

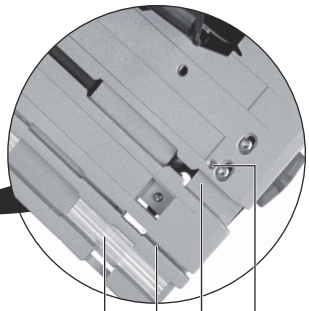
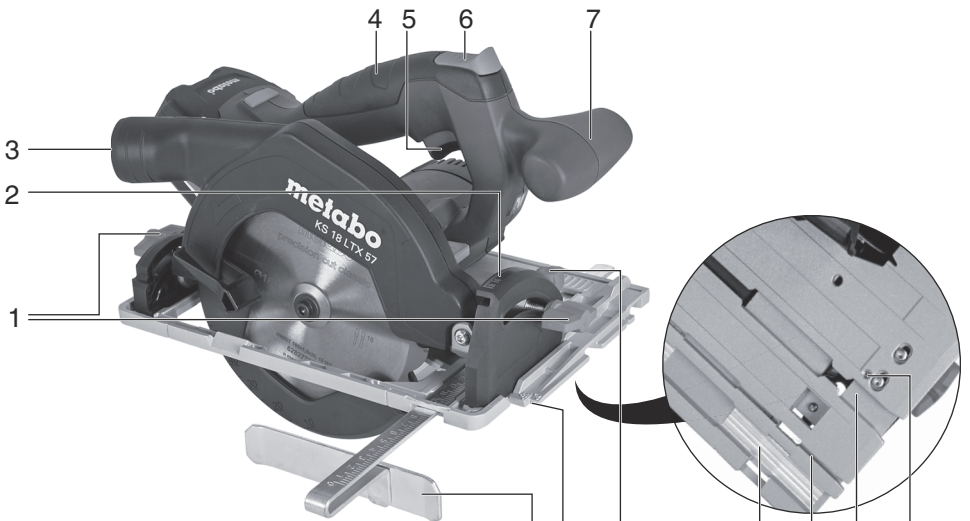
## KS 18 LTX 57



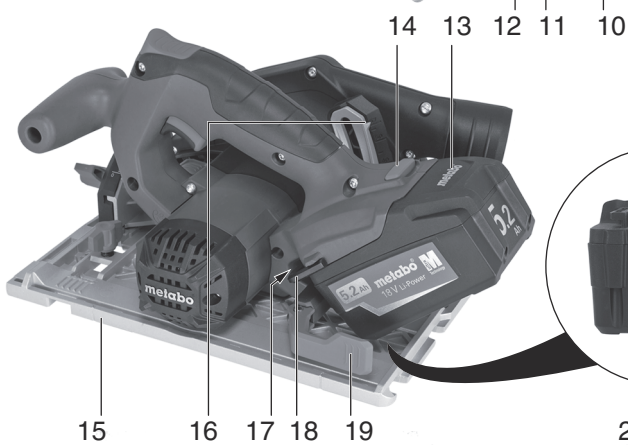
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CHI 使用説明 4

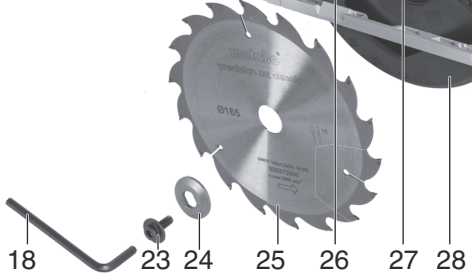
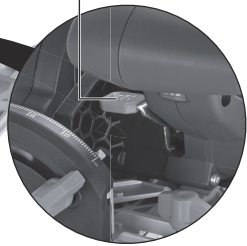
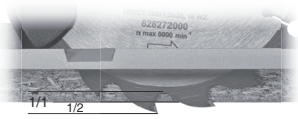
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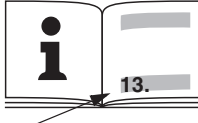


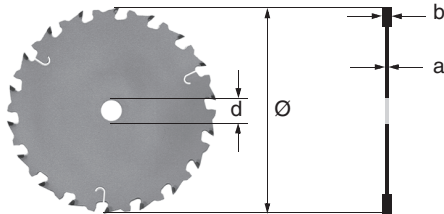
- 8 Metabo
- 9 Mafell / Bosch
- Metabo / Hitachi / Festool / Makita / Hilti



- 20
- 21
- 22



		<b>KS 18 LTX 57</b> *1) Serial Number: 01857..
U	V	18
$n_0$	/min	4600
$T_{max}$	min (in)	57 (2 1/4")
$T_{90^\circ}$	mm (in)	57 (2 1/4")
$T_{45^\circ}$	mm (in)	43 (1 11/16")
A	°	0° - 50°
$\varnothing$	mm (in)	165 (6 1/2")
d	mm (in)	20 (25/832")
a	mm (in)	max. 1,7 (max. 0.067")
b	mm (in)	max. 2,6 (max. 0.102")
m	kg (lbs)	3,4 (7.5)
$a_{h,D}/K_{h,D}$	$m/s^2$	< 2,5 / 1,5
$L_{pA}/K_{pA}$	dB (A)	92 / 3
$L_{WA}/K_{WA}$	dB (A)	10 / 3



\*2) 2014/30/EU, 2006/42/EC, 2011/65/EU

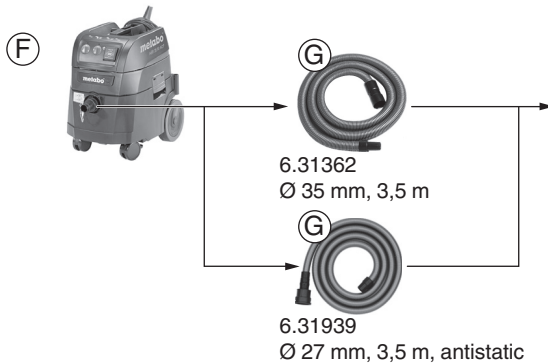
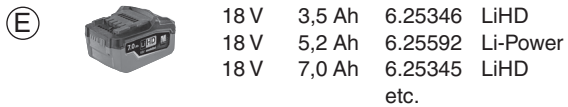
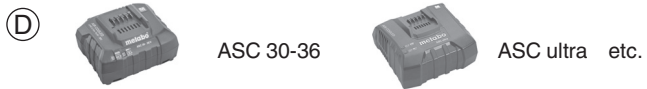
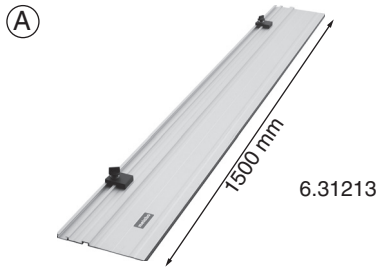
\*3) EN 62841-1:2015, EN 62841-2-5:2014, EN 50581:2012

2017-08-07 Bernd Fleischmann

Direktor Produktentstehung & Qualität (Vice President Product Engineering & Quality)

\*4) Metabowerke GmbH - Metabo-Allee 1 - 72622 Nuertingen, Germany

ppa. B.F.



# 原始使用說明

## 1. 一致性聲明

我們根據全權責任特此聲明：按類型和型號 \*1) 識別的這些無線手持圓鋸符合指令 \*2) 和標準 \*3) 的所有相關要求。\*4) 的技術文件 - 見第 3 頁。

## 2. 規定的使用條件

手持圓鋸適用於鋸切木材、塑膠和其他類似的材料。

該工具不適用於切入式鋸切。

使用者必須承擔不當使用造成任何損壞的完全責任。

請瞭解並遵守一般事故防範條例，以及隨附的安全資訊。

## 3. 一般安全說明



為了您的安全與保護您的電動工具，請特別注意有此警示標誌的地方！



**警告** - 閱讀使用說明將能降低受傷的風險。



**警告** - 請詳讀電動工具隨附的所有安全警告、指示、插圖以及規格等資料。若不遵守以下所列之說明，可能導致電擊、火災和/或重傷。

請妥善留存所有警告及使用說明資料，以待備查。如需轉交電動工具，必須將這些文件一同轉交。

## 4. 特殊安全說明

### 鋸切程序



a) **危險**：請保持您的雙手遠離切割區與鋸片。將另一隻手放在輔助手柄或馬達機箱上。如果雙手拿著鋸片，避免遭鋸片割傷。

b) **不要伸到工件的底部**。安全罩無法保護您免於遭受工件下方鋸片的傷害。

c) **根據工件厚度調整鋸切深度**。在工件下方應該看不到鋸片的全齒。

d) **鋸切時，切勿將工件放在手中或穿過腿部**。將工件固定在穩定的平台上。必須正確支撐工作以最大限度減少身體暴露、鋸片卡住或失去控制。

e) **如果工作時使用的切割工具有可能接觸隱藏電線或工具本身的電線時，一定要握著絕緣手柄操作工具**。若接觸到「帶電」的電線，可能導致電動工具的金屬部件也「帶電」，造成操作者觸電。

f) **縱切時，請始終使用縱切柵欄或直邊導板**。這可提高鋸切的準確性並減少鋸片卡住的機會。

g) **務必使用正確心軸尺寸和形狀（鑽石和圓形）的鋸片**。與鋸片的安裝硬體不符的鋸片將偏離中心，導致失去控制。

h) **切勿使用損壞或不正確的鋸片墊圈或螺栓**。鋸片墊圈和螺栓專為鋸片設計，可達到最佳性能和操作安全性。

### 反衝原因和相關警告

- 反衝是對卡住、夾住或未對齊的鋸片的突然反應，導致不受控制的鋸片從工件上抬起並朝向作業人員；

- 鋸片被切口緊緊夾住或卡住後，鋸片失速並且馬達反作用力將裝置快速朝著作業人員彈回；

- 如果鋸片在切口處扭曲或未對齊，鋸片後緣的鋸齒可能鑽入木材的頂部表面，導致鋸片從切縫中彈出並彈回作業人員身體。

反衝是不當使用鋸片和/或不正確的操作程序或條件所造成的結果，可以透過下列的適當預防措施予以避免。

a) **雙手牢握鋸片，並將手臂放置在可抵擋反衝力量的位置**。您整個人站在鋸片的任一側，而不要與鋸片呈一直線。反衝可能會導致鋸片向後彈，但如果採取適當的預防措施，作業人員可以控制反衝力。

b) **鋸片卡住時，或由於任何原因需要中斷切割，應釋放觸發開關，並穩穩握住曲線鋸不動，直至鋸片完全停止**。切勿在鋸片動作期間，嘗試將鋸片從工作部件移開或向後拉鋸片，以免反衝傷人。進行調查並採取修正動作，消除造成鋸片卡住的原因。

c) **重新啟動位於工作部件內的鋸片時，應將鋸片對正切口中心，以免鋸齒與材料接觸**。鋸片一旦卡住，若直接重新啟動，恐將向上移動或反衝。

d) **支撐大型面板，盡量減少鋸片夾傷和反衝的風險**。大型面板可能由於本身的重量而下凹。必須支撐面板的兩側、鋸切線和面板邊緣附近。

e) **切勿使用變鈍的或損壞的鋸片**。不銳利或不正確放置的鋸片產生狹窄的切口，導致過度的摩擦、鋸片卡住和反衝。

f) **在鋸切前，鋸片深度和斜角調整鎖定桿必須牢固而且安全**。鋸切時，如果鋸片調整發生位移，可能導致卡住和反衝。

g) **在既有牆面或其他盲區鋸切時需特別注意**。突出的鋸片會鋸切可能導致反衝的物體。

## 下方安全罩功能

a) 每次使用前，檢查下方安全罩是否正確關閉。如果下方安全罩無法自由移動並立即關閉，請勿操作鋸片。切勿將下方安全罩夾在或綁在開啟位置。如果鋸片意外掉落，下方安全罩可能會彎曲。使用收回手柄(26)抬起下方安全罩，確保其能夠自由移動，而且不會在所有角度和鋸切深度接觸鋸片或其他任何零件。

b) 檢查下方安全罩彈簧的操作。如果安全罩和彈簧操作不正常，必須在使用前進行維修。下方安全罩可能會由於損壞的零件、黏性沉積物或碎屑堆積而運作緩慢。

c) 只有「切入式鋸切」和「複合鋸切」等特殊鋸切，才能手動收回下方安全罩。透過收回手柄(26)抬起下方安全罩，一旦鋸片進入材料，必須釋放下方安全罩。對於其他所有鋸切，下方安全罩應自動運作。

d) 在將鋸片放在工作台或地板上之前，務必注意下方安全罩覆蓋鋸片。未受保護的滑行鋸片將導致鋸片後退，鋸切其路徑上的任何物體。請注意釋放開關後，鋸片停止所需的時間。

切勿使用砂磨盤。

手不可靠近轉動的工具！只有在電動工具靜止時，才可取出碎片和類似的金屬。



佩戴合適的防塵面罩。



請佩戴防護耳罩。



請佩戴護目鏡。

只有在馬達靜止時，才按下主軸鎖定按鈕。

切勿按壓側面來降低鋸片的速度。

切勿將活動安全罩夾緊在拉回位置進行鋸切。

活動安全罩必須自由、自動、容易且準確返回到其最終位置。

鋸切產生大量灰塵的材料時，必須定期清潔工具。確保安全設備(例如活動安全罩)處於妥善的操作狀態。

不可處理會產生灰塵或水氣而對於健康有害的材料(例如石棉)。

檢查工件是否有異物。在操作時，務必確定並非鋸切任何釘子或其他類似材料。

如果鋸片阻塞，請立即關閉馬達。

請勿嘗試鋸開極小的工作部件。

在操作工具期間，必須牢固支撐和固定工件，以防止移動。

清潔沾染膠黏劑或膠水的鋸片。受沾染的鋸片會導致摩擦增加、鋸片卡住並增加反衝的風險。

避免鋸齒尖端過熱。鋸切塑膠時避免材料熔化。鋸片應用於適合的材料。

如果電動工具損壞，請取出其中的電池組。



電池組不可沾水和受潮！

不要使用有故障或變形的電池組！



不要使電池組接近火源！

不要拆開電池組！

不可觸碰觸點或使電池組短路！

工具不用時，請取出電池組。

進行任何調整或維護前，請取出工具的電池組。

裝回電池組前，確保電動工具已關閉。



損壞的電池組可能會洩漏弱酸性可燃性液體！



如果電池洩漏出的液體接觸到皮膚，請立即用大量清水沖洗。如果電池滲漏出的液體接觸到眼睛，請用清水沖洗並立即就醫！

搬運鋰離子電池組：

按照與運送危害商品有關的法律(UN 3480 和 UN 3481)運輸鋰離子電池組。運送鋰離子電池組時瞭解目前有效的規範。必要時，請洽詢貨運商。Metabo 提供通過認證的包材。

送交運送的電池組必須外表無損，而且無漏液。送交運送機器時，請取出電池組。避免觸點短路(例如，用膠帶保護)。

減少灰塵暴露：



使用電動工具產生的粉塵可能包含已知導致癌症、過敏反應、呼吸系統疾病、先天缺陷或其他生殖損害的化學物質。這類物質包括：鉛(來自含鉛油漆)、礦物粉塵(來自磚塊、水泥等等)、木材處理的添加劑(鉻酸鹽、木材防腐劑)、某些類型的木材(例如橡木和山毛櫸粉塵)、金屬、石棉。暴露於這類物質的風險將取決於您或旁觀者暴露的時間長度。

不要讓塵粒進入人體。

利用下列措施減少這類物質的暴露：確保工作場所通風良好，並穿戴適當的防護裝備，例如能夠濾除微粒的防塵面具。

遵守材料、人員、應用和應用地點的相關準則 (例如, 職業健康和安全規定、處置)。

從源頭收集產生的塵粒, 並避免在周圍區域堆積。使用特殊工作適用的配件。如此可減少粒子恣意進入環境。

使用適當的除塵裝置。

利用下列措施減少灰塵暴露：

- 不可將四散的粒子和排氣氣流導向您自己或附近的人, 也不可導向堆積的灰塵。
- 使用除塵裝置和/或空氣淨化器
- 確保工作場所通風良好, 並使用真空吸塵器保持清潔。清掃或吹風會揚起粉塵
- 以吸塵器抽吸或清洗防護衣。不可吹氣、拍打或刷除。

## 5. 概觀

見第 2 頁。

- 1 鎖定螺釘 (斜鋸)
- 2 刻度 (斜鋸角度)
- 3 連接器 (吸塵器連接件/排屑)
- 4 手柄
- 5 觸發開關
- 6 鎖定按鈕
- 7 手柄
- 8 調整螺絲 (調整鋸片角度)
- 9 3 個引導溝槽將工具放置在不同製造商的導軌上
- 10 鎖定螺絲 (平行導規)
- 11 鋸切指示器
- 12 平行停止
- 13 電池組
- 14 電池組釋放按鈕
- 15 導板
- 16 刻度 (鋸切深度)
- 17 六角扳手的存放
- 18 六角扳手
- 19 鎖定桿 (鋸切深度)
- 20 容量和訊號指示燈
- 21 容量指示燈按鈕
- 22 主軸鎖定按鈕
- 23 鋸片固定螺絲
- 24 外部鋸片凸緣
- 25 鋸片
- 26 槓桿 (旋轉活動安全罩)
- 27 內部鋸片凸緣
- 28 活動安全罩

## 6. 初始操作和設定



進行任何調整或維護前, 請取出工具的電池組。安裝電池組之前, 確保工具已關閉。

### 6.1 電池組

使用前將電池組 (13) 充電。

如果性能降低, 請將電池組重新充電。

有關為電池組充電的說明, 請參閱麥太保充電器的使用說明。

鋰離子電池組「Li-Power, LiHD」有**容量與訊號指示燈 (20)**：

- 按下按鈕 (21), LED 指示電量。
- 如果一個 LED 閃爍, 表示電池電量幾乎用盡, 必須充電。

拆下：

按下電池組釋放 (14) 按鈕, 並向上拉出電池 (13)。

裝入：

滑入電池組 (13), 直到卡入為止。

### 6.2 設定鋸切深度

鬆開鎖定桿 (19) 進行調整。從刻度 (16) 判讀已設定的鋸切深度。重新上緊鎖定螺絲。

建議將鋸切深度設定為鋸片在工件下方伸出時不超過每個鋸齒的一半。請參見第 3 頁插圖。

### 6.3 傾斜鋸片進行斜切

鬆開鎖定螺絲 (1)。將馬達零件傾斜到導板 (15) 上。從刻度 (2) 判讀已設定的角度。重新上緊鎖定螺絲。

### 6.4 修正鋸片角度

如果在 0° 時鋸片和導板不成直角, 請使用調整螺絲 (8) 修正鋸片角度。

### 6.5 吸塵器連接口

鋸屑吸取

若要吸取鋸屑, 請將附有吸引軟管的適當除塵裝置連接到吸塵器轉接器 (3)。

## 7. 使用

### 7.1 工具的多功能監控系統



如果電動工具自動關閉, 表示工具的電子元件已經啟動自動防護模式。警告訊號音效 (持續嗶聲)。嗶聲會在 30 秒或解除觸發開關 (5) 後停止。



雖然有這項保護功能, 但是工具在某些應用中仍會發生過載而導致損壞。



## 原因和補救方式：

1. **電池組電力幾乎用盡** (電子元件可防止電池組完全放電並避免無法彌補的損壞)。如果一個 LED (20) 閃爍，表示電池電力幾乎用盡。必要時，按下按鈕 (21) 檢查 LED (20) 來查看電量。如果電池電量幾乎用盡，則必須充電。
2. 工具長時間連續過載將啟動**溫度保險裝置**。工具以降低的性能繼續運作，直到溫度恢復正常。

如果過熱，工具將完全關閉。

讓工具或電池降溫。

**注意：**如果感覺電池組溫度很高，在「氣冷式」充電器中的電池組冷卻較快。

**注意：**如果以惰速進行操作，工具降溫的速度會加快。


3. 如果**電流過高** (例如工具長時間卡住)，工具將關閉。關閉工具的觸發開關 (5)。然後繼續正常操作 (在這種情況下，除了其他所有安全說明之外，請特別參閱第 4 章「...反衝...」的安全說明)。嘗試避免工具卡住。


## 7.2 開機與關機

**開機：**向前推鎖定按鈕 (6) 並按住，然後啟動觸發開關 (5)。

**關機：**放開觸發開關 (5)。


## 7.3 操作方向

 鋸片與工作部件仍有接觸時，禁止啟動或關閉曲線鋸。

 切割前，應等待鋸片運動達到全速。

裝上手持圓鋸後，工件將活動安全罩向後擺動。

 鋸切時，切勿在鋸片轉動時從材料上取下工具。讓鋸片靜止。

 如果鋸片阻塞，請立即關閉工具。

## 沿著直線鋸切：

此處使用鋸切指示器 (11)。左切口 (標記為 0°) 表示垂直握持鋸片時的鋸切方向。右切口 (標記為 45°) 表示以 45° 握持鋸片時的鋸切方向。

## 沿著固定在工件上的導軌進行鋸切：

為了獲得精確的切削刃，可以將導軌安裝到工件上，然後沿著導軌透過導板引導手持圓鋸。

## 按平行導規鋸切：

用於平行於直邊的鋸切。平行導規 (12) 能夠從任一側插入於放置的支撐件。上緊鎖定螺絲 (10)。最好透過測試剪切來計算確切的鋸切寬度。

## 沿導軌鋸切 6.31213：


用於公釐精度的直線型無鋸切削刀。防滑塗層保持表面安全，保護工件不遭刮傷。對於導軌 6.31213，請參閱「配件」一章。

## 電池組發熱：

在極其惡劣的應用條件下 (例如鋸厚木板)，重負載會導致電池組發熱 (> 60°C)。若要維護電池組，請在繼續操作之前讓電池組冷卻。


## 8. 維護

### 更換鋸片

 取下工具的電池組。

按住主軸鎖定按鈕 (22)。在鋸片固定螺絲 (23) (18) 中使用扳手緩慢轉動鋸片主軸，直到鎖扣卡住。


以順時針方向鬆開鋸片固定螺絲，然後拆下外部鋸片凸緣 (24)。拉回活動安全罩 (28) 並取下鋸片。

 確保以正確的方式插入內部鋸片凸緣 (27)：內部鋸片凸緣 (27) 有 2 側，直徑為 20 mm 和 5/8" (16 mm)。確保鋸片安裝孔和內部鋸片凸緣 (27) 精確配合！安裝不正確的鋸片無法順利運作並導致失去控制。

插入新的鋸片，確保旋轉方向正確。鋸片和安全罩上的箭頭指示旋轉方向。必須清潔內部鋸片凸緣 (27)、鋸片 (25)、外部鋸片凸緣 (24) 和鋸片固定螺絲 (23) 之間的接觸表面。

裝上外部鋸片凸緣 (24)。確保正確插入外部鋸片凸緣 (24) (銘文朝外)。

使用六角扳手 (18) 上緊鋸片固定螺絲 (23) (**最大 5 Nm**)。


 務必使用銳利無損的鋸片。切勿使用龜裂或已變形的鋸片。


 請勿使用由高合金高速鋼 (HSS) 製成的鋸片。

 請勿使用不符合規定額定值的鋸片。

務必使用直徑符合鋸片標記的鋸片。

 鋸片必須適合空載速度。

 鋸片應使用於適合的材料。

 務必使用原廠麥太保鋸片。鋸切木材或類似材料的鋸片必須符合 EN 847-1 標準。

## 9. 清潔

 取下工具的電池組。

必須定期除去工具上堆積的灰塵。這包括使用吸塵器清潔馬達的通風口。確保安全設備 (例如活動安全罩) 處於妥善的操作狀態。



## 10. 配件

務必使用原廠麥太保電池組和麥太保配件。

務必僅使用符合這些使用說明中所列需求和參數的配件。

請參閱第 4 頁。

- A 導軌
- B 2 個鎖緊扣夾。用於固定導軌。
- C 圓鋸片。用於木材和類似材料。中等鋸切品質。
- D 充電器
- E 不同容量的電池組。只能購買電壓與電動工具相符的電池組。
- F 麥太保萬能吸塵器
- G 吸引軟管

關於完整的配件清單，請參閱  
www.metabo.com 或產品目錄。

## 11. 維修


 只有合格的電工可以修理電動工具！

如果您的麥太保電動工具需要維修，請聯絡附近的麥太保業務代表。如需地址，請參閱  
www.metabo.com。

您可以從 www.metabo.com 下載備品清單。

## 12. 環保

請依照所在國家的法規，以符合環保的方式處置及回收廢棄的工具、包材及配件。

 針對歐盟國家：請勿將電動工具當做家庭廢棄物處置！依據歐盟廢棄電子電機設備指令 2012/19/EU 以及各國法律規定的實務作法，廢棄的電動工具必須另外集中並以環保的方式處理。

不可將電池組視為一般廢棄物進行處理。故障或用過的電池交由麥太保經銷商處理！

不可使電池組沾水！

在丟棄前，將電動工具的電池組放電。避免觸點短路 (例如，用膠帶保護)。

## 13. 技術規格

相關規格註解，請見第 3 頁。

本公司保留相關權利，可依技術發展而變更相關內容。

- U = 電池組電壓
- $n_0$  = 怠速
- $T_{max}$  = 最大鋸切深度
- $T_{90^\circ}$  = 可調整的鋸切深度 (90°)

- $T_{45^\circ}$  = 可調整的鋸切深度 (45°)
- A = 可調整的角度鋸切角度
- $\varnothing$  = 鋸片直徑
- d = 鋸片鑽頭直徑
- a = 最大鋸片基體厚度
- b = 最大鋸片鋸切寬度
- m = 重量

測量依據 EN 62841 標準確認。

操作期間允許的環境溫度：-20 °C 至 50 °C (溫度低於 0°C 時性能有限)。存放時允許的環境溫度：0 °C 至 30 °C

== 直流電

上述技術規格皆含有公差在內 (符合相關的有效標準)。

### 排放量

這些值可用來評估電動工具的排放量，以及比較不同的電動工具。實際負載可能更高或更低，端視操作條件、電動工具或配件的條件而定。當負載較低無法評估時，請允許休息並停止一下。根據調整後的估計值，為使用者安排保護措施，例如組織措施。

整體振動總值 (三個方向的向量總和) 依據 EN 62841 判定：

$a_{h,D}$  = 振動排放量  
(鋸切刨花板)

$K_{h,D}$  = 不確定 (振動)

一般的 A 實際音量：

$L_{pA}$  = 聲音壓力等級

$L_{WA}$  = 聲音功率等級

$K_{pA}, K_{WA}$  = 不確定性

操作期間的噪音等級可能會超過 80dB(A)。

### 請佩戴防護耳罩！

台灣華嶠貿易股份有限公司

聯絡電話：02-28124901

聯絡地址：台北市士林區重慶北路四段103號

# Original operating instructions

## 1. Declaration of Conformity

We hereby declare under our sole responsibility that these cordless hand-held circular saws, identified by type and serial number \*1), meet all relevant requirements of directives \*2) and standards \*3). Technical documents for \*4) - see page 3.

## 2. Specified Conditions of Use

The hand-held circular saw is suitable for sawing wood, plastics and other similar materials.

The machine is not designed for plunge cuts.

The user bears sole responsibility for any damage caused by inappropriate use.

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

## 3. General Safety Information



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



**WARNING** – Reading the operating instructions will reduce the risk of injury.



**WARNING** – Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference. Pass on your electrical tool only together with these documents.

## 4. Special Safety Instructions

### Cutting procedure



- a) **DANGER: Keep hands away from cutting area and the blade. Keep your second hand on auxiliary handle, or motor housing.** If both hands are holding the saw, they cannot be cut by the blade.
- b) **Do not reach underneath the workpiece.** The guard cannot protect you from the blade below the workpiece.
- c) **Adjust the cutting depth to the thickness of the workpiece.** Less than a full tooth of the blade teeth should be visible below the workpiece.
- d) **Never hold the workpiece in your hands or across your leg while cutting. Secure the workpiece to a stable platform.** It is important to support the work properly to minimise body exposure, blade binding, or loss of control.

e) **Hold the power tool by insulated gripping surfaces, when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will also make exposed metal parts of the power tool "live" and could give the operator an electric shock.

f) **When ripping, always use a rip fence or straight edge guide.** This improves the accuracy of cut and reduces the chance of blade binding.

g) **Always use blades with correct size and shape (diamond versus round) of arbour holes.** Blades that do not match the mounting hardware of the saw will run off-centre, causing loss of control.

h) **Never use damaged or incorrect blade washers or bolt.** The blade washers and bolt were specially designed for your saw, for optimum performance and safety of operation.

### Kickback causes and related warnings

- kickback is a sudden reaction to a pinched, jammed or misaligned saw blade, causing an uncontrolled saw to lift up and out of the workpiece toward the operator;
- when the blade is pinched or jammed tightly by the kerf closing down, the blade stalls and the motor reaction drives the unit rapidly back toward the operator;
- if the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the wood causing the blade to climb out of the kerf and jump back toward the operator.

Kickback is the result of saw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

a) **Maintain a firm grip with both hands on the saw and position your arms to resist kickback forces. Position your body to either side of the blade, but not in line with the blade.** Kickback could cause the saw to jump backwards, but kickback forces can be controlled by the operator, if proper precautions are taken.

b) **When blade is binding, or when interrupting a cut for any reason, release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or kickback may occur.** Investigate and take corrective actions to eliminate the cause of blade binding.

c) **When restarting a saw in the workpiece, centre the saw blade in the kerf so that the saw teeth are not engaged into the material.** If a saw blade binds, it may walk up or kickback from the workpiece as the saw is restarted.

d) **Support large panels to minimise the risk of blade pinching and kickback.** Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides, near the line of cut and near the edge of the panel.

- e) **Do not use dull or damaged blades.** Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding and kickback.
- f) **Blade depth and bevel adjusting locking levers must be tight and secure before making the cut.** If blade adjustment shifts while cutting, it may cause binding and kickback.
- g) **Use extra caution when sawing into existing walls or other blind areas.** The protruding blade may cut objects that can cause kickback.

### **Lower guard function**

- a) **Check the lower guard for proper closing before each use. Do not operate the saw if the lower guard does not move freely and close instantly. Never clamp or tie the lower guard into the open position.** If the saw is accidentally dropped, the lower guard may be bent. Raise the lower guard with the retracting handle (26) and make sure it moves freely and does not touch the blade or any other part, in all angles and depths of cut.
- b) **Check the operation of the lower guard spring. If the guard and the spring are not operating properly, they must be serviced before use.** Lower guard may operate sluggishly due to damaged parts, gummy deposits, or a build-up of debris.
- c) **The lower guard may be retracted manually only for special cuts such as "plunge cuts" and "compound cuts". Raise the lower guard by the retracting handle (26) and as soon as the blade enters the material, the lower guard must be released.** For all other sawing, the lower guard should operate automatically.
- d) **Always observe that the lower guard is covering the blade before placing the saw down on bench or floor.** An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path. Be aware of the time it takes for the blade to stop after switch is released.

Do not use sanding discs.

Keep hands away from the rotating tool! Remove chips and similar material only with the machine at a standstill.



Wear a suitable dust protection mask.



Wear ear protectors.



Wear protective goggles.

Press the spindle locking button only when the motor is at a standstill.

Do not reduce the speed of the saw blade by pressing on the sides.

The movable guard must not be clamped in the pulled-back position for sawing.

The movable guard must move freely, automatically, easily and exactly back into its end position.

When sawing materials that generate large quantities of dust, the machine must be cleaned regularly. Make sure that the safety appliances, e.g. the movable guard, are in perfect working order.

Materials that generate dusts or vapours that may be harmful to health (e.g. asbestos) must not be processed.

Check the workpiece for foreign bodies. When working, always make sure that no nails or other similar materials are being sawed into.

If the saw blade blocks, turn the motor off immediately.

Do not try to saw extremely small workpieces.

During machining, the workpiece must be firmly supported and secured against moving.

**Clean gummy or glue-contaminated saw blades.** Contaminated saw blades cause increased friction, jamming of the saw blade and increase the risk of back-kicks.

**Avoid overheating of the saw tooth tips. Avoid melting of the material when sawing plastic.**

Use a saw blade that is suitable for the material being sawn.

If the machine is defective, remove the battery pack from the machine.



Protect battery packs from water and moisture!

Do not use faulty or deformed battery packs!



Do not expose battery packs to fire!

Do not open battery packs!

Do not touch or short circuit battery pack contacts!

**Remove the battery pack from the machine when not in use.**

**Remove the battery pack from the machine before any adjustment or maintenance is carried out.**

**Before fitting the battery pack, make sure that the machine is switched off.**



A slightly acidic, flammable fluid may leak from defective Li-ion battery packs!




If battery fluid leaks out and comes into contact with your skin, rinse immediately with plenty of water. If battery fluid leaks out and comes into contact with your eyes, wash them with clean water and seek medical attention immediately!

### **Transport of li-ion battery packs:**

The shipping of li-ion battery pack is subject to laws related to the carriage of hazardous goods (UN 3480 and UN 3481). Inform yourself of the currently valid specifications when shipping li-ion battery packs. If necessary, consult your freight forwarder. Certified packaging is available from Metabo.

Only send the battery pack if the housing is intact and no fluid is leaking. Remove the battery pack from the machine for sending. Prevent the contacts from short-circuiting (e.g. by protecting them with adhesive tape).

**Reducing dust exposure:**

 Some of the dust created using this power tool may contain chemicals known to cause cancer, allergic reaction, respiratory disease, birth defects or other reproductive harm. Some of these substances include: lead (in paint containing lead), mineral dust (from bricks, concrete etc.), additives used for wood treatment (chromate, wood preservatives), some wood types (such as oak or beech dust), metals, asbestos. The risk from exposure to such substances will depend on how long you or bystanders are being exposed.

Do not let particles enter the body. Do the following to reduce exposure to these substances: ensure good ventilation of the workplace and wear appropriate protective equipment, such as respirators able to filter microscopically small particles.

Observe the relevant guidelines for your material, staff, application and place of application (e.g. occupational health and safety regulations, disposal).

Collect the generated particles at the source, avoid deposits in the surrounding area.

Use suitable accessories for special work. In this way, fewer particles enter the environment in an uncontrolled manner.

Use a suitable extraction unit.

Reduce dust exposure with the following measures:

- Do not direct the escaping particles and the exhaust air stream at yourself or nearby persons or on dust deposits.
- Use an extraction unit and/or air purifiers
- Ensure good ventilation of the workplace and keep clean using a vacuum cleaner Sweeping or blowing stirs up dust
- Vacuum or wash protective clothing Do not blow, beat or brush.


**5. Overview**

See page 2.

- 1 Locking screw (diagonal cuts)
- 2 Scale (diagonal cut angle)
- 3 Connector (extraction connection piece / chip ejection)
- 4 Handle
- 5 Trigger
- 6 Locking button
- 7 Handle
- 8 Adjusting screw (adjust saw disc angle)
- 9 3 Guide grooves to place the machines on guide tracks from different manufacturers
- 10 Locking screw (parallel guide)
- 11 Cutting indicator
- 12 Parallel stop
- 13 Battery pack

- 14 Battery pack release button
- 15 Guide plate
- 16 Scale (depth of cut)
- 17 Storage for hexagon wrench
- 18 Hexagon wrench
- 19 Locking lever (depth of cut)
- 20 Capacity and signal indicator
- 21 Capacity indicator button
- 22 Spindle locking button
- 23 Saw blade fixing screw
- 24 Outer saw blade flange
- 25 Saw blade
- 26 Lever (swivelling back the movable guard)
- 27 Inner saw blade flange
- 28 Movable safety guard

**6. Initial Operation and Setting**

 Remove the battery pack from the machine before any adjustment or maintenance is carried out. Make sure that the tool is switched off before fitting the battery pack.

**6.1 Battery pack**

Charge the battery pack (13) before use.

Recharge the battery pack if performance diminishes.

Instructions on charging the battery pack can be found in the operating instructions of the Metabo charger.

**Li-Ion battery packs “Li-Power, LiHD“** have a capacity and signal indicator (20):

- Press the button (21); the LEDs indicate the charge level.
- The battery pack is almost flat and must be recharged if one LED is flashing.

**Removal:**

Press the battery pack release (14) button and pull the battery pack (13) upwards.

**Inserting:**

Slide in the battery pack (13) until it engages.

**6.2 Setting cutting depth**

Loosen the locking lever (19) for adjustment. Read the depth of cut that has been set from the scale (16). Tighten the locking screw again.

It is advisable to set the depth of cut in such a way that no more than half of each tooth on the saw blade juts out under the workpiece. See illustration on page 3.

**6.3 Slanting saw blade for diagonal cuts**

Loosen the locking screws (1). Tilt the motor part against the guide plate (15). Read the angle which has been set from the scale (2). Tighten the locking screws again.

**6.4 Correcting the saw disc angle**

If, at 0°, the saw blade is not at right angles to the guide plate: use the adjustment screw (8) to correct the saw blade angle.


## 6.5 Extractor connection piece


### Sawdust extraction

To extract the sawdust, connect a suitable extraction unit with suction hose to the extraction adapter (3).

## 7. Use

### 7.1 The machine's multifunctional monitoring system

 If the machine switches off automatically, the machine electronics have activated automatic protection mode. A warning signal sounds (continuous beeping). The beeping stops after a maximum of 30 seconds or when the trigger switch (5) is released.

 In spite of this protective function, overloading is still possible with certain applications and can result in damage to the machine.

#### Causes and remedies:

1. **Battery pack almost flat** (the electronics prevent the battery pack from discharging totally and avoid irreparable damage).

If one LED (20) is flashing, the battery pack is almost flat. If necessary, press the button (21) and check the LEDs (20) to see the charge level. If the battery pack is almost flat, it must be recharged.

2. Long continuous overloading of the machine will activate the **temperature cut-out**.

The machine continues to run with reduced performance until the temperature is back to normal.

In case of excessive overheating, the machine will switch off completely.

Leave the machine or battery pack to cool.

**Note:** If the battery pack feels very warm, the pack will cool more quickly in your "AIR COOLED" charger.

**Note:** The machine will cool more quickly if you operate it at idling speed.

3. If the **current is too high** (for example, if the machine seizes continuously for long periods), the machine switches off.


Switch off the machine at the trigger switch (5). Then continue working as normal (in this case, read in particular the safety instructions in Chapter 4...Kickback... in addition to all other safety instructions). Try to prevent the machine from seizing.


### 7.2 Switching on and off

**Switching on:** Push the locking button (6) forwards and hold, then actuate the trigger (5).


**Switching off:** Release the trigger switch (5).

### 7.3 Working Directions

 Do not switch the machine on or off while the saw blade is touching the workpiece.

 Let the saw blade reach its full speed before making a cut.

When the hand-held circular saw is added, the movable guard is swung backwards by the workpiece.

 When sawing, never remove the machine from the material with the saw blade turning. Allow the saw blade to come to a standstill.

 If the saw blade blocks, turn the machine off immediately.

**Sawing along a straight line:** the cutting indicator is used here (11). The left notch (marked 0°) indicates the direction of the cut if the saw blade is held vertically. The right notch (marked 45°) indicates the direction of the cut if the saw blade is held at 45°.

**Sawing along a rail secured on the workpiece:** In order to achieve an exact cutting edge, you can attach a rail to the workpiece and then guide the hand-held circular saw by means of the guide plate along this rail.

#### Sawing with parallel guide:

For cuts parallel to a straight edge. The parallel guide (12) can be inserted from either side into the support provided for it. Tighten the locking screw (10). It is best to calculate the exact cut width by making a test cut.

#### Sawing with guide rail 6.31213:


For dead straight, tear-free cutting edges with millimetre precision. The anti-slip coating keeps the surface safe and protects the workpiece against scratches. For guide rail 6.31213, see chapter on Accessories.

#### Battery pack heat generation:

Under extremely hard application conditions (e.g. sawing thick wooden planks), the heavy load can cause the battery pack to heat (> 60 °C). To conserve the battery pack, allow it to cool down before continuing work.


## 8. Maintenance

### Changing saw blades

 Remove battery pack from machine.

Press in the spindle locking button (22) and hold in place. Turn the saw spindle slowly with the spanner in the saw blade fixing screw (23) (18) until the lock catches.

Unscrew the saw blade fixing screw in a clockwise direction and remove the outer saw blade flange (24). Pull back the movable guard (28) and remove the saw blade.

 Ensure that the inner saw blade flange (27) is inserted in the right way: The inner saw blade flange (27) has 2 sides, diameter 20 mm and 5/8" (16 mm). Ensure a precise fit of saw blade mounting hole to the inner saw blade flange (27)! Incorrectly installed saw blades do not run smoothly and lead to loss of control.


Insert a new saw blade, Make sure the direction of rotation is correct. The direction of rotation is indicated by arrows on the saw blade and guard. The contact areas between the inner saw blade flange (27), the saw blade (25), the outer saw blade





flange (24) and the saw blade fixing screw (23) must be clean.


Put on the outer saw blade flange (24). Ensure that the outer saw blade flange (24) is inserted the correct way round (inscription facing outwards).


Tighten the saw blade fixing screw (23) using a hexagon wrench (18) (**max. 5 Nm**).


 Use only sharp, undamaged saw blades. Do not use saw blades that are cracked or that have changed their shape.

 Do not use any saw blades made from high-alloy high-speed steel (HSS).


 Do not use any saw blades which do not conform to the specified rating. Use only saw blades with a diameter according to the markings on the saw.

 The saw blade must be suitable for the no-load speed.

 Use a saw blade that is suitable for the material being sawn.

 Use only genuine Metabo - saw blades. Saw blades intended for cutting wood or similar materials have to conform to EN 847-1.

## 9. Cleaning

 Remove battery pack from machine.

Dust deposits must be regularly removed from the machine. This includes cleaning the ventilation slits on the motor with a vacuum cleaner. Make sure that the safety appliances, e.g. the movable guard, are in perfect working order.

## 10. Accessories

Only use original Metabo battery packs and Metabo accessories.

Use only accessories that fulfil the requirements and specifications listed in these operating instructions.

See page 4.

- A Guide rail
- B 2 clamp clips. To secure the guide rail.
- C Circular saw blades. For wood and similar materials. Medium cutting quality.
- D Chargers
- E Battery packs with different capacities. Only buy battery packs only with voltage suitable for your power tool
- F Metabo universal vacuum cleaner
- G Suction hose

For a complete range of accessories, see [www.metabo.com](http://www.metabo.com) or the catalogue.

## 11. Repairs

 Repairs to power tools must only be carried out by qualified electricians!

Contact your local Metabo representative if you have Metabo power tools requiring repairs. See [www.metabo.com](http://www.metabo.com) for addresses.

You can download a list of spare parts from [www.metabo.com](http://www.metabo.com).

## 12. Environmental Protection

Observe national regulations on environmentally compatible disposal and on the recycling of disused machines, packaging and accessories.

 Only for EU countries: never dispose of power tools in your household waste!  
According to European Directive 2012/19/EU on Waste from Electric and Electronic Equipment and implementation in national law, used power tools must be collected separately and recycled in an environmentally-friendly manner.

Battery packs may not be disposed of with regular waste. Return faulty or used battery packs to your Metabo dealer!

Do not allow battery packs to come into contact with water!

Discharge the battery pack in the power tool before disposal. Prevent the contacts from short-circuiting (e.g. by protecting them with adhesive tape).

## 13. Technical Specifications

Explanatory notes on the specifications on page 3. Changes due to technological progress reserved.

U	= Voltage of battery pack
$n_0$	= idle speed
$T_{max}$	= maximum depth of cut
$T_{90^\circ}$	= adjustable depth of cut (90°)
$T_{45^\circ}$	= adjustable depth of cut (45°)
A	= adjustable angular cut angle
$\emptyset$	= saw blade diameter
d	= saw blade drill diameter
a	= max. base body thickness of the saw blade
b	= max. cutting width of saw blade
m	= weight

Measured values determined in conformity with EN 62841.

Permitted ambient temperature during operation: -20 °C to 50 °C (limited performance with temperatures below 0 °C). Permitted ambient temperature for storage: 0 °C to 30 °C

⇐ Direct current

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

### Emission values

These values make it possible to assess the emissions from the power tool and to compare different power tools. The actual load may be higher or lower depending on the operating conditions, the condition of the power tool or the accessories. Please allow for breaks and periods when the load is lower for assessment purposes. Arrange protective measures for the user, such as



organisational measures based on the adjusted estimates.

Vibration total value (vector sum of three directions) determined in accordance with EN 62841:

$a_{h,D}$  = Vibration emission value  
(Sawing chip board)

$K_{h,D}$  = Uncertainty (vibration)

Typical A-weighted sound levels:

$L_{pA}$  = Sound pressure level

$L_{WA}$  = Acoustic power level

$K_{pA}, K_{WA}$  = Uncertainty

The noise level can exceed 80 dB(A) during operation.



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Metabowerke GmbH  
Metabo-Allee 1  
72622 Nuertingen  
Germany  
[www.metabo.com](http://www.metabo.com)

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