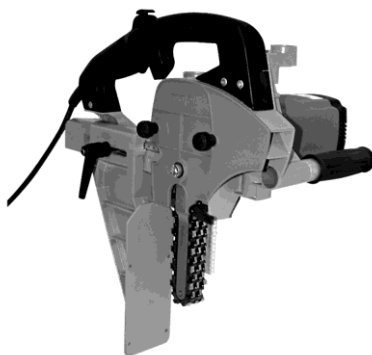


de	Kettenstemmer	Originalbetriebsanleitung	5
en	Chain mortiser	Translation of the original operating instructions	13
fr	Mortaiseuse à chaînes	Traduction de la notice d'emploi originale	21
it	Mortasatrice a catena	Traduzione delle istruzioni d'uso originali	29
nl	Kettingfrees	Vertaling van de originele gebruiksaanwijzing	37
es	Escopleadora	Traducción del manual de instrucciones original	45
fi	Ketjujyrsin	Käännös alkuperäiskäyttöohjeesta	53
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MAF01129/a

WARNING

Lesen Sie alle Sicherheitshinweise und Anweisungen. Versäumnisse bei der Einhaltung der Sicherheitshinweise und Anweisungen können elektrischen Schlag, Brand und/oder schwere Verletzungen verursachen. **Bewahren Sie alle Sicherheitshinweise und Anweisungen für die Zukunft auf.**

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.**

AVERTISSEMENT

Veillez lire toutes les consignes de sécurité et instructions. Tout non-respect des consignes de sécurité et instructions risque d'être à l'origine de décharges électriques, d'incendies et/ou de blessures graves. **Conservez toutes les consignes et instructions pour pouvoir les relire à tout moment.**

AVVERTENZA

Leggere tutte le avvertenze di sicurezza e le istruzioni. La mancanza del rispetto delle avvertenze di sicurezza e delle istruzioni possono causare scossa elettrica, incendio e/o gravi lesioni. **Conservare tutte le avvertenze di sicurezza e le istruzioni per il futuro.**

WAARSCHUWING

Lees alle veiligheidsaanwijzingen en instructies. Nalatigheid bij het naleven van de veiligheidsinstructies en aanwijzingen kan elektrische schok, brand en/of ernstige letsels veroorzaken. **Bewaar alle veiligheidsaanwijzingen en instructies voor later gebruik.**

ADVERTENCIA

Lea todas las indicaciones de seguridad e instrucciones. Si no se cumplen las indicaciones de seguridad e instrucciones, se pueden producir descargas eléctricas, incendios y/o lesiones graves. **Guarde todas las indicaciones de seguridad e instrucciones para el futuro.**

VAROITUS

Lue kaikki turvaohjeet ja käyttöohjeet. Laiminlyönti turvaohjeiden ja käyttöohjeiden noudattamisessa voi aiheuttaa sähköiskun, tulipalon ja/tai vakavia vammoja. **Säilytä kaikki turvaohjeet ja käyttöohjeet tulevaisuuden varalle.**

WARNING

Läs alla säkerhetsanvisningar och anvisningar. Underlåtenhet att följa säkerhetsanvisningar och anvisningar kan orsaka elstötar, brand och/eller allvariga personskador. **Behåll alla säkerhetsanvisningar och anvisning för framtida användning.**

ADVARSEL

Læs alle sikkerhedshenvisninger og instruktioner. En manglende overholdelse af sikkerhedshenvisningerne og instruktionerne kan føre til elektrisk stød, brand og/eller alvorlige kvæstelser. **Opbevar alle sikkerhedshenvisninger og instruktioner til fremtidig brug.**

ПРЕДУПРЕЖДЕНИЕ

Прочитайте все правила и инструкции по технике безопасности. Несоблюдение этих правил и инструкций по технике безопасности может привести к поражению электрическим током, возгоранию и/или другим серьезным травмам. **Сохраните все правила и инструкции по технике безопасности для дальнейшего использования.**

OSTRZEŻENIE

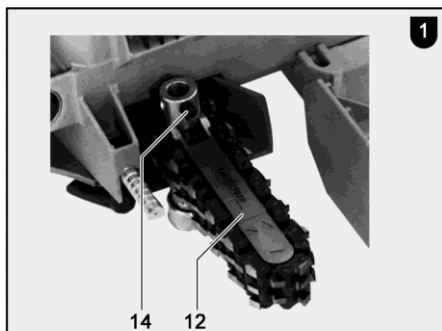
Przeczytać wszystkie przepisy bezpieczeństwa i wskazówki. Zaniedbanie przestrzegania przepisów bezpieczeństwa i wskazówek może prowadzić do porażenia prądem, pożaru i/lub ciężkich zranień. **Zachować wszystkie przepisy bezpieczeństwa i wskazówki na przyszłość.**

UPOZORNĚNÍ

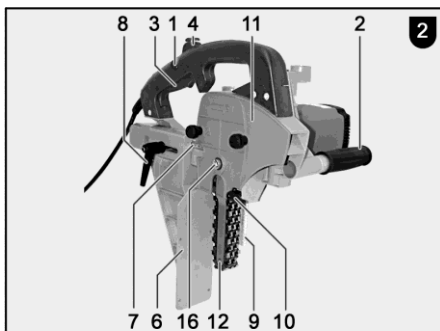
Přečtěte si všechna bezpečnostní upozornění a pokyny. Zanedbání bezpečnostních upozornění a pokynů může způsobit zásah elektrickým proudem, požár a/nebo vážná zranění. **Všechna bezpečnostní upozornění a pokyny si ponechejte pro pozdější použití.**

OPOZORILO

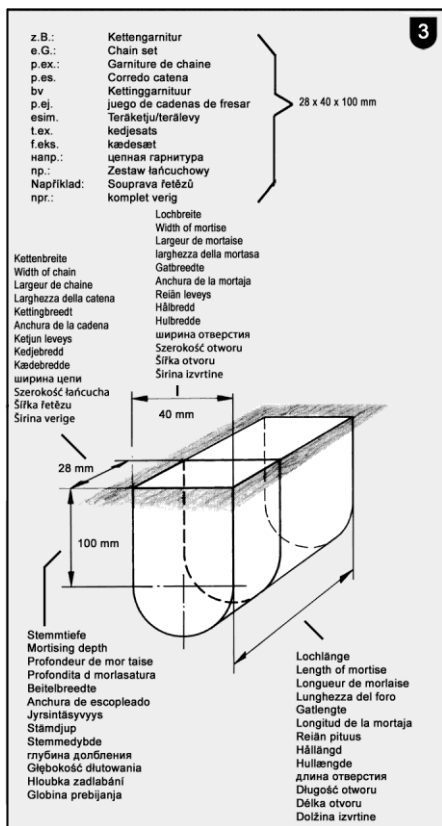
Preberite vsa varnostna opozorila in napotke. Neupoštevanje varnostnih opozoril in napotkov lahko povzroči udar električnega toka, požar in/ali hude telesne poškodbe. **Vsa varnostna opozorila in napotke shranite za prihodnjo uporabo.**



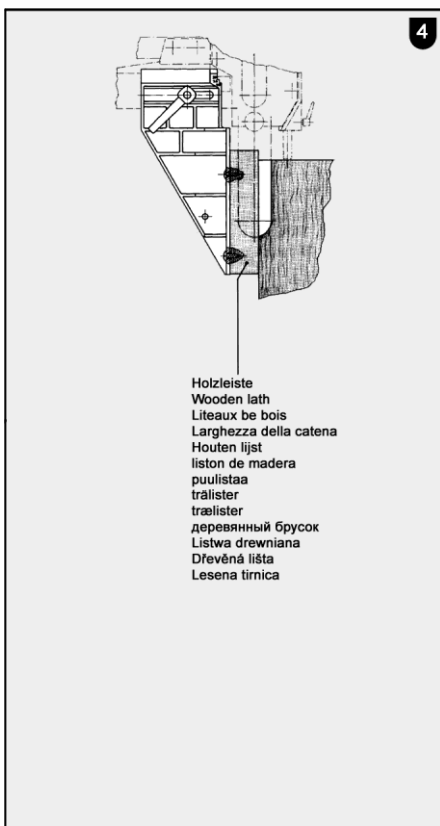
MAF00889/a



MAF01130/a



MAF00890/b



MAF00891/b

D - EG Konformitätserklärung

Wir bescheinigen hiermit, dass die Maschine LS 103 Ec den angeführten EU-Richtlinien entspricht. Bei Konstruktion und Bau wurden die gelisteten Normen angewendet. Bevollmächtigter für die Zusammenstellung der technischen Unterlagen: Mafell AG

GB - EC Declaration of Conformity

We herewith confirm that the machine LS 103 Ec complies with the EU directives quoted. The standards listed were used for design and construction. Empowered person for the configuration of the technical documents: Mafell AG

F - Déclaration CE de conformité

Nous déclarons par la présente que la machine LS 103 Ec est conforme aux directives CE applicables comme suit. Lors de la construction, les règlements suivants ont été utilisés. Plénipotentiaires pour l'assemblage des documentations techniques: Mafell AG

I - Dichiarazione di conformità CE

Con la presente certifichiamo che la macchina LS 103 Ec è conforme alle seguenti direttive CE applicabili. Nella progettazione e la costruzione sono state applicate le seguenti norme. Responsabile per la composizione della documentazione tecnica: Mafell AG

NL - EG conformiteitsverklaring

Wij bevestigen hiermede dat de machine LS 103 Ec aan de vermelde EU-richtlijnen beantwoord. Bij constructie en bouw werden de vermelde normen toegepast. Gemachtigde voor de samenstelling van de technische documenten: Mafell AG

E - Declaración de conformidad CE

Con la presente se certifica que la máquina LS 103 Ec cumple las directivas europeas mencionadas, las cuales forman la base tanto del diseño constructivo como de los procesos de fabricación. Apoderado legal para la compilación de la documentación técnica: Mafell AG

FIN - EY-vaatimustenmukaisuusvakuutus

Vakuutamme täten, että kone LS 103 Ec vastaa mainittujen EU-direktiivien vaatimuksia. Sen suunnittelussa ja valmistuksessa on sovellettu luettelossa ilmoitettuja standardeja. Teknisen asiakirjojen laatimiseen valtuutettu henkilö: Mafell AG

S - EG Konformitetsförklaring

Vi intygar härmed att maskinen LS 103 Ec uppfyller angivna EU direktiv. De angivna normerna användes vid konstruktion och tillverkning. Befullmäktigad för sammanställningen av den tekniska dokumentationen: Mafell AG

DK - EU overensstemmelseserklæring

Vi attesterer hermed, at maskinen LS 103 Ec opfylder de angivene EU-direktiver. Konstruktion og bygning er udført iht. de angivene standarder. Person, der er befuldmægtiget til at sammenstille det tekniske materiale: Mafell AG

RUS - Сертификат соответствия ЕС

Настоящим подтверждаем, что машина LS 103 Ec отвечает требованиям указанных директив ЕС. При проектировании и изготовлении применялись перечисленные нормы. Уполномоченный представитель по составлению технической документации: Mafell AG

PL - Deklaracja zgodności UE

Niniejszym potwierdzamy, że maszyna LS 103 Ec spełnia wymagania wyszczególnionych dyrektyw UE. W trakcie konstrukcji urządzenia zastosowano przedstawione normy. Pełnomocnik odpowiedzialny za zestawienie dokumentacji technicznej: Mafell AG

CZ - PROHLÁŠENÍ O SHODĚ

Tímto prohlašujeme, že stroj LS 103 Ec splňuje pokyny uvedených směrnic EU. Při plánování a sestavení byly využity uvedené normy. Za sestavení technických podkladů zodpovídá: Mafell AG

SLO - ES izjava o skladnosti

S tem izjavljamo, da stroj LS 103 Ec ustreza navedenim direktivam EU. Pri konstrukciji in izdelavi so uporabljeni našeti standardi. Za sestavo tehnične dokumentacije je pooblaščen o podjetje: Mafell AG



2006/42/EG
2014/30/EU
2011/65/EU

EN 62841-1, EN 55014-1, EN 55014-2, EN 61000-3, EN 12100

LS 103 Ec

Art.-Nr. 924201, 924202, 924203, 924204, 924205, 924206, 924220, 924221, 924228, 924235, 924236, 924237, 924238

Mafell AG

D - 78727 Oberndorf, den 15.12.2021

Dipl.-Ing. Matthias Krauss
Vorstandsvorsitzender / CEO

i. V. Dipl.-Ing. Harald Schmid, MBA
Leitung Entwicklung und Konstruktion / Head of R&D

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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. 924201, 924202, 924203, 924204, 924205, 924206, 924220, 924221, 924222, 924228, 924229, 924235, 924236, 924237, 924238, 924240 or 924250

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.



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	230 V~, 50 Hz	120 V~, 60 Hz
Input power continuous operation	2500 W	
Current at nominal load	13 A	20 A
Idling speed	4050 rpm	
Mortising depth	100 mm (3 15/16 in.)	
Mortising depth with guide support stand FG 150, order No. 200 980	150 mm (5 7/8 in.)	
Weight without mains cable LS 103 Ec	8,7 kg (19.18 lbs)	
Weight guide support stand FG 150, order No. 200 980	4.6 kg (10.1 lbs)	

2.4 Emissions

The declared noise emission values have been measured in accordance with DIN EN 62841-1 and may be used for comparing the tool with another and also in a preliminary assessment of exposure.



Danger

The noise emissions during actual use of the power tool can differ from the declared values depending on the ways in which the tool is used especially what kind of workpiece is processed.

Always wear hearing protection, even when the power tool is running idle in addition to the trigger time!

2.4.1 Noise emission specifications

Noise emission values determined according to EN 62841:

	Sound power level	Workplace-related emission value
Idling	108 dB (A)	97 dB (A)
Machining	108 dB (A)	97 dB (A)

2.4.2 Vibration specifications

The typical hand-arm vibration is 5.1 m/s².

2.5 Scope of supply

Single-phase chain mortiser LS 103 Ec complete with:

- 1 guide rail, cpl.
- 1 mortising chain
- 1 chain wheel
- 1 crossfeed stop
- 2 operating tools
- 1 operating manual
- 1 folder "Safety Instructions"

2.6 Use according to intended purpose

The single-phase chain mortiser is exclusively intended for mortising solid wood using mortising chains. The dimensions of the mortising chain sets used (guide rail, mortising chain and chain wheel)

must correspond to the mortising chain sets listed in the operating instructions.

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

So as to use the machine as intended, comply with the operating, maintenance and repair instructions specified by Mafell.

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 that can lead to health consequences will always remain.

- Touching the mortising chain in the exposed area.
- Touching the part of the mortising chain that protrudes below the workpiece when mortising.
- Touching the mortising chain from the side.
- Tearing of the mortising chain.
- Backlash of the machine against the operator if the cross fence is not fastened during freehand milling.
- 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 harmful wood dusts during longer operation without extraction.

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 prescribed for the respective operating sequence and do not make any changes to the machine that could impair safety.

- When operating the machine outdoors, use of an earth-leakage circuit-breaker is recommended.
- Damaged cables or plugs must be immediately replaced. Replacement may only be carried out by Mafell or an authorised MAFELL service workshop in order to avoid safety hazards.
- Avoid sharp bends in the cable. Especially when transporting and storing the machine, do not wind the cable around the machine.

Instructions on the use of personal protective equipment:

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

Instructions on operation:

- Provide for an unobstructed and slip-proof location with sufficient lighting.
- The power plug must be pulled before replacing tools, making adjustments and repairing malfunctions (this also comprises removing jammed splinters).
- Do not work on workpieces which are too small or too large for the capability of the machine.
- Clamp the mortising chain and the guide rail properly and keep it in good repair. Before reusing them, repair defective mortising chains professionally and only use sharp mortising chains!
- Caution: For machines without guide support stand FG 150, use solely 100 mm (3 5/16 inch) mortising chain sets!
- Remove the chain guard only for a tool change and screw it back on again immediately afterwards. Never work without chain guard!
- Never transport the chain mortiser with running mortising chain and avoid touching the ground with the running mortising chain!
- The switch may not be wedged.
- Before switching on the mortising chain, check whether it is properly tensioned.
- Whenever possible secure the workpiece from pivoting or sliding away, overturning and luffing up, e.g. by means of clamps.
- Only begin mortising the workpiece when the mortising chain has achieved its full speed.
- Examine the workpiece for foreign objects. Never attempt to stem into metal objects, such as nails.

- Keep a firm hold on the machine already before switching it on. The mortising chain must stand unobstructed while doing so. Apply the machine for the mortising operation with running mortising chain. Pay attention to a secure footing.
- Always lead the connecting cable away from the machine to the rear while mortising.
- Match the feed speed during mortising to the material thickness. Mortising too quickly leads to motor overload, to unclean mortises and to the mortising chain blunting quickly.
- Only remove the machine from the workpiece if it has come to a standstill.
- Do not reach into the chip ejector and the unprotected area of the mortising chain while the machine is running.
- Before switching on the machine for freehand milling, pay attention that the cross fence is fastened and rests against the workpiece. Milling must not start without cross fence!
- Only use the machine outdoors or in well ventilated rooms.
- Wear a dust mask during machine operation.

Instructions on service and maintenance:

- Regularly cleaning the machine, especially the adjusting devices and guides, constitutes an important safety factor.
- Only original MAFELL spare parts and accessories may be used. Otherwise the manufacturer will not accept any warranty claims and cannot be held liable.
- Wear protective gloves for all maintenance and repair work.

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 Installation mortising chain set



Danger!

Pull the power plug during all service work.

- Lightly screw on the guide rail with the cylinder head bolt. Pay attention that the guide rail rests planely in the guide on the gearbox case and possibly unscrew the threaded pin 14 (Fig. 1).
- The installation of mortising chain and chain wheel is carried out as described under 4.3 and 4.4.

4.3 Mortising chain change



Danger!

Pull the power plug during all service work.

Pay attention that the mortising chain to be clamped has been well sharpened as this is the basic requirement for correct mortising.

Proceed as follows to replace the mortising chain:

- First slacken the mortising chain by means of the threaded pin 14 (Fig. 1).
- Remove the chain guard 11 (Fig. 2) by simultaneously unfastening the two knurled screws.
- Unfasten the cylinder head bolt 16.
- Unfasten and remove the countersunk bolt in the transmission shaft.
- Remove the chain wheel, mortising chain and guide rail together.
- For installation, proceed in reverse order.
- Refit the new mortising chain together with the chain wheel and the guide rail and pay attention that the cutting teeth are running in working direction (see arrow on the chain guard 11 (Fig. 2)).
- Fasten the countersunk bolt in the transmission shaft.
- Lightly tighten the cylinder head bolt 16 and clamp the mortising chain with the threaded pin 14 (Fig. 1). The correct chain tension has been achieved if the mortising chain can be lifted approx. 6 mm (1/4 in.) in the middle of the guide rail.
- Securely retighten the cylinder head bolt 16 (Fig. 2) after completion of the adjustment work.
- Refit the chain guard 11!

4.4 Chain wheel change



Danger

Pull the power plug during all service work.

- During a chain wheel change, the countersunk screw in the gear shaft must be unscrewed with the Allen key fastened on the machine by knocking lightly against the key.
- For installation, proceed in reverse order. Push the new chain wheel onto the gear shaft such that the chain wheel groove gears into the straight pin, which is pushed crossways through the gear shaft.

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".

5.2 Switching on and off



Danger

Pay attention that the mortising chain can be moved freely.

Lead the connecting cable away to the rear.

Hold onto the machine with both hands.

Only switch on the machine if the mortising chain has no contact with the workpiece.

- **Switching on:** First unlock the switch-on lock to the front by pressing the locking lever 4 (Fig. 2). Then actuate the control lever 3. As this is a switch without locking device, the machine will only run for as long as this switch is pressed.
- **Switching off:** Release control lever 3. The switch-on lock automatically takes effect again and secures the machine against accidental switch-on.



Switch-on procedures create a temporary reduction in voltage. In case of unfavourable grid conditions, this may lead to the impairment of other devices.

In case of grid impedances smaller than 0.27 Ohm, no interferences are to be expected.

5.3 Cross fence setting

The distance between mortise and collar side is steplessly variable from 8 to 150 mm (5/16 to 5 7/8 in.) with the crossfeed stop 6 (Fig. 2).

- Release the clamping lever 8 and set the distance on scale 7. Note the reading edge depending on the hole width 30, 35 or 40 mm (1 3/16, 1 3/8 or 1 9/16 in.)!
- Securely retighten the clamping lever 8 afterwards. The clamping lever is adjustable and can be brought into any desired clamping position by lifting it.

5.4 Mortising depth adjustment

The mortise depth is continuously variable.

- Release clamping lever 10 (Fig. 2) and set the depth stop 9 to depth using a yard stick.
- Tighten clamping lever 10 (adjustable as 8) - do not place in mortising direction! The mortising depth depends on the mortising chain set used.

5.5 Operating method

To start mortising, hold the machine by its two handles 1 and 2 (Fig. 2) and guide it - the crossfeed stop 6 must rest against the wood. First mortise the start and end of the mortise and then the rest. Mortise with even pressure and infeed. The mortising chain should be cleaned and lubricated in a low viscosity oil bath after two hours of operation.

5.6 Mortising recesses

For this, two wooden ledges can be screwed on at the drill holes Ø 4.5 mm (11/64 in.) on the crossfeed stop 6 (Fig. 2) (see Fig. 4).

6 Service and maintenance



Danger

Pull the power plug during all service work.

MAFELL machines are designed to be low in maintenance.

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 MAFELL customer service shop for inspection.

Only use our special grease, order No. 049040 (1 kg tin) for all greasing points.

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
	Carbon brushes worn	Take the machine to a MAFELL customer service shop
Chip ejection blocked	Wood is too damp	

6.1 Mortising chains

The mortising chain used on the machine should be cleaned and lubricated in a low viscosity oil bath after two hours of operation. To do so, dismantle the mortising chain (see chapter 4.3).

Replace the blunt mortising chains or have them reground at a MAFELL customer service station or by a suitable sharpening service.

6.2 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.

8 Optional accessories

- Guide support stand FG 150	Order No. 200980
- Slot mortising device SG 230	Order No. 200990
- Slot mortising device SG 400	Order No. 201000
- Slot mortising device SG 500	Order No. 201005
- Clamping device (for SG 400)	Order No. 039602
- Guide rail, cpl. 28x40x100	Order No. 091010
- Guide rail, cpl. 28x40x150	Order No. 091011
- Guide rail, cpl. 28x30/35x100	Order No. 091012
- Guide rail, cpl. 28x30/35x150	Order No. 091013
- Guide rail, cpl. 30x30/35x100	Order No. 091014
- Guide rail, cpl. 28x1.5x150	Order No. 091016
- Guide rail, cpl. 28x2x150	Order No. 091017
- Mortising chain 28x35/40/50x100	Order No. 091224
- Mortising chain 28x35/40x100	Order No. 091230
- Mortising chain 28x35/40x150	Order No. 091234
- Spare links with rivets 28 mm	Order No. 091279
- Chain wheel 28x35/40	Order No. 091683

9 Exploded drawing and spare parts list

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

Notes for after-sales service:

If a LS 103 Ec (with Cuprex motor) is to be mounted on an existing slot mortising device SG 400 or SG 500 at the customer's (up to year of manufacture 2006), the pinion cpl. (pos. 2), item No 200842 on the slot mortising device must be replaced by pinion cpl. 204740.

The handle on the pinion cpl. 204740 can be detached by means of the Allen key SW 4 which is included as accessory with the LS 103 Ec and used to attach the LS 103 Ec on the SG 400 / SG 500.