况下才能进行操作。

双手始终握住提供的手柄，站稳，专心工作。

当操作本工具时，请务必穿戴护目镜、手套、防尘罩及结实的鞋子。

确保您要使用本工具的地方没有**电源电缆**，**气体管道或水管**（例如可用金属探测器进行检测）。

工作时，必须正确安装工具。推一推工具检查安装位置是否正确。（工具必须可以轴向移动几厘米。）

在地平面上工作时，确保底下的面积空旷。

由于刚停止工作时，工具或工具附近的零件仍然很烫，可能导致皮肤灼伤，所以请勿立即接触工具或工具附近的零件。

电源线的铺设务必远离设备的背面。

若辅助手柄损坏或断裂必须进行更换。更换之前切勿操作工具。

5 概述

见第3页。

- 1 夹紧旋钮*
- 2 弓形手柄*
- 3 辅助手柄*
- 4 辅助手柄支座*
- 5 限深器的紧固柄*
- 6 限深器*
- 7 工具锁
- 8 开关旋钮
- 9 辅助手柄螺纹孔
- 10 麦太保 VibraTech (MVT)：集成式减振系统
- 11 连续操作的锁定按钮
- 12 触发开关
- 13 碳刷维护指示灯（灯信号，显示即将更换碳刷）
- 14 操作指示灯（主电源的灯信号）
- 15 加工软材料时，用于选择减小冲击力的开关

* 取决于工具配置

6 产品特性

- 麦太保 VibraTech (MVT)：手柄中的集成式减振系统，用于减少震动和双手上的应力
- 辅助手柄可以通过2个不同的点固定到外壳上
- 加工较软的材料时，例如砖块，可选择将冲击力减少至多30%
- 可锁开关，方便在连续凿边过程中操作
- 电子平稳起动，可精密地钻孔
- 轻质的镁压铸齿轮箱确保卓越的散热效果
- 维护指示灯，显示需要更换碳刷的剩余时间，还有灯信号，用于显示主电源

7 调试



在接上电源前，请查看额定电源电压及电源频率（标明在额定值标签上）是否与供应电源相吻合。

务必使用直径至少1.5mm²的延长电缆。延长电缆必须适合设备的额定功率（请参阅技术规格）。如果使用一卷电线，务必完全卷起电线。

7.1 弓形手柄或辅助手柄安装



出于安全的原因，务必使用所提供的弓形手柄（2）或辅助手柄（3）。

MHE 56:

逆时针转动夹紧旋钮（1），释放夹紧环。将弓形手柄（2）调整到必要的位置和角度。拧紧夹紧旋钮。

KHE 56:

选项1

逆时针转动辅助手柄（3），松开夹紧环。将辅助手柄固定在必要的角度。上紧辅助手柄。

选项2

在地面上工作时，笔直的工作位置可减少后面的应力：

辅助手柄（3）也可以安装到电机箱上。从手柄支座（4）松开辅助手柄，用手将其插入一个螺纹孔（9）（在电机箱的左右侧），并上紧。

8 使用

8.1 调整限深器（仅限KHE 56）

按下并握住紧固柄（5）。将限深器（6）设定为所需的钻孔深度，并松开紧固柄。

8.2 安装和拆卸工具



安装工具前，清洁丝扣，并涂抹工具随附的专用油脂（配件订购号6.31800）！仅使用SDS-max工具。

安装工具：

插入时转动钻头，直至啮合。钻头自动锁定。



推一推工具检查安装位置是否正确。（工具必须可以轴向移动几厘米。）

拆下钻头：

朝箭头（a）指示的方向向后拉工具锁（7）并取下工具（b）。

8.3 设置操作模式

转动开关旋钮（8），选择必要的操作模式。



冲击钻孔（仅限KHE 56）

开凿



安装凿子时，只在开凿操作模式时操作设备。

8.4 调整凿子的位置

凿子可以固定在12个不同的位置。

- 插入凿子。
- 将开关旋钮（8）旋转到位置。
- 将凿子转到要求的位置。
- 将开关旋钮（8）旋转到位置。
- 转动凿子，直到其啮合。



安装凿子时，只在开凿操作模式时操作设备。

8.5 调整冲击力

滑动开关（15），调整冲击力（和速度）设置。



减少冲击力，减少速度



高冲击力，高速度

正确的设置取决于手头的任务。

示例：开凿柔软、易碎的材料或者试图将脱落材料降到最少的话，将开关设定为“减少冲击力”。

加工较硬的材料时，将开关设定为“高冲击力”。

8.6 接通和切断

即时启动：

按触发开关（12）启动工具。

释放触发开关（12）关闭工具。

连续操作：

通过锁定按钮（11）锁定触发开关（12）可进行连续操作。

再次按动和释放触发开关（12）关闭工具。



连续工作中，如工具脱手，它会仍然处于运作状态。因此，双手必须始终握住提供的手柄，站稳，专心工作。

8.7 麦太保 VibraTech (MVT)

用以减少震动和作用在手上的应力。

下推设备时，务必在手柄上施加中等的压力，不要用力。中心位置（10）可最有效地减少震动。

9 清洁、维护

电机清洁：定期通过通风槽使用压缩空气彻底吹净设备。

10 提示与技巧

操作设备时，只需要中等的压力。施加过大压力并不会提高您的工作成绩，反而会缩短设备的使用寿命。

KHE 56：如果是深孔，不定时从孔中抽出钻头，以便去除灰尘。

11 故障排除方法

碳刷维护指示灯（13）亮起：

碳刷几乎完全磨损（剩余的操作时间大约30小时）。当碳刷完全磨损时，工具将自动关闭。到经授权的维修中心更换碳刷。

电磁干扰：

在个别情况下，如果工具受到极强的外部电磁干扰，速度可能会短时波动。

12 配件

只能使用麦太保原厂配件。

如果您需要任何配件，请与您的经销商协商。

为了购买正确的配件，请告知经销商您所拥有的电动工具的准确型号。

见第4页。

A 钻头 and 凿子种类丰富，能够用于多种场合。

B 专用润滑脂（润滑工具柄部）

如需了解全部配件，请参见www.metabo.com或主目录。

13 修理

只能由合格的电工修理电动工具！

任何需要修理的麦太保电动工具都可送到麦太保授权维修中心进行修理。

请随电动工具附上一份故障说明。

14 环保

所有麦太保的包装品，皆可100%回收。

破碎的电动工具和配件含有大量有价值的材料和塑胶，可回收再生。

本说明书使用无氯再生纸印刷。

15 技术规格

第2页的规格注释如下。

保留因技术发展而进行变更的权利。

- P_1 = 额定功率输入
- P_2 = 功率输出
- n_1 = 空载转速
- D_1 = 使用冲击薄壁金刚石钻头，在混凝土中的最大钻孔直径
- D_2 = 使用冲击芯刀具，在混凝土中的最大钻孔直径
- D_3 = 使用铣刀在混凝土中的最大钻孔直径
- S_{max} = 最大冲击速度
- W = 单一冲击力
- C = 凿子位置数量
- m = 不含电源电缆的重量

依照EN 60745规定的振动总值（三个方向上的矢量和）：

- $a_{h, HD}$ = 振动传导值（在混凝土中冲击钻孔）
- $a_{h, Cheq}$ = 振动传导值（开凿）
- $K_{h, HD/Cheq}$ = 不确定度（振动）

警告

本信息单中所指的振动传导值已经根据EN 60745规定的标准化测试进行了测量，且可以用于在工具间进行比较。因为电动工具的使用方式不同，所以振动传导值有所不同，且可能超出本信息单中给出的水平。工具经常以此类方式使用时，可能导致对暴露水平的严重低估。

注：为了更加精确地估计给定的工作时间内振动的暴露水平时，应考虑工具关闭和在运转但实际上没有工作的时间。这可能大幅减少整个工作时间的暴露水平。

- 典型A荷重声音水平：
- L_{pA} = 声压水平
 - L_{WA} = 声压功率水平
 - K_{pA}, K_{WA} = 不确定性（噪音级）
 - $L_{pA(M)}$ = 根据2000/14/EG，根据用户耳朵记录的声压峰值
 - $L_{WA(M)}$ = 根据2000/14/EC测得的声功率级
 - $L_{WA(G)}$ = 根据2000/14/EC担保的声功率级



操作过程中，噪音水平可能超过85 dB(A)。

 **请戴护耳器！**

测量值依照EN 60745确定。

引用的技术资料皆含有公差值在内（依照相关有效标准）。

Operating Instructions

Dear Customer,

Thank you for the trust you have placed in us by buying a Metabo power tool. Each Metabo power tool is carefully tested and subject to strict quality controls by Metabo's quality assurance. Nevertheless, the service life of a power tool depends to a great extent on you. Please observe the information contained in these instructions and the enclosed documentation. The more carefully you treat your Metabo power tool, the longer it will provide dependable service.

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1 Declaration of Conformity

We, being solely responsible, hereby declare that this product conforms to the standards and directives specified on page 2.

MHE 56: 2000/14/EC: Procedure for assessing conformity as per Appendix VI. (Testing centre: VDE Testing and Certification Institute, Merianstr. 28, 63069 Offenbach, Germany).

2 Specified Use

The KHE 56 is designed for hammer drilling and chiselling in concrete, bricks, stone and similar materials when used in combination with appropriate accessories.

The MHE 56 is designed for chiselling in concrete, bricks, stone and similar materials when used in combination with appropriate accessories.

The user bears sole responsibility for damage caused by improper use.

Generally accepted accident prevention regulations and the enclosed safety information must be observed.

3 General Safety Instructions



WARNING Read all safety warnings and instructions. *Failure to follow all safety warnings and instructions may result in electric shock, fire and/or serious injury.*

Keep all safety instructions and information for future reference.



Before using this power tool, carefully read through and familiarise yourself with all the enclosed safety information (red booklet) and the instructions. Keep all enclosed documentation for future reference, and pass on your power tool only together with this documentation.

4 Special Safety Instructions



For your own protection and for the protection of your power tool pay attention to all parts of the text that are marked with this symbol!

Wear ear protectors. Exposure to noise can cause loss of hearing.

Use the additional handles supplied with the tool. Loss of control can lead to injuries.

Hold the power tool by insulated gripping surfaces when performing an operation where the cutting accessory may contact hidden

wiring or its own cord. Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and shock the operator.

Pull the plug out of the plug socket before any adjustments or servicing are performed.

Always work with the additional handle correctly installed.

Always hold the machine with both hands using the handles provided, stand securely and concentrate.

Always wear protective goggles, gloves, a dust mask and sturdy shoes when working with this tool.

Ensure that the spot where you wish to work is free of **power cables, gas lines or water pipes** (e.g. using a metal detector).

Always work with the tool attached correctly. Pull on the tool to check that it is seated correctly. (It must be possible to move the tool a few centimetres in an axial direction.)

When working above ground level, make sure that the area underneath is free.

Do not touch the tool or parts close to the tool immediately after stopping work because they may still be extremely hot and could cause skin burns.

Always lay the power cable away from the back of the machine.

A damaged or cracked additional handle must be replaced. Never operate a machine with a defective additional handle.

5 Overview

See page 3.

- 1 Clamping knob *
- 2 Bow handle *
- 3 Additional handle *
- 4 Additional handle holder *
- 5 Clamp lever for depth stop *
- 6 Depth stop *
- 7 Tool lock
- 8 Switch button
- 9 Thread for additional handle
- 10 Metabo VibraTech (MVT): integrated damping system
- 11 Locking button for continuous activation
- 12 Trigger switch
- 13 Carbon brush service indicator (lamp signal for pending carbon brush change)

- 14 Operating indicator (light signal for mains power supply)
- 15 Switch for optional impact reduction when working on soft materials

* equipment-specific

6 Special Product Features

- Metabo VibraTech (MVT): integrated damping system in the handles for reduced vibrations and less stress on the hands
- Additional handle can be attached to the housing at 2 different points
- Optional impact reduction of up to 30% for working on softer materials such as brick
- Lockable switch for convenient operation during continuous chiselling
- Electronic smooth start-up for precision drilling
- Low-weight cast magnesium gear housing ensures excellent heat dissipation
- Service indicator e.g. for signalling pending carbon brush changes and light signal for mains power supply

7 Commissioning

⚠ Before plugging in, check to see that the rated mains voltage and mains frequency, as stated on the rating label, match with your power supply.

Always use an extension cable with a minimum diameter of 1.5 mm². The extension cable must be suitable for the machine power rating (see Technical Specifications). If using a roll of cable, always roll up the cable completely.

7.1 Assembly of the bow handle or additional handle

⚠ For safety reasons, always use the bow handle (2) or additional handle (3) supplied.

MHE 56:

Release the clamping ring by turning the clamping knob (1) anticlockwise. Adjust the bow handle (2) to the required position and angle. Tighten the clamping knob.

KHE 56:

Option 1

Open the clamping ring by turning the additional handle (3) anticlockwise. Secure the additional handle at the required angle. Tighten the additional handle.

Option 2

Upright working position for reduced stress on the back when working on floors:

The additional handle (3) can also be attached to the motor housing. Unscrew the additional handle from the handle holder (4), insert in one of the threads (9) (on the left and right of the motor housing) by hand and tighten.

8 Use

8.1 Adjusting the depth stop (only for KHE 56)

Press and hold the clamp lever (5). Set the depth stop (6) to the required drilling depth and release the clamp lever.

8.2 Attaching and removing tools

⚠ Before fitting tools, clean shank and apply special grease enclosed with tool (accessories order no. 6.31800)! Use only SDS-max tools.

Attaching tools:

Turn tool and insert until it engages. The tool is automatically locked.

⚠ Pull on the tool to check that it is seated correctly. (It must be possible to move the tool a few centimetres in an axial direction.)

Removing the tool:

Pull tool lock (7) backwards in direction indicated by arrow (a) and remove tool (b).

8.3 Setting the operating mode

Turn the switch button (8) to select the desired operating mode.



Hammer drilling (only for KHE 56)



Chiselling

⚠ When a chisel is fitted, only operate the machine in the chiselling operating mode T.

8.4 Adjusting the chisel position

The chisel can be secured in 12 different positions.

- Insert the chisel.
- Turn the switch button (8) to position **0**.
- Turn the chisel to the required position.
- Turn the switch button (8) to position **T**.
- Turn the chisel until it engages.

⚠ When a chisel is fitted, only operate the machine in the chiselling operating mode T.

8.5 Adjusting the impact force

Slide the switch (15) to adjust the impact force (and speed) setting.



Reduced impact force,
reduced speed



High impact force,
high speed

The correct setting depends on the task in hand. Example: set the switch to "reduced impact force" when working on soft, brittle material or trying to minimise break-off.

Set the switch to "high impact force" when working on harder materials.

8.6 Switching On and Off

Instantaneous activation:

To start the machine, press the trigger switch (12). Release the trigger (12) to switch off.

Continuous operation:

For continuous operation, the trigger switch (12) can be locked using the lock button (11).

Press and release the trigger (12) again to switch off.

⚠ In continuous operation, the machine continues running if it is forced out of your hands. Therefore, always hold the machine with both hands using the handles provided, stand in a safe position and concentrate.

8.7 Metabo VibraTech (MVT)

For reduced vibrations and less stress on the hands.

Always apply a moderate amount of pressure to the handle when pushing down the machine and do not force. Vibrations are reduced most effectively at the central position (10).

9 Cleaning, Maintenance

Motor cleaning: blow out the machine thoroughly at regular intervals through the air slots with compressed air.

10 Tips and Tricks

Only moderate pressure is required when working with the machine. Applying excessive pressure

does not increase your working performance and may decrease the service life of your machine.

KHE 56: in the case of deep bores, pull the drill bit out of the bore from time to time in order to remove dust.

11 Troubleshooting

Carbon brush service indicator (13) lights up: the carbon brushes are almost completely worn (remaining operating time approx. 30 hours). If the brushes are completely worn, the machine switches off automatically. Have an authorised service centre replace the brushes.

Electromagnetic disturbances:

In individual cases, the speed may fluctuate temporarily if the machine is exposed to extreme external electromagnetic disturbances.

12 Accessories

Use only genuine Metabo accessories.

If you need any accessories, check with your dealer.

For dealers to select the correct accessory, they need to know the exact model designation of your power tool.

See page 4.

- A Extensive drill bit and chisel assortment for a wide range of applications.
- B Special grease (for lubricating the tool shanks)

For a complete range of accessories, see www.metabo.com or the main catalogue.

13 Repairs

Repairs to electrical tools must be carried out by qualified electricians ONLY!

Any Metabo power tool in need of repair can be sent to one of the addresses listed in the spare parts list.

Please enclose a description of the fault with the power tool.

14 Environmental Protection

Metabo's packaging can be 100% recycled.

Scrap power tools and accessories contain large amounts of valuable resources and plastics that can be recycled.

These instructions are printed on chlorine-free bleached paper.



Only for EU countries: Never dispose of power tools in your household waste! In accordance with European Guideline 2002/96/EC on used electronic and electric equipment and its implementation in national legal systems, used power tools must be collected separately and handed in for environmentally compatible recycling.

15 Technical Specifications

Explanatory notes on the specifications on page 2.
Changes due to technological progress reserved.

P_1	= Nominal power input
P_2	= Power output
n_1	= No-load speed
D_1	= Max. drilling diameter in concrete with impact masonry bits
D_2	= Max. drilling diameter in concrete with impact core cutters
D_3	= Max. drilling diameter in concrete with milling cutter
S_{max}	= Maximum impact rate
W	= Single impact force
C	= Number of chisel positions
m	= Weight without mains cable

Vibration total value (vector sum of three directions) determined in accordance with EN 60745:

$a_{h, HD}$	= Vibration emission value (hammer drilling into concrete)
$a_{h, Cheq}$	= Vibration emission value (chiselling)
$K_{h, HD/Cheq}$	= Uncertainty (vibration)

WARNING

The vibration emission level given in this information sheet has been measured in accordance with a standardized test given in EN 60745 and may be used to compare one tool with another.

The vibration emission level will vary because of the ways in which a power tool can be used and may increase above the level given in this information sheet. This could lead to a significant underestimate of exposure when the tool is used regularly in such a way.

Note: To be accurate, an estimation of the level of exposure to vibration experienced during a given period of work should also take into account the times when the tool is switched off and when it is running but not actually doing the job. This may significantly reduce the exposure level over the total working period.

Typical A-effective perceived sound levels:

- L_{pA} = Sound pressure level
- L_{WA} = Acoustic power level
- K_{pA}, K_{WA} = Uncertainty (noise level)
- $L_{pA(M)}$ = recorded sonic pressure peak in accordance with 2000/14/EG on the ear of the user
- $L_{WA(M)}$ = Measured acoustic power level as per 2000/14/EC
- $L_{WA(G)}$ = Guaranteed acoustic power level as per 2000/14/EC



During operation the noise level can exceed 85 dB(A).



Wear ear protectors!

Measured values determined in conformity with EN 60745.

The technical specifications quoted are subject to tolerances (in compliance with the relevant valid standards).

metabo[®]

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