



# Operating Instructions F45/F45 ELMO



# F45 Operating Instructions

Machine no. \_\_\_\_\_

Version: 2.0/2007

Article no. F4506.0001

GB



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# 1 Foreword

***Please read these operating instructions carefully before commissioning the machine.***

***No liability will be accepted for any injury, damage or disruption to operations resulting from failure to comply with these operating instructions!***

***Persons operating this sliding table saw must have had sufficient instruction and be suitably qualified!***

***These operating instructions cannot be regarded as a binding type description as the manufacturer may have carried out technical modifications.***

The operating instructions must always be available where the machine is being used. They must be read and heeded by any person performing the following activities at or on the machine:

- Operating including set-up, troubleshooting during operation, elimination of production waste, care, disposal of operating and auxiliary materials
- Maintenance, repair, inspection
- Transport

It is necessary to comply with national regulations on health and safety at work and environmental protection, in addition to the operating instructions.

The removal of safety devices, especially safety hoods for the saw blade cover and riving knives, will endanger the operator and may lead to accidents.

Safe work is only possible with a clean machine and a clean environment!

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## 2 Identification

### 2.1 Machine identification


The details needed to identify the machine are shown on the rating plate that is attached to the switch cabinet.


<b>Wilhelm Altendorf GmbH &amp; Co. KG</b>			<b>Mach./No.</b>	
<b>Maschinenbau</b>				
Wettinerallee 43/45				
D-32429 Minden			<b>Made by ALTENDORF</b>	
<b>Formatkreissäge / Scie à format / Dimension saw</b>			<b>Elektrischer Anschluss</b>	
Typ / Type	F45		<b>Raccordement électrique</b>	
<b>Nummer / Numéro / Number</b>			<b>Electrical connection</b>	
Baujahr / Année / Year	2006		Spannung / Tension / Voltage	
<b>Hauptsäge</b>			Strom / Courant / Current	
Sägeblatt / Lame de scie / Sawblade	min Ø	mm	Frequenz / Fréquence / Cycles	
Sägeblatt / Lame de scie / Sawblade	max. Ø	mm	Phasen / Fases / Phases	
Sägewelle	Ø	30 mm	SAP	
<b>Vorritzsäge</b>			B0000.0000	
Sägeblatt	Ø	120 mm	<b>Hauptmotor / Moteur principale / Main motor</b>	
Sägewelle	Ø	15 mm	Fabrikat / Fabricant / Manufacturer	
Werkzeugaufnahme	Ø	22 mm	Typ / Type	
<b>Führungsschlitzbreite Spaltkeil</b>			Leistung / Puissance / Power	
Largeur de l'entaille du couteau diviseur			13 mm	
Width of riving knife slot			K6120.0000	
			<b>Vorritzermotor / Moteur inciseur/ Scoring motor</b>	
			Fabrikat / Fabricant / Manufacturer	
			Typ / Type	
			Leistung / Puissance / Power	
			0,75 kW	
			Nummer / Numéro / Number	
			SAP	
			K6120.0000	



holzstaubgeprüft





## 2.2 Certificates

The following certificates are provided:

- CE declaration of conformity
- EC prototype certificate
- GS certificate
- BG certificate
- CSA/UL certificate
- GOST R certificate





**CE-Konformitätserklärung**

für

**ALTENDORF-Formatkreissäge Typ F45, F45ELMO, F45POSIT/c.a.t.s mit der**

**Maschinen-Nummer:** \_\_\_\_\_

Die Maschine entspricht den folgenden Bestimmungen:

- EG-Richtlinie 98/37/EWG (Maschinenrichtlinie), zuletzt geändert durch die Richtlinie 98/79/EWG.
- EG-Richtlinie 73/23/EWG (Niederspannungsrichtlinie), zuletzt geändert durch die Richtlinie 93/68/EWG.
- EG-Richtlinie 89/336/EWG (EMV-Richtlinie), zuletzt geändert durch die Richtlinie 93/68/EWG.

Bei der Konstruktion und Bau der Maschine wurden folgende Regelwerke angewendet:

Harmonisierte Normen	Europäische Normen
EN 292	EN 60529
EN 294	DIN EN 50081 Teil 1
EN 349	DIN EN 50082 Teil 1
EN 418	EN 1870 Teil 1
EN 60204	

Die gemeldete Stelle

Fachauschuß Holz  
Prüf- und Zertifizierungsstelle im BG-Prüfzert  
Vollmoellerstraße 11  
70563 Stuttgart

hat für die Maschine eine EG-Baumusterprüfung nach EG-Richtlinie 98/37/EWG (Maschinenrichtlinie) durchgeführt und eine EG-Baumusterbescheinigung mit der Nummer **031097** ausgestellt.

Wilhelm Altendorf GmbH&Co.KG Maschinenbau  
Wettinerallee 43-45  
D-32429 Minden

Minden, 04.11.2005

E. Donnerberg

G. Teramen  
ppa.

Version 1.1/2004\_DE TD/TW



Fachauschuß Holz  
**Prüf- und Zertifizierungsstelle**  
im BG-PRÜFZERT

Hauptverband der gewerblichen  
Berufsgenossenschaften

**EG-Baumusterprüfbescheinigung**

031097

Bescheinigungs-Nummer

Name und Anschrift des Bescheinigungsinhabers: W. Altendorf GmbH & Co. KG  
Maschinenbau  
(Auftraggeber) Wettiner Allee 43-45, 32429 Minden

Name und Anschrift des Herstellers: W. Altendorf GmbH & Co. KG  
Maschinenbau  
Wettiner Allee 43-45, 32429 Minden

Zeichen des Auftraggebers: - Zeichen der Prüf- und Zertifizierungsstelle: 612.17 Ts/H/102101 Ausstellungsdatum: 01.07.2003

Produktbezeichnung: Formatkreissägemaschine

Typ: Baureihe F (F 90, F 90 POSIT, F 45, F 45 ELMO, F 45 POSIT, F 45 Standard)

Bestimmungsgemäße Verwendung: Schneiden von Massivholz, Plattenwerkstoffen aus Holz und holzähnlichen Werkstoffen, Kunststoffen (Duro-/Thermoplaste), Gipskarton und Wellpappe

Prüfgrundlage: Grundsätze für die Prüfung und Zertifizierung von Holzbearbeitungsmaschinen (GS-HO-01), Ausgabe 01.96 mit den Prüfgrundlagen in der Fassung 06.2000

Bemerkungen: Prüfung einschließlich Sonderzubehör Vorritzsäge (motorische Verstellung, Schnittbreitenverstellung), Tischverbreiterung, Gehrungsanschlag DUPLEX, Wagenverriegelung BOLT, Laser-Schnittfugenanzeige.

Das geprüfte Baumuster entspricht den einschlägigen Bestimmungen der Richtlinie 98/37/EG (Maschinen).

Weitere Bedingungen regelt die Prüf- und Zertifizierungsordnung vom Oktober 1997.

Unterschrift (Dipl.-Ing. Kohler)

PZB02  
10.98



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Fachauschuß Holz  
**Prüf- und Zertifizierungsstelle**  
 im BG-PRÜFZERT

Hauptverband der gewerblichen  
 Berufsgenossenschaften

**GS-Prüfbescheinigung**

031098

Bescheinigungs-Nummer

Name und Anschrift  
 des Bescheinigungsinhabers: W. Altendorf GmbH & Co. KG  
 Maschinenbau  
 (Auftraggeber) Wettiner Allee 43-45, 32429 Minden

Name und Anschrift  
 des Herstellers: W. Altendorf GmbH & Co. KG  
 Maschinenbau  
 Wettiner Allee 43-45, 32429 Minden

Zeichen des Auftraggebers: -      Zeichen der Prüf- und Zertifizierungsstelle: 612.17 Ts/H/102101      Ausstellungsdatum: 01.07.2003

Produktbezeichnung: Formatkreissägemaschine

Typ: Baureihe F (F 90, F 90 POSIT, F 45, F 45 ELMO, F 45 POSIT, F 45 Standard)

Bestimmungsgemäße  
 Verwendung: Schneiden von Massivholz, Plattenwerkstoffen aus Holz und holzähnlichen  
 Werkstoffen, Kunststoffen (Duro-/Thermoplaste), Gipskarton und Wellpappe

Prüfgrundlage: Grundsätze für die Prüfung und Zertifizierung von Holzbearbeitungs-  
 maschinen (GS-HO-01), Ausgabe 01.96 mit den Prüfgrundlagen in der  
 Fassung 06.2000

Bemerkungen: Prüfung einschließlich Sonderzubehör Vorritzsäge (motorische Verstellung,  
 Schnittbreitenverstellung), Tischverbreiterung, Gehrungsanschlag DUPLEX,  
 Wagenverriegelung BOLT, Laser-Schnittfugenanzeige.

Das geprüfte Baumuster stimmt mit den in § 3 Absatz 1 des Gerätesicherheitsgesetzes genannten Anforderungen überein.  
 Das Baumuster entspricht somit auch den einschlägigen Bestimmungen der Richtlinie 99/37/EG (Maschinen).  
 Der Bescheinigungsinhaber ist berechtigt, das umseitig abgebildete GS-Zeichen an den mit dem geprüften Baumuster  
 übereinstimmenden Produkten anzubringen. Der Bescheinigungsinhaber hat dabei die umseitig aufgeführten Bedingungen  
 zu beachten.

Diese Bescheinigung einschließlich der Berechtigung zur Anbringung des GS-Zeichens wird spätestens ungültig am:

30.06.2008

Weiteres über die Gültigkeit, eine Gültigkeitsverlängerung und andere Bedingungen regelt die Prüf- und Zertifizierungs-  
 ordnung vom Oktober 1997.

Unterschrift (Dipl.-Ing. Kohler)

PZ803  
 10.98



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 im BG-PRÜFZERT

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**BG-Prüfbescheinigung**

031099

Bescheinigungs-Nummer

Name und Anschrift  
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Name und Anschrift  
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 Maschinenbau  
 Wettiner Allee 43-45, 32429 Minden

Zeichen des Auftraggebers: -      Zeichen der Prüf- und Zertifizierungsstelle: 612.17 Ts/H/102101      Ausstellungsdatum: 01.07.2003

Produktbezeichnung: Formatkreissägemaschine

Typ: Baureihe F (F 90, F 90 POSIT, F 45, F 45 ELMO, F 45 POSIT, F 45 Standard)

Bestimmungsgemäße  
 Verwendung: Schneiden von Massivholz, Plattenwerkstoffen aus Holz und holzähnlichen  
 Werkstoffen, Kunststoffen (Duro-/Thermoplaste), Gipskarton und Wellpappe

Prüfgrundlage: Grundsätze für die Prüfung und Zertifizierung des Teilespektes Staub-  
 emission (Konzentrationsparameter) von Holzbearbeitungsmaschinen  
 (GS-HO-05), Ausgabe 03.99 mit den Prüfgrundlagen in der Fassung 03.99

Bemerkungen: Hinweis: Holzstaubgeprüft im Sinne von BGI 739. Dem BG-PRÜFZERT-Zeichen  
 muß der Vermerk "holzstaubgeprüft" angefügt werden.

Das geprüfte Baumuster entspricht der oben angegebenen Prüfgrundlage.  
 Der Bescheinigungsinhaber ist berechtigt, das umseitig abgebildete BG-PRÜFZERT-Zeichen an den mit dem geprüften  
 Baumuster übereinstimmenden Produkten anzubringen, und zwar mit dem unter 'Bemerkungen' genannten Hinweis.  
 Diese Bescheinigung wird spätestens ungültig am:

30.06.2008

Weiteres über die Gültigkeit, eine Gültigkeitsverlängerung und andere Bedingungen regelt die Prüf- und Zertifizierungs-  
 ordnung vom Oktober 1997.

Unterschrift (Dipl.-Ing. Kohler)

PZ808  
 10.98



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СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р  
ГОССТАНДАРТ РОССИИ



**СЕРТИФИКАТ СООТВЕТСТВИЯ**

№ РОСС DE.ДС01.В03729

Срок действия с 01.09.2006 по 31.08.2009

6937016

ОРГАН ПО СЕРТИФИКАЦИИ РОСС RU.0001.11ДС01

ОРГАН ПО СЕРТИФИКАЦИИ ДЕРЕВООБРАБАТЫВАЮЩЕГО ОБОРУДОВАНИЯ И ИНСТРУМЕНТА  
(ОСДО МГУЛ) МОСКОВСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ ЛЕСА

РФ, 141001, Московская обл., Мытищи-1, ул. Институтская 1, МГУЛ, Тел./факс (495) 586-05-05

**ПРОДУКЦИЯ**

СТАНКИ КРУГЛОПИЛЬНЫЕ ФОРМАТНЫЕ моделей F45, F45 ELMO, C90,  
C45 compact, C90 compact, F45 ELMO/c.a.t.s., WA 80, WA 6

код ОК 005 (ОКП):

383111

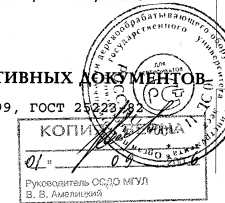
СЕРИЙНОЕ ПРОИЗВОДСТВО

**СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ**

ГОСТ 12.2.026.0-93, ГОСТ Р МЭК 60204-1-99, ГОСТ 25223-92

ТН ВЭД России:

8465912000



КОПИЯ  
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СЕРТИФИКАТ ВЫДАН "Wilhelm Altendorf GmbH & Co. KG Maschinenbau",  
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Тел. (49) 571/9550-132, факс (49) 571/9550-133

НА ОСНОВАНИИ ПРОТОКОЛА ИСПЫТАНИЙ № 2068-06 от 31.08.2006 г.

ИСПЫТАТЕЛЬНОГО ЦЕНТРА ДЕРЕВООБРАБАТЫВАЮЩЕГО ОБОРУДОВАНИЯ И ИНСТРУМЕНТА  
(ИЦДО МГУЛ) РОСС RU.0001.21ДС01

АКТ ОЦЕНКИ УСЛОВИЙ ПРОИЗВОДСТВА № 648-06 от 20.07.2006 г.

САНИТАРНО-ЭПИДЕМИОЛОГИЧЕСКОЕ ЗАКЛЮЧЕНИЕ № 77.01.03.383.П.13076.05.5 от 17.05.05  
ВЫДАНО ТЕРРИТОРИАЛЬНЫМ УПРАВЛЕНИЕМ "РОСПОТРЕБНАДЗОРА" по г. МОСКВЕ

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ знак соответствия наносится на документацию,  
упаковку и этикетки в виде рельефа рядом с товарным знаком изготовителя в соответствии с ГОСТ Р  
25223-92. СХЕМА СЕРТИФИКАЦИИ - За



Руководитель органа

Эксперт

подпись  
подпись

В.В. АМАЛИЦКИЙ

Инициалы, фамилия  
В.В. АМАЛИЦКИЙ

Инициалы, фамилия

Сертификат имеет юридическую силу на всей территории Российской Федерации

### 2.3 Marks of conformity



Fig. 2-1: CE mark



Fig. 2-3: Wood dust mark



Fig. 2-5: GOST R mark



Fig. 2-2: GS mark



Fig. 2-4: CSA/UL mark

## 3 Product description

### 3.1 Intended use

The F 45 sliding table saw and the workpiece guide equipment supplied with it are intended to be used exclusively for the following purposes:

- Laminated and unlaminated board materials (e.g. chipboard, coreboard, MDF board, ...)
- Solid wood
- Veneer with a suitable clamping device
- Gypsum plasterboard
- Cardboard
- Dimensionally stable plastics (thermoset plastics, thermoplastics). Sawing these materials does not normally involve any risks in respect of dust, chips, and thermal degradation products.
- Aluminium and aluminium alloys

#### Tools:

- The chosen saw blade must be suitable both for the specific work cycle (e.g. longitudinal cutting or crosscutting) and for the specific material.
- Only circular blades which are solid chrome vanadium (CV) or tungsten carbide tipped (TCT) and have a minimum and maximum diameter of 250 mm and 500 (550) mm as well as a maximum width of 15 mm are allowed for the main saw and milling/grooving cutter. The middle table strip and the cushioning disc must be removed when using a milling/grooving cutter.
- Blades with a maximum diameter of 120 mm are allowed for the scoring saw.
- **Saw blades made of high-alloy high-speed steel (HSS) are not allowed to be used.**
- **Wobble units are not allowed to be used.**

#### Site of installation/use:

- The machine is not suitable for use outdoors, or in rooms that are subject to moisture or the risk of explosions.
- The intended use of the machine involves connection to a suitably dimensioned extraction system.
- Intended use also involves compliance with ALTENDORF's specified operating, maintenance and repair conditions and the safety information contained in the operating instructions.
- The F 45 sliding table saw may only be used, set up and maintained by persons who are familiar with the machine and aware of the dangers.

- The pertinent accident prevention regulations as well as any other generally recognised technical safety and industrial medicine rules must be observed.
- Repair work must be carried out by our own customer service or by an organisation that we have authorised. Only original ALTENDORF spare parts are allowed to be used for this. ALTENDORF will assume no warranty for any damage that is caused by using non-original spare parts.

**Coolant spray device:**

It is advisable to use a coolant spray device when sawing aluminium and plastics. When using such a spray device, make sure you only use coolant that does not impair the function of safety-relevant parts such as safety hoods! (The transparent parts of the safety hood are made of polycarbonate, and the hood support of polyamide.)

**Clamping device:**

A suitable clamping device should be used for small workpieces in particular, e.g.:

- Pneumatic pressure beam M641xx
- El.-pneum. quick-action clamp M6413x
- Mechanical quick-action clamp M64200

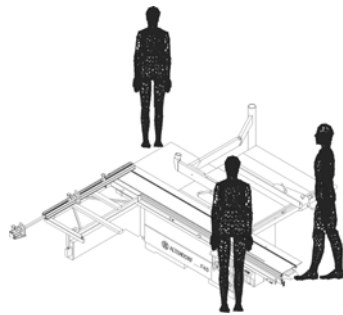


Fig. 3-1: Machine workplaces

**Machine operator positions:**

The sliding table is intended to be operated from the following positions:

- On the left of the sliding table at the front of the machine, seen in the feed direction (main operator position).

- At the front cross-end of the machine on the right of the sliding table when working with the rip fence (make sure you do not move your body or parts of it into the blade rotation area).
- Any person removing the workpieces must stand at the rear cross-end of the machine behind the main table length extension (under no circumstances in the sliding table traverse area).!

**Important information:**

- Any use extending beyond this counts as unintended. ALTENDORF will not be liable for any kind of injury or damage that may result from such unintended use; the risk thereof is borne by the user alone.
- Modifications by users to the machine or its electrical parts and the use of non-original parts on the machine exclude any liability by the manufacturer for any resultant injury or damage.

### 3.2 Dimensions and weights

Machine type/ Sliding table length	Net/gross weight of machine box [kg]	Net/gross weight of sliding table [kg]	Net/gross weight of accessories [kg]	Dimensions of machine box [mm]	Dimensions of ST box [mm]	Accessories box [mm]
F 45 I / 2250	855 / 970	114 / 175	131 / 203	1900 x 1300 x 1100	2580 x 660 x 330	2060 x 960 x 500
F 45 I / 3000	855 / 970	158 / 234	131 / 203	1900 x 1300 x 1100	3330 x 660 x 330	2060 x 960 x 500
F 45 I / 3200	855 / 970	170 / 250	131 / 203	1900 x 1300 x 1100	3530 x 660 x 330	2060 x 960 x 500
F 45 I / 3400	855 / 970	205 / 289	131 / 203	1900 x 1300 x 1100	3730 x 660 x 330	2060 x 960 x 500
F 45 I / 3800	855 / 970	212 / 304	131 / 203	1900 x 1300 x 1100	4130 x 660 x 330	2060 x 960 x 500
F 45 I / 4300	855 / 970	249 / 350	131 / 203	1900 x 1300 x 1100	4630 x 660 x 330	2060 x 960 x 500
F 45 I / 5000	855 / 970	269 / 385	131 / 203	1900 x 1300 x 1100	5330 x 660 x 330	2060 x 960 x 500
<b>F 45 II / 2250</b>	<b>1140 / 1240</b>	<b>114 / 175</b>	<b>142 / 230</b>	<b>1900 x 2330 x 1100</b>	<b>2580 x 660 x 330</b>	<b>2060 x 960 x 500</b>
F 45 II / 3000	1140 / 1240	158 / 234	142 / 230	1900 x 2330 x 1100	3330 x 660 x 330	2060 x 960 x 500
F 45 II / 3200	1140 / 1240	170 / 250	142 / 230	1900 x 2330 x 1100	3530 x 660 x 330	2060 x 960 x 500
F 45 II / 3400	1140 / 1240	205 / 289	142 / 230	1900 x 2330 x 1100	3730 x 660 x 330	2060 x 960 x 500
F 45 II / 3800	1140 / 1240	212 / 304	142 / 230	1900 x 2330 x 1100	4130 x 660 x 330	2060 x 960 x 500
F 45 II / 4300	1140 / 1240	249 / 350	142 / 230	1900 x 2330 x 1100	4630 x 660 x 330	2060 x 960 x 500
F 45 II / 5000	1140 / 1240	269 / 385	142 / 230	1900 x 2330 x 1100	5330 x 660 x 330	2060 x 960 x 500
<b>F45 III / 2250</b>	<b>1282 / 1495</b>	<b>114 / 175</b>	<b>142 / 230</b>	<b>1900 x 2330 x 1970</b>	<b>2580 x 660 x 330</b>	<b>2060 x 960 x 500</b>
F45 III / 3000	1318 / 1550	158 / 234	142 / 230	1900 x 2330 x 1970	3330 x 660 x 330	2060 x 960 x 500
F45 III / 3200	1330 / 1565	170 / 250	142 / 230	1900 x 2330 x 1970	3530 x 660 x 330	2060 x 960 x 500
F45 III / 3400	1342 / 1580	205 / 289	142 / 230	1900 x 2330 x 1970	3730 x 660 x 330	2060 x 960 x 500
F45 III / 3800	1369 / 1604	212 / 304	142 / 230	1900 x 2330 x 1970	4130 x 660 x 330	2060 x 960 x 500
F45 III / 4300	1396 / 1661	249 / 350	142 / 230	1900 x 2330 x 1970	4630 x 660 x 330	2060 x 960 x 500
F45 III / 5000	1433 / 1684	269 / 385	142 / 230	1900 x 2330 x 1970	5330 x 660 x 330	2060 x 960 x 500

F45 III = Option package III or ELMO or eye-level operating panel



### 3.3 Auxiliary power/power requirements

Motor [kW]	Voltage [V]	Freq. [Hz]	Nominal current A: With or without scoring blade
5.5	200 - 220	50	19.8 / 23.2
7.5	200 - 220	50	26.5 / 29.9
11	200 - 220	50	39.0 / 42.4
5.5	380 - 420	50	11.5 / 13.5
7.5	380 - 420	50	15.5 / 17.5
11	380 - 400	50	22.5 / 24.5
Vario	380 - 400	50	36.0 / 38.0
5.5	200 - 220	60	20.0 / 23.5
7.5	200 - 220	60	24.0 / 28.0
5.5	380 - 440	60	10.5 / 12.0
5.5	600	60	7.5 / 8.5
7.5	600	60	9.5 / 10.5

The permissible tolerance for the specified mains voltage is + 5% and - 10%. Greater variations will impair functionality.

Only connect the machine to a three-phase AC mains with phases L1, L2 and L3, otherwise the brake module or the frequency converter may be destroyed. Operating the machine together with phase converters, frequency converters or transformer-capacitor combinations will destroy the brake module or the frequency converter and power supply unit!

Screw-in fuse links of the type NEOZED D02 (utilisation category gL) should preferably be used as back-up fuses.

The supply lead should be dimensioned adequately to ensure it will not be overloaded and the max. voltage drop is < 3% at nominal current.

If there are special safety requirements for persons setting up the equipment, then frequency converters complying with EN 50178 must be replaced by RCMA's with an isolator (preferably) or by type-B RCDs (universal-current-sensitive residual-current circuit breakers).

### 3.4 Emissions

#### 3.4.1 Noise – characteristic values

Sound power level [dB (A)]	Emission sound pressure level at the workplace [dB (A)]	Tools
Idling $L_{WA} = 87.3$ Running $L_{WA} = 96.6$	Idling $L_{PA} = 77.4$ Running $L_{PA} = 84.0$	Circ.saw blade 300x3.2/96 WZ n = 3987 rpm
Idling $L_{WA} = 101.3$ Running $L_{WA} = 104.2$	Idling $L_{PA} = 95.7$ Running $L_{PA} = 92.1$	Circ.saw blade 350x3.2/54 WZ n = 3987 rpm
Idling $L_{WA} = 93.9$ Running $L_{WA} = 98.7$	Idling $L_{PA} = 84.1$ Running $L_{PA} = 89.9$	Circ.saw blade 350x3.2/84 WZ n = 3987 rpm
Idling $L_{WA} = 93.9$ Running $L_{WA} = 99.1$	Idling $L_{PA} = 84.5$ Running $L_{PA} = 86.0$	Circ.saw blade 303x3.2/60 WZ n = 3987 rpm <b>LOW NOISE</b>
Idling $L_{WA} = 87.7$ Running $L_{WA} = 96.3$	Idling $L_{PA} = 78.1$ Running $L_{PA} = 84.6$	Circ.saw blade 303x3.2/90 WZ n = 3987 rpm <b>LOW NOISE</b>

The noise emission values determined according to DIN EN ISO 3746 for the sound power level or DIN EN ISO 11202 for the sound pressure level at the workplace on the basis of the working conditions stated in ISO 7960 Appendix A are as listed in the table.

A measurement uncertainty allowance of  $K = 4$  dB (A) applies to the stated emission values.

The stated values are emission levels and therefore not necessarily levels for safe working. Although there is a correlation between emission and imission levels, it cannot be reliably deduced from this whether or not additional precautionary measures are needed to protect operators.

Factors that influence the imission level at the workplace cover the duration of exposure, room characteristics, other sources of noise such as the type and number of neighbouring machines, and other working processes involving noise emission.

### 3.4.2 Dust

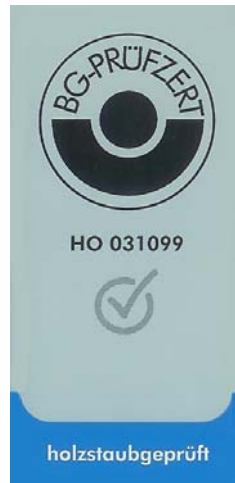


Fig. 3-2: Mark

The dust emission values – measured in accordance with the “Principles for Testing Dust Emission (Concentration Parameters) from Woodworking Machines” issued by the German trade association's technical committee for wood – are under 2 mg/m<sup>3</sup>. When the machine is attached to a correctly functioning extraction system with an air speed of at least 20 m/s (measured after the join of the two extraction connections) you can assume it is and will stay compliant with the technical reference concentration (TRK) limit for wood dust that is in force in Germany.

The machines bear the GS mark with the additional wood dust mark "holzstaubgeprüft". Consequently, a company operating the machine in Germany is exempt from the obligation to perform measurements at the workplace in accordance with TRGS 553.

### 3.4.3 Electromagnetic compatibility

The machine complies with the requirements set out in the European electromagnetic compatibility directive 89/336/EEC (EMC directive).

### 3.5 Ambient conditions for transport and storage

The machine must not be used in an environment with explosive or corrosive gases.

The ambient temperatures for transport and storage range from - 25° C to + 55° C, and + 70° C is permissible for a short time.

The maximum air humidity must not exceed 90%, and condensation must be avoided in all cases.

### 3.6 Safety information

#### 3.6.1 Operational safety

All machine tools, particularly woodworking machines with manual feed involve a certain risk when handled incorrectly. Therefore always observe the safety information that is summarised in this chapter as well as government and other industrial safety regulations (e.g. accident prevention rules)!

- Never operate the machine without the protective devices intended for the specific work cycle (also refer to “Working safely with the sliding table saw – Working examples”), and do not make any changes that might impair safety.
- Before all work, make sure that the protective and working devices are securely fitted and are not damaged.

- Before changing a tool, rectifying any faults and carrying out repairs, make sure that the machine cannot be turned on accidentally, for example by padlocking the main switch.
- Only use saw blades and grooving tools that comply with European standard EN 847-1.
- Only fit saw blades with the dimensions described in the technical data. The diameter of the mounting hole must always measure 30 mm. Loose intermediate rings are not allowed to be used.
- Select the rotational speed so that the maximum permissible rpm specified for the tool is not exceeded when using tungsten carbide tipped saw blades or grooving cutters.

## 16 Operational safety

- HSS saw blades and cracked or deformed saw blades are not allowed to be used.
- Always wear tight-fitting working clothes and do not wear rings, bracelets or watches.
- Make sure that the workplace is uncluttered, slip-proof and well lit.
- Do not cut workpieces that are too large or too small for the machine to handle.
- When working at the machine, always stand to the side of the saw blade outside a possible kick-back area.
- Remove any loose parts from the vicinity of the saw blade before switching on the machine.
- Only start cutting when the saw blade has reached its full rotational speed.
- Always use the top safety hood!
- Adjust the height of the top safety hood to the thickness of the workpiece to be cut. When operating with a tilted saw blade, exchange the narrow hood for a wide hood.
- Always guide the workpiece safely and use the appropriate stops/fences.
- Use a push stick when cutting narrow workpieces (less than 120 mm) at the rip fence.
- Crosscuts and longitudinal cuts in round wood are not allowed with the standard feeding aids or fences/stops.
- Always use the riving knife except for insert cuts. The riving knife must not be thicker than the cutting line width or thinner than the main blade. Adjust it so that it is at a distance of least 3 mm and at most 8 mm from the gear rim. The guide slot must be  $13 + 0.5$  mm wide. The riving knives supplied with the machine cover the entire range of diameters for the saw blades that are allowed to be used – from 250 mm to 550 mm. With respect to their thickness, they match the cutting line widths of commercially available tungsten carbide tipped saw blades. If other saw blades, e.g. made of chrome vanadium (CV), are used, select a riving knife thickness that lies between the cutting line width and the main blade thickness. Such riving knives can be obtained from the trade or directly from ALTENDORF.

- Use an anti-kick device for insert cuts, e.g. the front of the clamping shoe. Fix this in the sliding table groove, ensuring that the sliding table is locked with its interlock to prevent movement. Following insert cutting, refit the riving knife and the top safety hood immediately.
- Only do angle cuts when the cross-slide is fixed to the sliding table. Make sure that small cut-off workpieces cannot be taken up by the gear rim and kick out, for example by using a deflection wedge.
- For trimming, use the clamping shoe fixed to the sliding table to hold down the workpiece.
- When using a feeding unit, use at least the riving knife as an anti-kick device.
- Replace worn-out table strips immediately.
- Wobble units or wobble cutting devices are not allowed to be used.
- Only use grooving tools with a maximum width of 15 mm that are permitted for manual feeding. This is the case when tools have the inscription “MAN”.
- The sound pressure level at the workplace generally exceeds 85 dB(A). For this reason, wear hearing protection when working.
- Only qualified electricians are permitted to work on the electrical equipment of the machine.
- Regular cleaning of the machine and, in particular, the main table, sliding table and guides (e.g. rip fence) is an important safety factor. Before starting this work, make sure that the machine cannot be switched on unintentionally.
- The sawdust generated during cutting impairs visibility and is, in part, detrimental to health. The machine must therefore be connected to a chip extraction system with both extraction sockets. The minimum air speed at the lower extraction socket must be at least 20 m/s. When the machine is switched on, the extraction system must switch on at the same time.
- When using a coolant spray device, pay attention to the information in the coolant manufacturer's safety data sheets. In addition, make sure that the coolant does not have a negative influence on safety-relevant parts such as the top safety hood (polycarbonate).

### 3.6.2 Safety devices

Altendorf's sliding table saws have been developed in compliance with European standard EN 1870-1 "Safety of woodworking machines – circular sawing machines – Tischkreissägemaschinen (mit und ohne Schiebetisch) und Formatkreissägemaschinen" entwickelt.

During the design stages great importance was attached to creating optimum working conditions, ranging from numerous mechanical and electrical safety devices to noise insulation and reduction of dust emission.

The machine is equipped with all the necessary safety devices to protect against operating risks that could not be eliminated by its design. These safety devices include, in particular:

- For a max. tool diameter of 500/550 mm:
  - Top safety hood fitted separately from the riving knife for max. saw blade diameter of 500/550 mm, available in a narrow and a wide format made of polycarbonate to optimally cover the section of the blade not required for sawing above the machine table with a safeguard against lifting beyond the maximum cutting height of + 5 mm. Rollers integrated in the safety hoods at the leading and trailing ends make it easier both for feeding workpieces and for pulling back of workpieces if workpieces have a slightly different thickness.
  - 3 riving knives for saw blades between 250 and 500 (550) mm diameter to avoid workpiece kick-back as a result of jamming in the cutting line.
  - Rip fence with straight edge adjustable in the cutting direction. Can be pulled back to prevent parts of crosscut workpieces from jamming between the fence and the rising gear rim, or can be switched over to a low guide surface for cutting narrow and flat workpieces, allowing adequate space for the guide hand together with the possibility of lowering the top safety hood onto the workpiece here, too.

- Trimming hold-down to clamp and hold down untrimmed solid wood to secure against slippage in the course of trimming.
- Electrical interlocking of the door in the machine frame to change over the belt to alter rotational speed (only with three-speed model). It is not possible to switch on the machine when the door is open, and if the door is opened while the machine is running, the drives will switch off.
- Electrical interlocking of the cover plate on the extraction duct beneath the machine table in the vicinity of the saw blades. It is not possible to switch on the machine when the cover plate is open, and if the cover plate is opened while the machine is running, the drives will switch off.
- Sliding table arresting device to prevent workpiece kick-back for insert cuts together with the cross-stop.
- Automatic brake which, after switching off, brings the main saw blade to a standstill in less than 10 seconds, regardless of the saw blade diameter and rotational speed.
- Ergonomic arrangement of the operating elements at readily accessible positions. With the swivelable eye-level operating panel option: Operating elements in the upper operating panel and beneath the sliding table at the front of the machine.
- EMERGENCY STOP button on all operating panels to allow all drives to be switched off quickly and safely.
- Favorable airflow design of the lower extraction duct and the top safety hood to reduce dust emission to below 2 mg/m<sup>3</sup>, providing that the machine is connected at both extraction sockets to an extraction system having a min. airspeed of 20 m/s.



### 3.6.3 Remaining risks

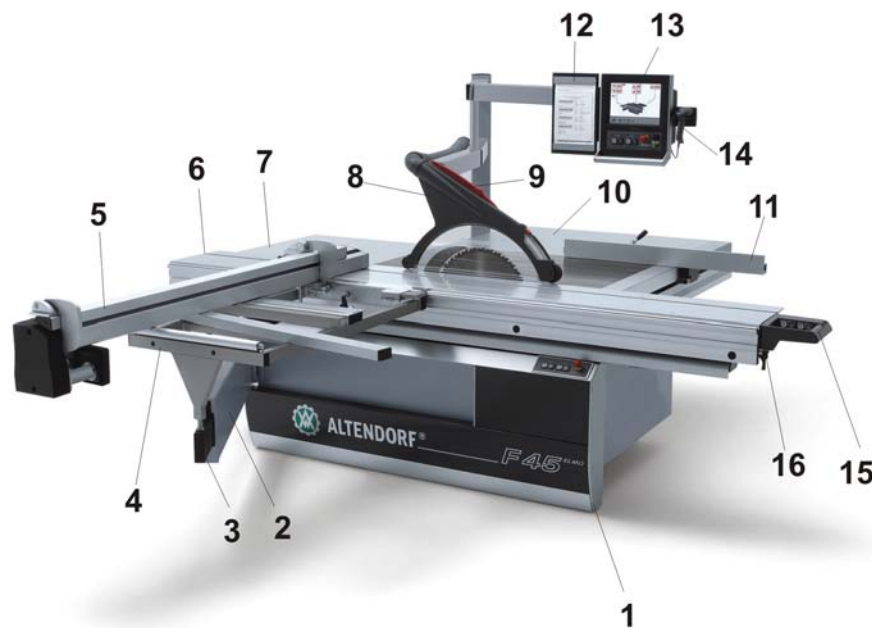
Even when the machine is operated in accordance with its intended use and all pertinent safety regulations, the following remaining risks may be encountered because of design changes caused by the intended use in question:

- Contact with the main saw blade and the scoring blade in the cutting area.
- Contact with the main saw blade and the scoring blade from beneath the table level when the sliding table is pushed fully forward or pulled fully back.
- Kick-back of workpiece or workpiece parts.
- Individual teeth spinning off tungsten carbide tipped blades.
- Breakage and hurling out of the saw blade.
- Crushing at the manual or motor-driven sliding table.
- Crushing between the motor-driven tilt movement of the saw blade and the rip fence or workpieces lying in the tilting area.
- Contact with live parts when the electrical installation area is open.
- Damage to hearing as a result of long-term work without hearing protection
- Emission of health-endangering dust from operation without extraction.

***Avoid the potential dangers posed by these remaining risks by paying increased attention when setting up, operating and servicing the machine!***

## 4 Definitions

### 4.1 Description of machine



Item	Designation
1	Machine frame
2	Swinging arm
3	Telescopic tube
4	Cross-slide
5	Crosscut-mitre fence
6	Sliding table
7	Main table length extension
8	Safety hood
9	Push stick
10	Main table width extension
11	Rip fence
12	Clipboard
13	Display control unit with touch screen
14	Barcode reader
15	Pull-back handle with switch
16	Sliding table interlock

Fig. 4.1 View of machine

## 4.2 Terms according to EN 1870-1

### **Dimension saw**

Machine saw with a table, manual feed, a circular blade that does not become maladjusted during cutting, and a fixed horizontal table on the rip fence side. The machine has an integrated sliding table on the left side of the saw blade which extends to the saw blade. The saw blade is fitted on a horizontal spindle beneath the table.

### **Scoring**

Making of a shallow cut in the surface of a workpiece, deep enough to pass through any coating on the workpiece, so as to prevent damage to the underside when the main saw blade makes its cut.

### **Scoring blade**

A blade that is located in front of the sawing blade, is used to score the workpiece, and rotates along with the feed direction.

### **Grooves**

Making of cuts in the surface of the workpiece not deep enough to pass through using the saw blade or a milling tool. The rules for grooving set out in EN 1870-1 only cover grooves with a width of at least 8 mm that have been made in one pass using a grooving tool.

### **Hand feed**

Holding and/or guiding the workpiece manually. Hand feed includes the use of a hand-operated sliding table on which the workpiece is placed manually or clamped, as well as the use of a removable power feeding unit.

### **Safety appliance**

Additional device that is not an integral part of the machine but helps the operator to feed the workpiece safely, e.g. a push block or push stick.

### **Kick-back**

Unexpected sudden movement of the workpiece or parts of it opposite to the direction of feed in the course of sawing.

### **Riving knife**

There is a riving knife to protect against workpiece kick-backs and unintentional contact with the rising gear rim. Sliding table saws on which saw blades of more than 250 mm diameter can be used are equipped with a force-guided riving knife.

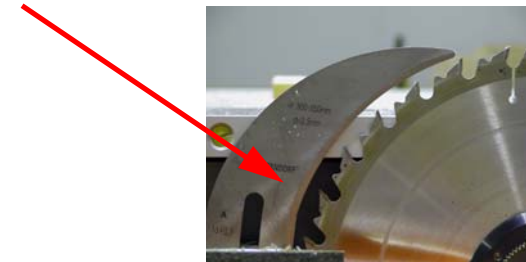


Fig. 4-2: Riving knife

### 4.3 Symbols

*Danger warning*



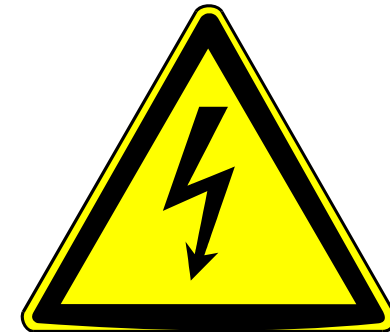
*Fig. 4-3: Dangerous point*

*Hand injury warning*



*Fig. 4-5: Hand injury*

*Voltage warning*



*Fig. 4-7: Voltage*

*Explosive substance warning*



*Fig. 4-4: Risk of explosion*

*Crush risk warning*



*Fig. 4-6: Risk of crushing*

*Laser beam warning*



*Fig. 4-8: Laser beam*

## 5 Transport, siting and installation

### 5.1 Transport

When transporting the sliding table saw by elevating truck or fork lift truck (forks only with unchangeable length), only lift the machine up slightly and secure it against tipping!

#### Packaging

The type of packaging depends on the type of transport. Unless otherwise contractually agreed, the packaging corresponds to the HPE guidelines established by Bundesverband Holzmittel, Paletten, Exportverpackungen e.V. (the German Association for Wooden Materials, Pellets, Export Packaging) and the VDMA.

Observe the symbols on the outside of the packaging!

#### Degree of dismantling

The degree of dismantling of the sliding table saw depends on the transport conditions and the options supplied with the machine.

The sliding table is always shipped dismantled into several installation assemblies.

#### Sensitivity

Particular care must be taken when transporting the sliding table saw in order to avoid damage from force or poor loading and unloading.

Knocks and condensation due to extreme temperature fluctuations must be avoided during transport.

#### Intermediate storage

If the sliding table saw or its assemblies are not installed immediately after delivery, make sure that they are stored in a protected location.

They must be correctly covered to prevent any ingress of dust or moisture.

Bare, non-surface-treated parts of the sliding table saw are protected with a conserving agent which will protect them for approx. 1 year. Reconservation is necessary if storage is to last longer than this period.

### 5.2 Safety measures before use/ installation

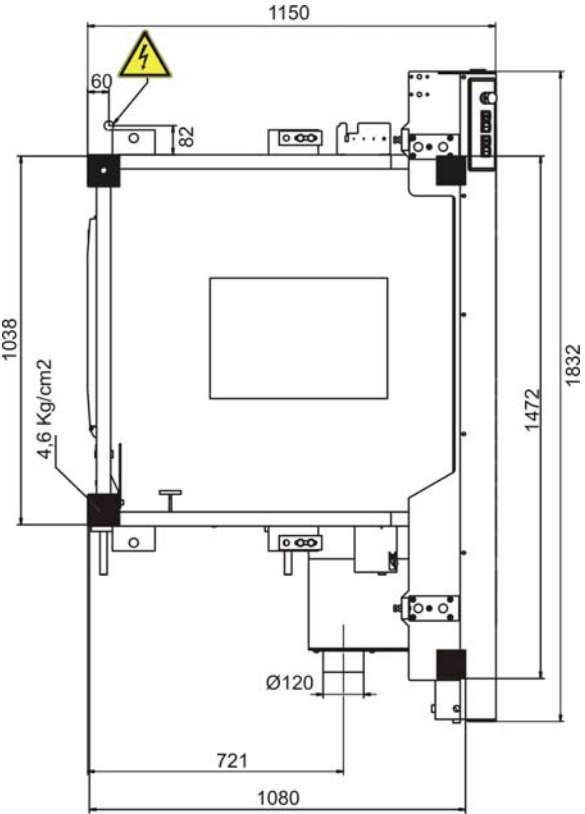


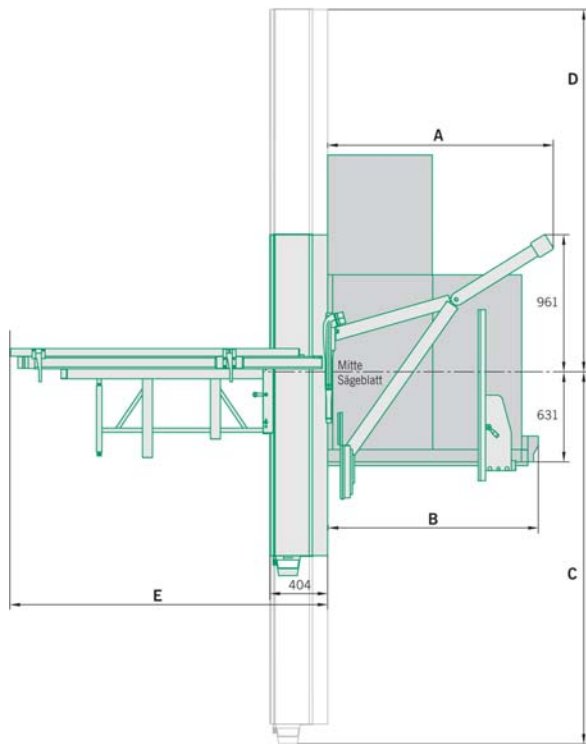
Fig. 5-1: Foundation plan

#### Site of installation

No special foundations are required at the site of installation for the sliding table saw. The floor must have a load bearing strength suitable for the machine weight and should be flat and level.

Select a site of installation that provides enough clearance around the sliding table saw, allowing for the space requirements shown in the figure and the size of the workpieces to be cut. In addition, observe the safety clearances to parts of the building and other machines in order to eliminate the risk of crushing the operator or other personnel.





**Key**

**Dimension A:**

Cutting width + 330 mm with man. RF adjustment  
 Cutting width + 580 mm with motorised adjustment

**Dimension B:**

Cutting width + 310 mm with man. RF adjustment  
 Cutting width + 410 mm with DIGIT\_X  
 Cutting width + 480 mm with motorised adjustment

**Dimension C:**

Sliding table length + 360 mm  
 Sliding table length + 30 mm with TSD

**Dimension D:**

Sliding table length + 290 mm

**Dimension E:**

Crosscut-mitre fence  
 1970 - max. 3635 mm  
 Crosscut-mitre fence with DIGIT L  
 1970 - max. 3330 mm  
 Crosscut-mitre fence ELMO IV  
 2100 - max. 3650 mm  
 Crosscut fence up to 3200 mm  
 1800 mm, max. 3330 mm

Fig. 5-2: Space requirements



**Fixing**

A fixing element is provided on the side of the machine frame to ensure the machine stays in position. Once the sliding table saw has been set up, loosen the screws and lower the fixing down to the floor. Then retighten the two screws.

*Fig. 5-3: Fixing*



## 5.3 Installation

### 5.3.1 Telescopic tube for swinging arm



Fig. 5-4: Installing the telescopic tube

- Undo the cheese head screw
- Push in the telescopic tube from the front through the housing for the swinging arm
- Insert and tighten the cheese head screw

### 5.3.2 Main table length extension

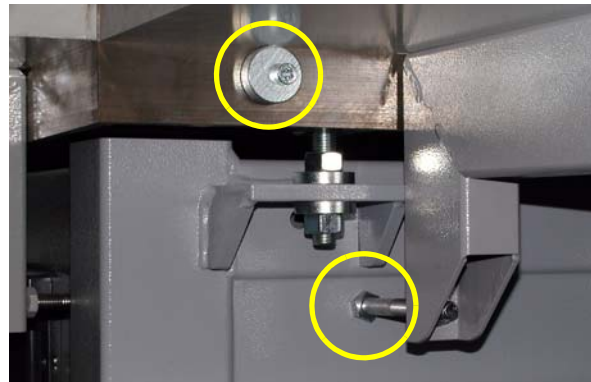


Fig. 5-5: Installing the main table length extension

- Guide the bolts of the main table length extension into the front holes in the main table
- Loosely secure to the main table with two M10 nuts and U-shaped washers
- Place the main table length extension on the eccentrics
- Tighten the M10 nuts
- If necessary, correct the alignment and flushness by readjusting the eccentrics and the support screws

### 5.3.3 Rip fence

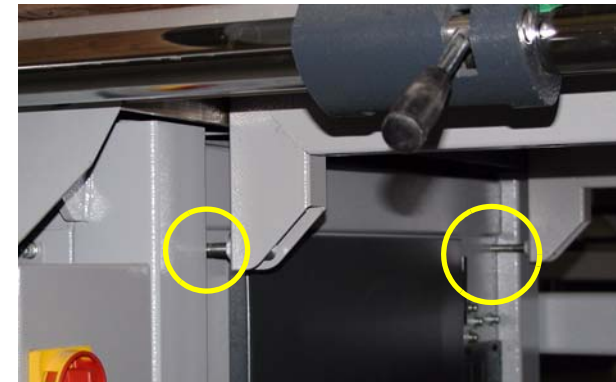
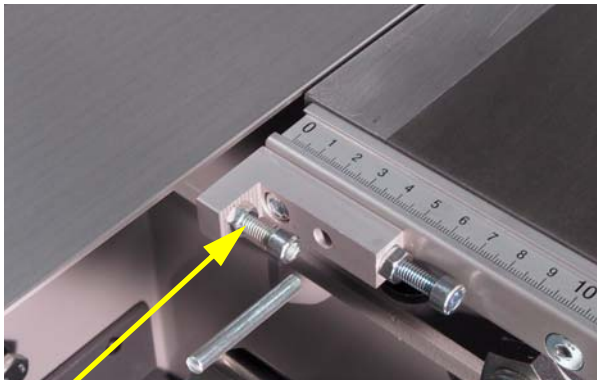


Fig. 5-6: Installing the main table width extension

- Guide the bolts of the main table width extension into the side holes in the table, and place the extension on the eccentrics
- Loosely secure to the main table with two M10 nuts and U-shaped washers
- Tighten the M10 nuts
- If necessary, correct the alignment and flushness by readjusting the eccentrics and the support screws

**Man. rip fence**



*Fig. 5-7: Installing the measuring bar*

- Fit the measuring bar with M6x30 countersunk screws
- Knock a 6x45 clamping pin through
- Tighten the countersunk screws

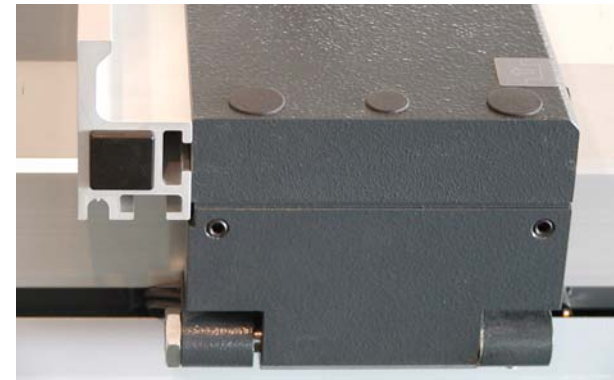
**Man. rip fence**



*Fig. 5-8: Installing the rip fence*

- Put the fence bar bolts through the holes in the main table
- Attach the M20 nuts from the rear of the main table and tighten them
- Carefully push the rip fence on to the fence bar

**CNC rip fence**



*Fig. 5-9: Installing the rip fence*

- Place the upper part of the fence on the pin
- Insert and tighten the M12x40 cheese head screws
- Close the holes with filler plugs

### 5.3.4 Cross-slide and crosscut fence

#### Cross-slide

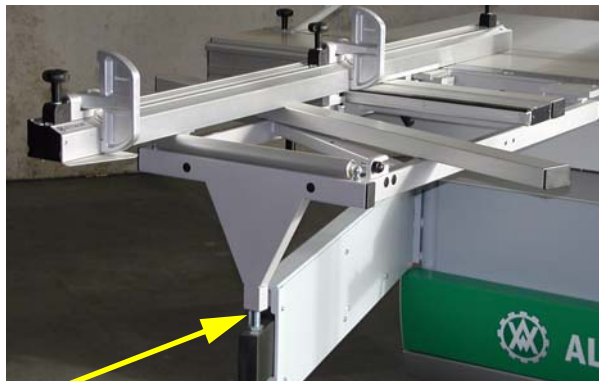


Fig. 5-10: Installing the cross-slide

The cross-slide must be attached to every point of the outer-lying round bar of the sliding table, and must be clamped.

- Place the supporting pipe of the cross-slide on the telescopic tube's bolt
- Swing the cross-slide to the sliding table, attach it and clamp it with an eccentric lever

#### Option 90° crosscut fence, crosscuts up to 3200 mm

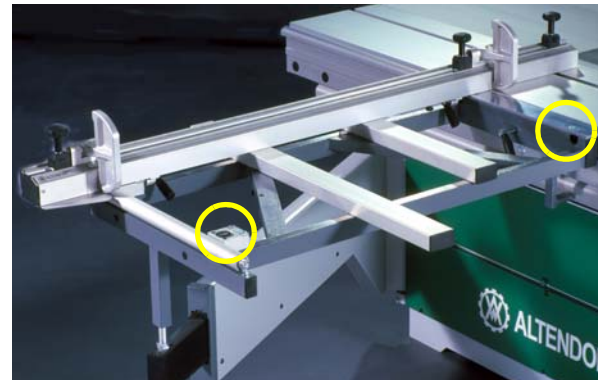


Fig. 5-11: Installing the 90° crosscut fence option

- Place the crosscut fence on the cross-slide so that the centring bolts enter the hole or groove
- Raise the clamping lever and press it outward
- Lightly press the clamping lever down (for clamping)

#### Changing the 90° crosscut fence

- Raise the clamping lever and press it inward (for release)
- Place the crosscut fence in a new position, making sure that the centring bolts enter the hole/groove
- Raise the clamping lever and press it outward
- Lightly press the clamping lever down (for clamping)

**Crosscut-mitre fence (WGA) with DIGIT L**



Fig. 5-12: Installing the WGA

- Place the WGA on the rear fence surface
- Push the ball bearing over the groove in the sliding table
- Carefully turn the crosscut-mitre fence 90° so that the ball bearing can enter the sliding table groove

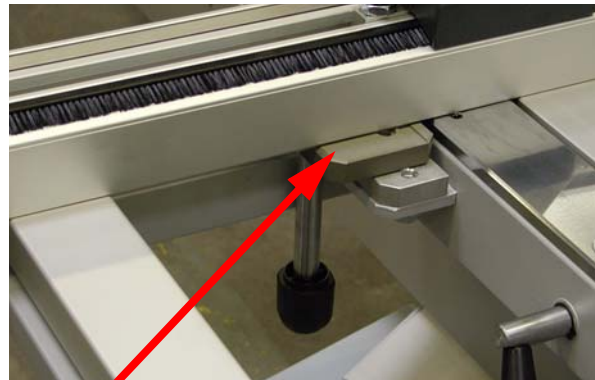


Fig. 5-13: Installing the WGA

- Push the guide piece of the eccentric clamping system into the pivot groove as far as it will go
- Tighten the clamping screw
- Push the degree scale clamping screw over the clamping strip



Fig. 5-14: 90° clamping

- Push the crosscut-mitre fence forward up to the 90° stop on the left side, Fig. 5.17
- Swing in the clamping screw and tighten with knurled nut
- Tighten all clamping screws

**Crosscut-mitre fence WGA\_LD**



Fig. 5-15: Installing the WGA\_LD



Fig. 5-16: Installing the WGA\_LD

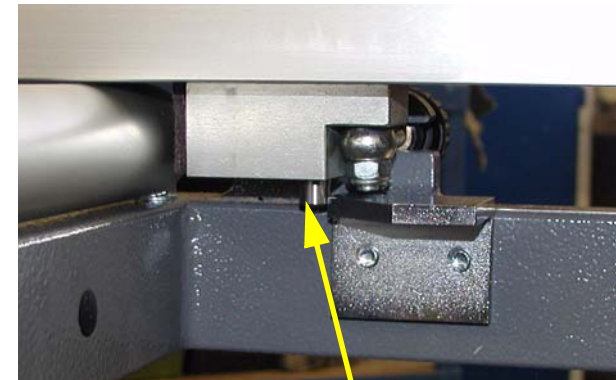


Fig. 5-17: Installing the WGA\_LD

- Place the WGA\_LD on the rear fence surface
- Push the bolt for the degree setting clamp over the groove in the degree scale, and push the guiding carriage into the middle.
- Position the T-nut for pivot clamping so that there is enough clearance to the pivot
- Push the ball bearing over the groove in the sliding table

- Carefully turn the crosscut-mitre fence 90° and raise it so that the bolt enters the degree scale groove and the ball bearing enters the sliding table groove
- Lower the crosscut-mitre fence so that the bolt enters the guiding carriage hole
- Turn in clamping screw 1 loosely

- Push the crosscut-mitre fence forward up to the 90° stop on the left side
- Push the T-nut with clamping screw 2 into the pivot
- Swing in the clamping screw and tighten with knurled nut
- Tighten all clamping screws
- Push the flip stop to the right up to the fence and press the F and Reset buttons



**Installing the cross-slide -  
CNC crosscut-mitre fence**



Fig. 5-18: CNC crosscut-mitre fence

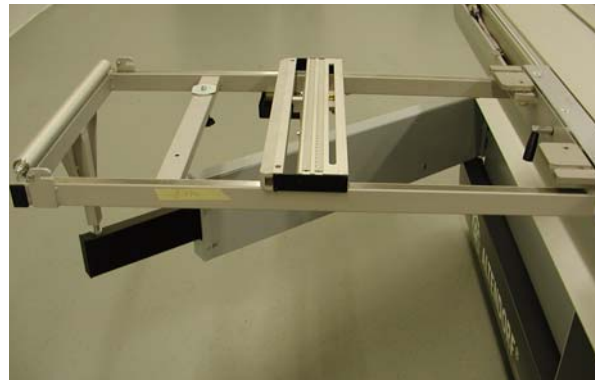


Fig. 5-19: Installing the cross-slide

The cross-slide must be attached to every point of the outer-lying round bar of the sliding table, and must be clamped.

- Place the supporting pipe of the cross-slide on the telescopic tube's bolt
- Swing the cross-slide to the sliding table, attach it and clamp it with an eccentric lever

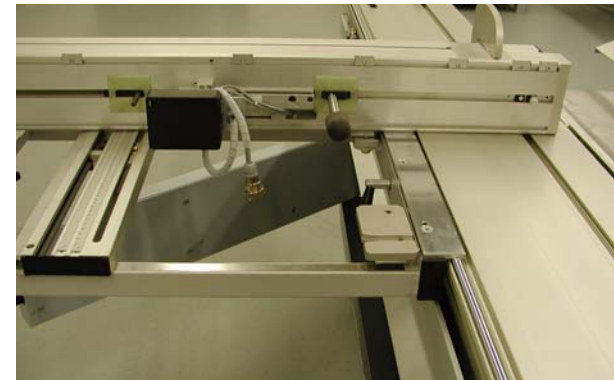


Fig. 5-20: Installing the CNC crosscut fence, step 1

- 4. Place the 4th axis on the rear fence surface
- Position the guide roller over the groove in the roller carriage

### 34 Installing the cross-slide - CNC crosscut-mitre fence

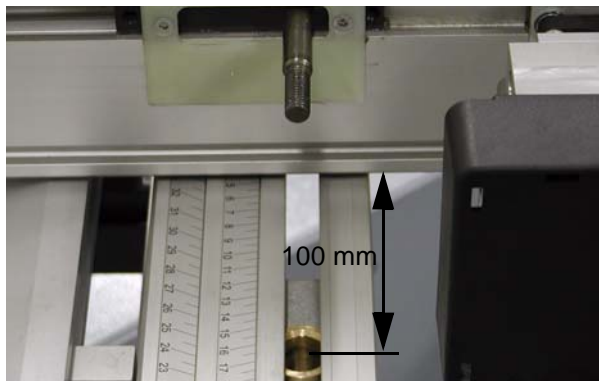


Fig. 5-21: Installing the CNC crosscut fence, step 2

- Position the angle setting clamp over the groove in the degree scale
- Position the guiding carriage so that the distance between the stop fence and the hole in the carriage is 100 mm



Fig. 5-22: Installing the CNC crosscut fence, step 3

- Turn the clamps 90° in the longitudinal direction

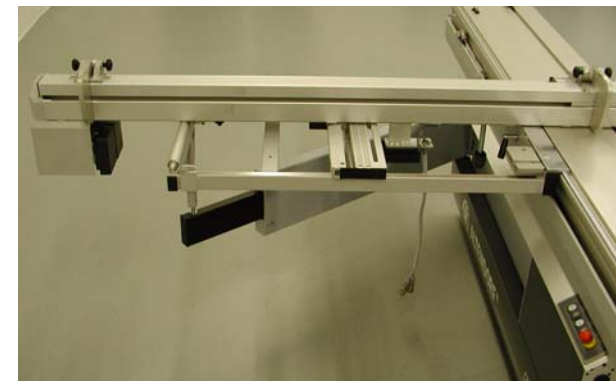


Fig. 5-23: Installing the CNC crosscut fence, step 4

- Turn the CNC crosscut fence 90°
- Check the guide roller in the roller carriage groove
- Push the pivot clamp to the right into the clamping plate and tighten the bolts

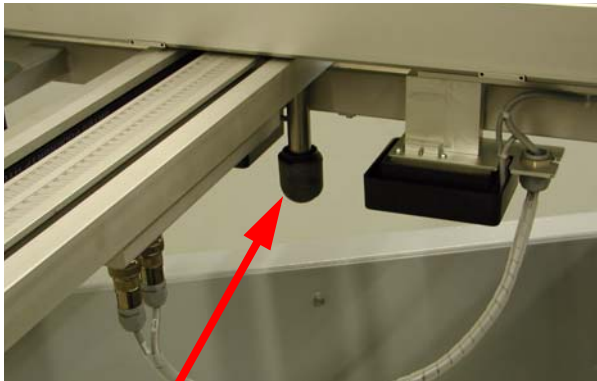


Fig. 5-24: Installing the CNC crosscut fence, step 5

- Screw the angle setting clamping screw on to the bolt
- Pull the CNC crosscut fence against the 90° stop and secure with clamp
- Tighten the pivot clamp
- Tighten the angle setting clamp

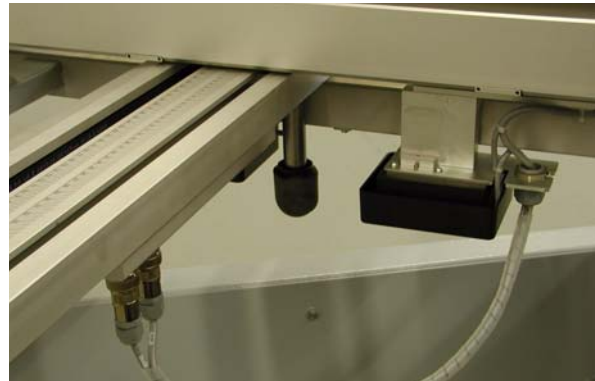


Fig. 5-25: Installing the CNC crosscut fence, step 6

- Insert the CNC crosscut fence connector into the middle of the cross-slide frame
- Plug in the roller carriage e-chain connector at the back of the cross-slide frame

**Attention! The connectors are 3-pole and 5-pole. Ensure you plug the 3-pole connector into the 3-pole socket, otherwise the connector will be destroyed!**



Fig. 5-26: Installing the CNC crosscut fence, step 7

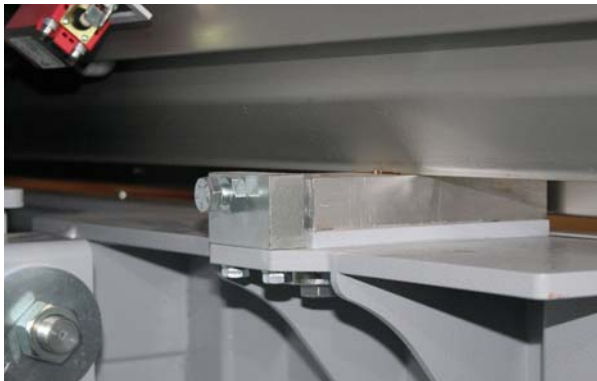
- Screw the bracket on the cable to the cross-slide frame with two knurled screws

**Attention!**

**Only connect or disconnect plug connections when the main switch is turned off! If you do not do this, the electronics will be damaged!**



### 5.3.5 Sliding table



*Fig. 5-27: Bottom carriage stop*

- Place the bottom carriage on the machine frame and push against the stop screws.
- Screw on the bottom carriage using the outer screws.
- Tighten the middle screw only loosely



*Fig. 5-28: Installing the middle carriage*

- Place the middle carriage on the bottom carriage so that the interlock is pointing to the right.
- Push the middle carriage to the right so that the 1st double roller is still just resting on the round bars. If this is not done, in the case of the TIP-SERVO-DRIVE the end position sensors could be destroyed when the top carriage is pushed on!



*Fig. 5-29: Installing the top carriage*

- Carefully push on the top carriage making sure it is not skewed, watch the e-chain
- Carefully push the guide rails onto the double rollers
- Push the top carriage towards the left, all the way to the stop.



Fig. 5-30: Back stop

- Fit the back stop

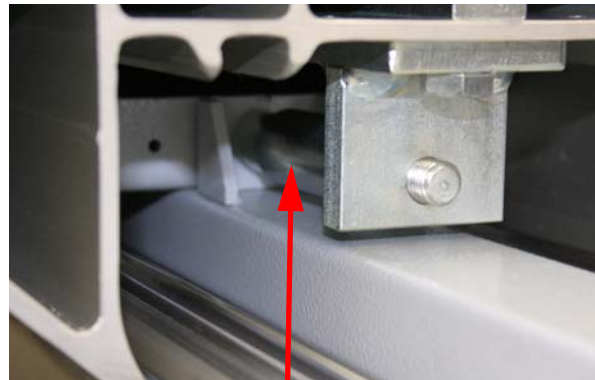


Fig. 5-31: Top carriage stop

- Check whether the stop on the top carriage and the stop on the bottom carriage hit the end position at the same time.
- Adjust if necessary



Fig. 5-32: Central fixing

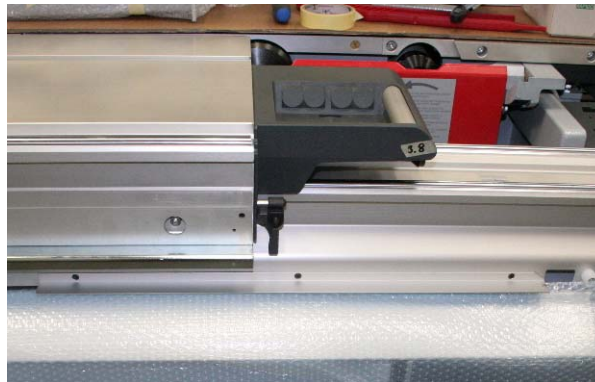
- Tighten the central fixing screw
- Check the sub-rollers are correctly adjusted

**Fitting the e-chain**

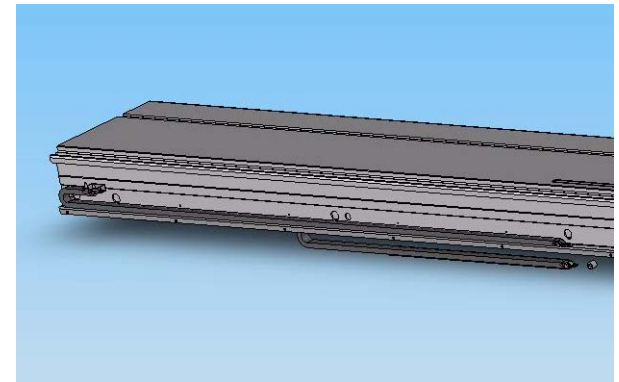


*Fig. 5-33: Bracket on the bottom carriage*

- Fix the bracket to the bottom carriage with 3 screws



*Fig. 5-34: Bracket on the bottom carriage*



*Fig. 5-35: Position of e-chain*

- Place the bottom e-chain on the bracket on the bottom carriage
- Run the cable into the machine frame through the opening in the bottom carriage

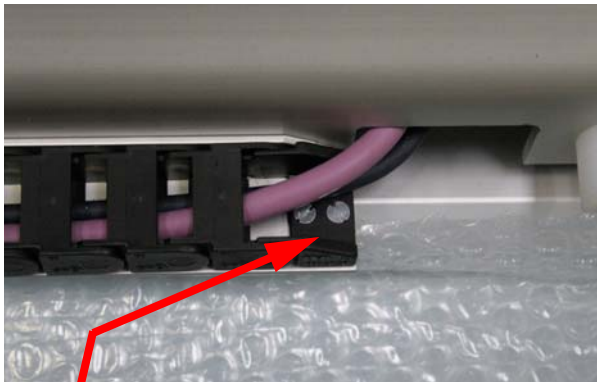


Fig. 5-36: Fastening the e-chain

- Screw the first link of the e-chain onto the bracket using 2 screws

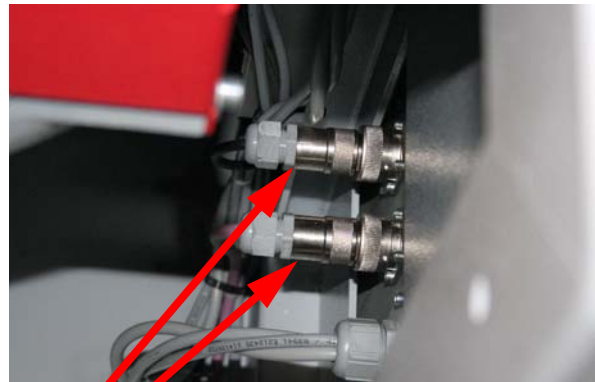


Fig. 5-37: Switch cabinet

- Connect the plug in the switch cabinet
- Tighten the cap nut

**Attention! The connectors are 3-pole and 5-pole. Ensure you plug the 3-pole connector into the 3-pole socket, otherwise the connector will be destroyed!**



Fig. 5-38:

- Remove all the packing tape
- Screw on the cover profile

### 5.3.6 Electrical connection



Fig. 5-39: Mains connection



**All work on the electrical equipment, including connection to the mains supply, may only be performed by a qualified electrician.**

**Disconnect the machine from the mains supply before working on the electrical equipment.**

The junction box for electrical connection is in the switch cabinet on the right-hand side. The terminals for the supply line are marked L1, L2, L3, N and PE, and the terminals for the potential-free contact are marked POT. The supply line cross-section and the fuses to be fitted by the user depend on the installed motor rating.

If the machine is connected via a flexible supply line, a rubber-sheathed cable (wire marking H07RN-F) must be used. Required plug-in device: Round connector in accordance with DIN 49463.

**After connecting the supply line, check the rotational direction of the main saw motor by briefly starting up and, if necessary, correct it by interchanging the two outer conductors in the mains connection box.**

**Pay attention to the rotational-direction arrow on the saw blade cover!**

**As far as machines with a VARIO drive are concerned, check the rotational direction of the scoring saw motor, because the frequency converter ensures that the directional rotation of the main saw motor is always correct, regardless of the phase position.**

**Only connect or disconnect plug-in connectors when the main switch has been turned off or disconnected!**

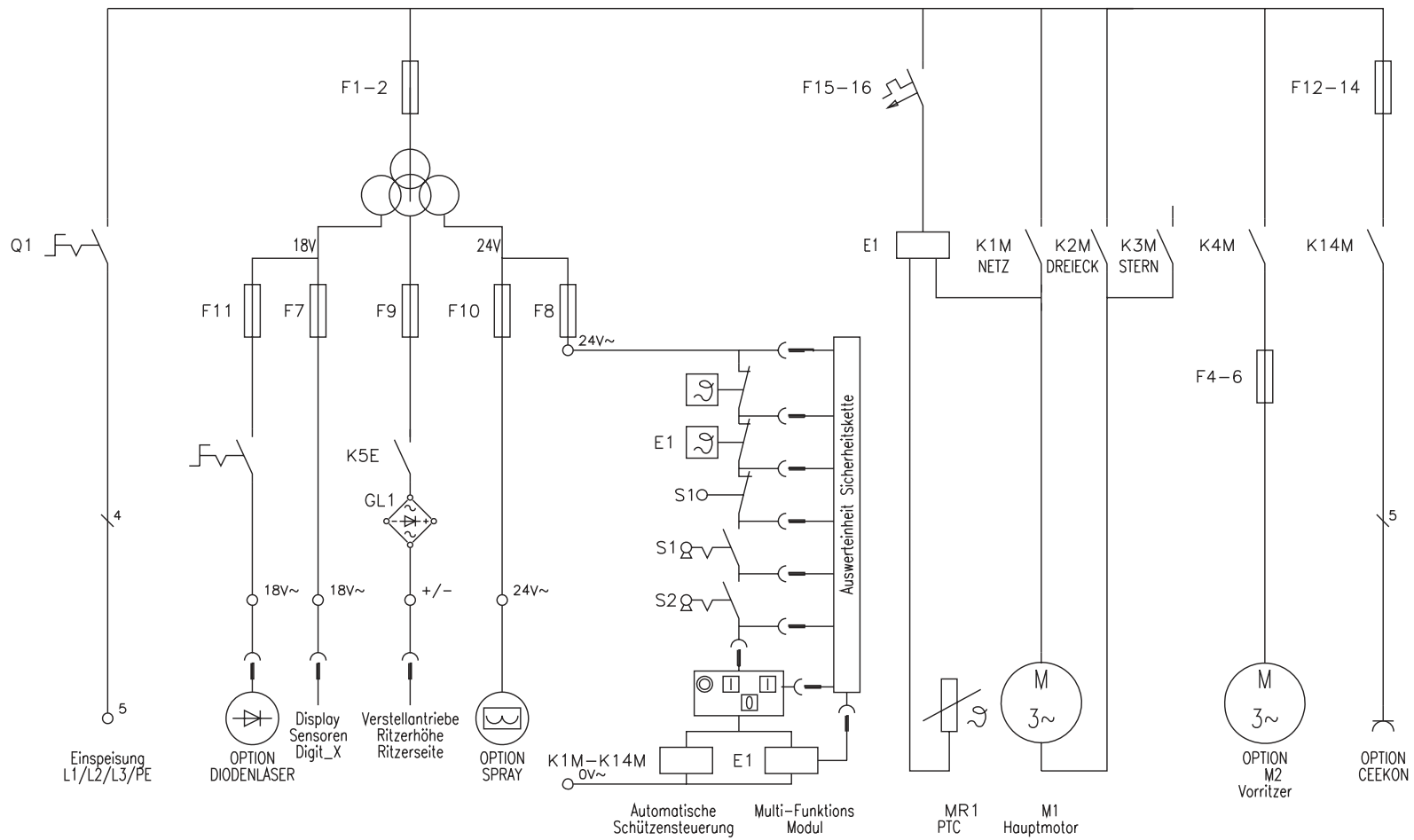


Fig. 5-40: Circuit diagram

## 42 Electrical connection

Designation	Designation
GL1	Rectifier
Q1	Main switch
S26	LASER option switch
M1	Main saw motor
M2	Scoring saw motor
MR1	Temperature monitor for main saw motor
S1	Sliding table safety switch
S2	EMERGENCY STOP button
S3	Temperature monitor for scoring saw motor
S1	Machine door/cover plate safety switch
E1	Multifunction module
F1-F2	Control fuses (primary)
F4-F6	Scorer motor (option)
F7-F9	Control fuses (secondary)
F10/F11	SPRAY / LASER control fuse (option)
F12-F14	CEKON (option)
K1M-K5M	Motor contactors
K5E	Supply voltage contactor for adjustment drives
K14M	CEKON contactor (option)

### 5.3.7 Connecting the extraction system



Fig. 5-41: Connections

Total extraction system connection  $D = 140 \text{ mm}$

$V_{\min} = 1150 \text{ m}^3 / \text{h}$  at  $20 \text{ m/s}$

Bottom extraction connection  $D = 120 \text{ mm}$

***The hoses and the Y-tube are not supplied as standard with the machine!***

The dust emission values – measured in accordance with the “Principles for Testing Dust Emission (Workplace-Related Dust Concentration) from Woodworking Machines” issued by the German trade association's technical committee for wood – are under  $2 \text{ mg/m}^3$ . When the machine is attached to a correctly functioning extraction system with an air speed of at least  $20 \text{ m/s}$  (measured at the connection socket) you can assume it is and will stay compliant with the technical reference concentration (TRK) value for wood dust that is in force in Germany. For perfect and safe operation, the machine must be connected to the extraction system at the extraction sockets (rear of machine frame and safety hood support). The minimum air speed at the extraction sockets must be  $20 \text{ m/s}$ . The  $80 \text{ mm}$  extraction hose from the hood to the connection socket on the support tube is not supplied as standard. The extraction socket and hoses are not supplied as standard!

In addition, make sure that the extraction system is switched on together with the machine. For this, you can use the existing potential-free contact (POT - refer to circuit diagram) or a current transformer installed in the supply line.

When using a coolant spray device (SPRAY), we recommend the use of a suitable moisture extraction system in order to avoid malfunctions.



## 5.4 Basic machine setting

### ***Adjustment by qualified personnel only!***

The basic machine setting is carried out at our factory. It may be necessary to correct the machine's basic settings due to removal of various assemblies, and transport and installation on site. The machine elements to be checked and their adjustment are described below.

#### **1. Sub-rollers on the sliding table**

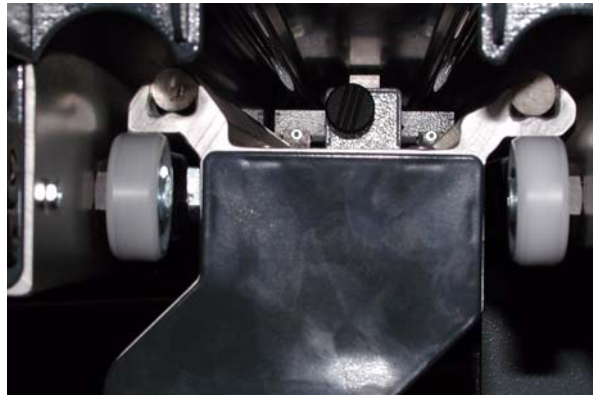


Fig. 5-42: Sub-rollers

#### **Check:**

The sub-rollers must run smoothly against the start slope at the start and end of the raceway. They should be set so that they can be held by hand with noticeable force and that they slip while the sliding table is moved.

#### **Setting:**



Fig. 5-43: Sub-rollers

The sub-rollers have eccentric bearings and can be adjusted.

Setting:



Fig. 5-44: Sub-rollers

The sub-rollers are set so that they can be held by hand with noticeable force and that they slip while the sliding table is moved. Adjusting them too tightly will result in stiff movement of the sliding table, and can lead to unwanted cutting results.

## 2. Main table



Fig. 5-45: Checking the main table

Check:

Place a straight edge on the sliding table, and move the table to the middle position. Move the sliding table backward and forward; the main table must be approx. 1/10 mm lower.



Fig. 5-46: Adjusting the main table

Setting:

Release the pressure screws. Release the lock nuts of the 4 stay-bolts, adjust the main table, and tighten the locking nuts. Then place a straight edge on the main table parallel to the sliding table.

### 3. Swinging arm

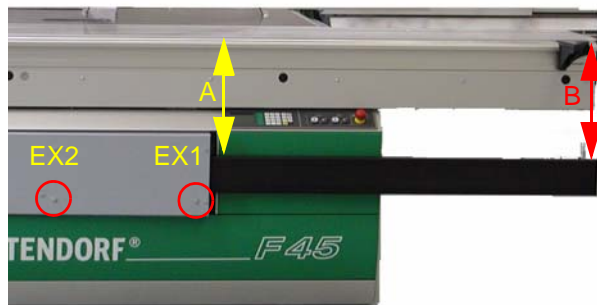


Fig. 5-47: Adjusting the swinging arm

Check:

Rest the swinging arm against the machine frame, fully extend the telescopic tube of the swinging arm and check dimensions A and B. Set dimensions A and B with a tolerance of 0.5 mm; if necessary correct the setting with EX 1 and EX 2.

The dimension between the bottom edge of the crosscut fence profile and the top edge of the top carriage profile (see fig. 2) is a feature for the tolerance of the swivel arm setting. The dimension must not exceed the cut length possible with the cross-slide between 0.1 and 0.9 mm (check with feeler gauge).

#### 4. Cross-slide height



Fig. 5-48: Checking the cross-slide height

##### Check:

Push a piece of cardboard of approx. 0.5 mm thickness between the crosscut fence and the sliding table; the cardboard must be able to move freely in every position. The crosscut fence must be parallel to the surface of the sliding table!



Fig. 5-49: Adjusting the cross-slide height

##### Setting:

Adjust the height of the swinging arm and fix it with a lock nut. Check that the swinging arm is parallel if the gap changes in accordance with the position of the sliding table!

### **5. Adjusting the swinging arm**

#### Definition:

The sliding table, the saw blade and the rip fence are not parallel to each other, so the crosscut fence and the rip fence do not form a 90° angle. The sliding table runs to the left out of the direction, by a fraction of a millimetre. In the same way, the rip fence points slightly to the right so that a gap is created behind the saw blade.

The rising saw blade tooth must not recut, but free cut should be set as small as possible. When using a scorer, make sure that both free cuts are of an equal size.

### **Sliding table**

#### Check:

Set the saw blade to maximum cutting height, and cut off a short test piece (if possible MDF) at the crosscut fence. The noise difference between the cutting and non-cutting teeth lets you identify whether the sliding table is correctly set. When the rising teeth pass, only a slight fluttering should be heard compared to the noise of the cutting teeth.

#### Setting:

Release the sliding table mounting components at both ends **and** in the middle (where present). Release the lock nuts of the stop screws. Adjust them as required and fix them with lock nuts again. Then readjust the sliding table and retighten all screws.

## Rip fence

### Check:

Set the saw blade to maximum cutting height, and cut off a test piece of about 300 x 450 mm (if possible MDF) at the crosscut fence. The sound of the rising teeth must be the same as when cutting free on the left, with the sliding table correctly set.

### Cross-check:

Move the rip fence approx. 0.5 mm closer to the saw blade, push the riving knife with the workpiece slightly to the side and cut in backward approx. 50 - 80 mm. Pull out again in the normal direction, turn it once around the cross-axis, and cut in approx. 20 mm deep in the normal working way. The difference between these two cuts should be almost invisible but easily felt.

When using a scorer, make sure that both free cuts are set as equal as possible!

### Setting: (Manually adjustable rip fence)

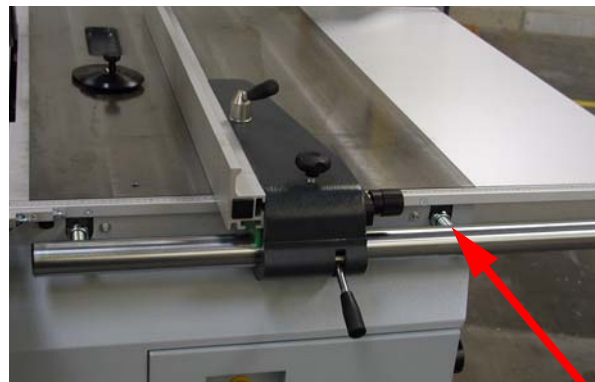


Fig. 5-50: Setting free cuts, standard rip fence

- Undo the nuts on the bolts connecting the round bar and the table width extension
- The degree of free cut on the rip fence can be altered by adjusting the middle lock nuts
- Tighten the nuts on the bolts connecting the round bar and the table width extension

### Setting: (CNC rip fence)

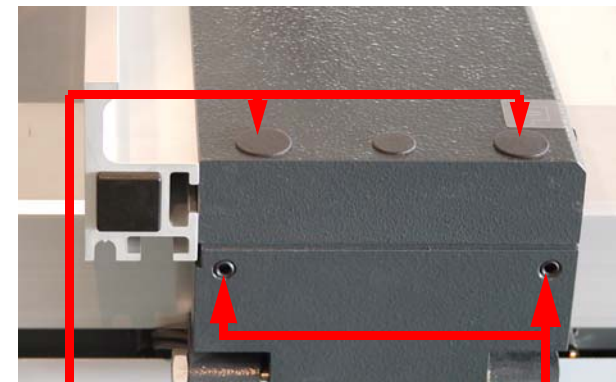


Fig. 5-51: Setting free cuts, CNC rip fence

- Release the clamping screws
- Set the free cut by adjusting the setscrews
- Tighten the clamping screws

## 6. Swinging arm

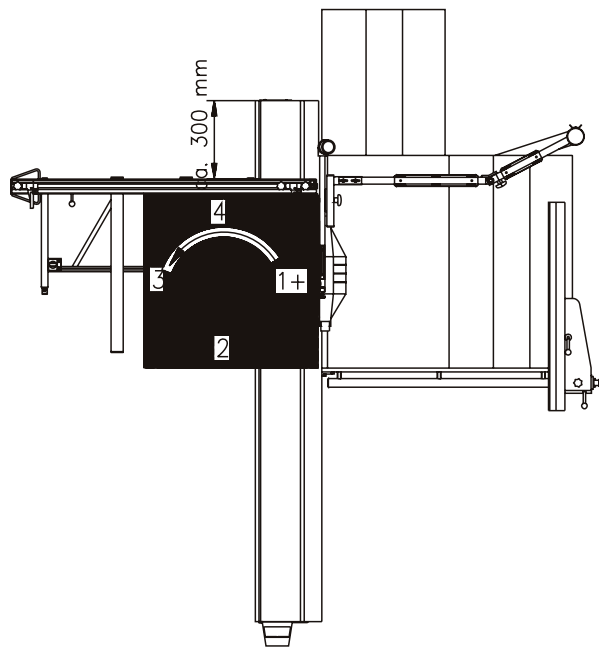


Fig. 5-52: Checking the angle cut

Before checking the angle cut, check the settings of the sliding table (see operating instructions) and of the swinging arm, and correct them if necessary.

Check the angle cut at the crosscut fence as follows:

As the tool, use a sharp quality saw blade,  $D = 350 \text{ mm}$ / 3.5/2.5/72 teeth alternate bevel at  $n = 5000 \text{ rpm}$ . Take a  $1000 \times 1000 \text{ mm}$  chipboard or MDF board, minimum board thickness  $19 \text{ mm}$ . Do 5 cuts (see fig.), laying the last cut side at the crosscut fence for the next cut (turn the board anticlockwise). For the 5th cut, cut off a strip approx.  $10 \text{ mm}$  wide. Measure the thickness at both ends with a vernier caliper. The difference between the two dimensions divided by 4 gives the squareness error per metre cut length.

Check:

The angle cut must be checked at 2 different positions at least on the cross-slide of the sliding table.

Factory setting:

The cross-slide is secured at positions of approx.  $300 \text{ mm}$  and  $1300 \text{ mm}$  from the sliding table end. In these two positions the angle cut is checked and adjusted as described above. The setting must not exceed the maximum permissible tolerance of  $<0.2 \text{ mm}$  (with the 5th cut (dimension 1 - dimension 2)).

### 7. 0° setting of the saw blade

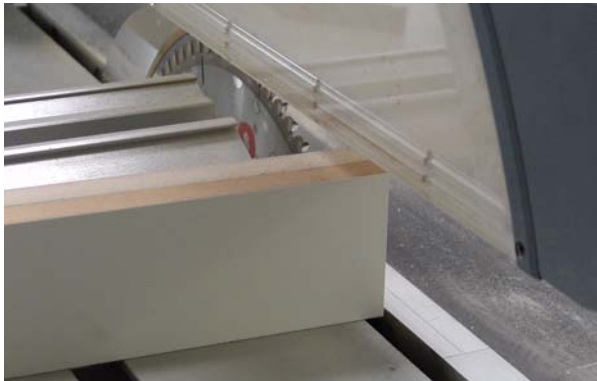


Fig. 5-53: Cutting a test piece

#### Check:

Stand up two strips (approx. 70 mm wide) **on their edge** in front of the crosscut fence, cut in this position and butt the cut surfaces against each other. If the setting is correct, the cut surfaces should be parallel, i.e. no gap can be seen between the cut surfaces.



Fig. 5-54: Checking the 0° -setting

#### Setting:

Recalibrate the machine!

### 8. Riving knife alignment

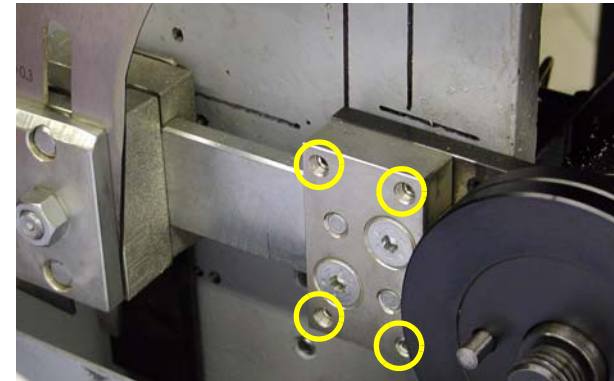


Fig. 5-55: Adjusting the riving knife alignment

The riving knife block is set exactly in line with the saw blade at the factory. Adjustment is possible via the 4 screws indicated.



## 6 Operating

### 6.1 Working safely with the sliding table saw

#### 6.1.1 Cross-slide/crosscut fence



Fig. 6-1: Cutting boards

The crosscut fence can be installed at two positions on the cross-slide.

##### Position 1: Cutting boards

The operator presses the workpiece against the fence in the cutting direction.



Fig. 6-2: Cutting solid wood

##### Position 2: Cutting solid wood and boards up to 600 mm wide

The operator pulls the workpiece along the fence against the cutting direction.

##### Function description of the crosscut-mitre fence

- Crosscut-mitre fence can be swung through 49° (angle indicated on scale), plus angle-dependent adjustable length compensation via a scale.
- Ball bearings run in the sliding table groove, preventing the stop fence coming into the cutting plane when swung
- Clamping of the stop profile at the pivot and on the degree scale
- Additional clamping at the 90° position
- Movable, fixable C section as an additional workpiece support

**Operating elements**

Clamping screw 1

Clamping screw 2

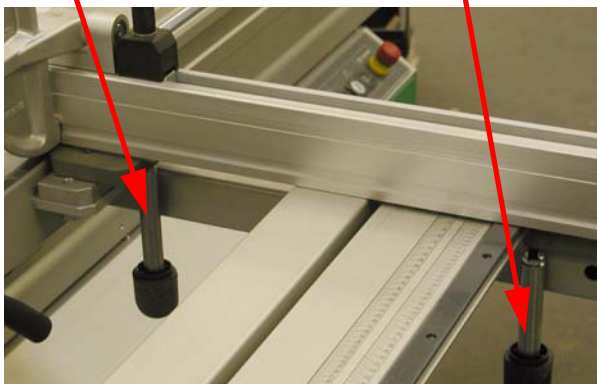


Fig. 6-3: Position of clamping screws

**Adjusting the angle**

- Release the clamping screws
- Set the crosscut-mitre fence to the desired angle
- Carry out length compensation
- Tighten clamping screw 1
- Set and tighten clamping screw 2

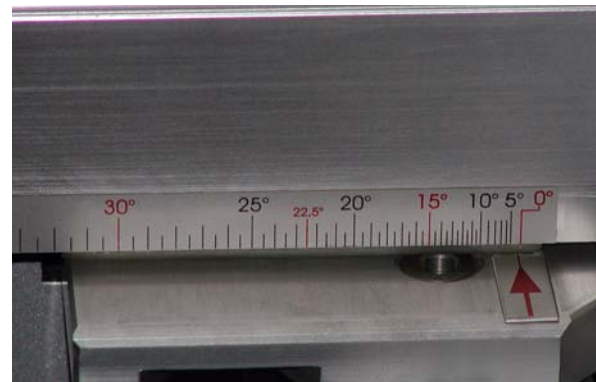
**Length compensation**

Fig. 6-4: Length compensation scale

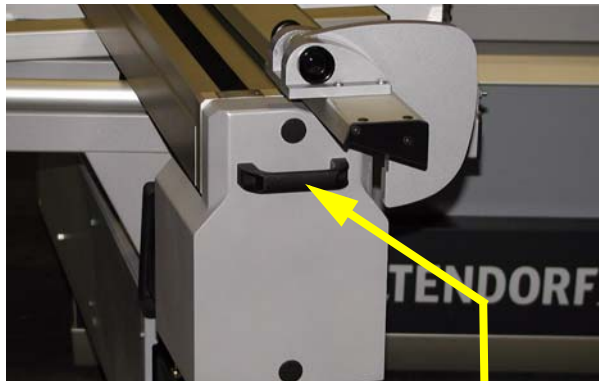
By shifting the crosscut-mitre fence, the length dimension can be adjusted for the angle set.

**Changing the crosscut-mitre fence**

- Release the clamping screw and clamping lever
- Push the crosscut-mitre fence to the 2nd position
- Push the guide piece of the eccentric clamping system into the pivot groove as far as it will go and clamp it
- Tighten the clamping screws

**Note:** When dimensions need to be adjusted with the stop bar, make sure that the flip stop is against the fence of the extension!

**Setting the angle on the CNC crosscut-mitre fence**



*Fig. 6-5: Adjusting the angle*

A handle is provided at the end of the crosscut-mitre fence for setting the angle. This enables the angle to be set quickly and easily.

**Changing over the throw-over stops**



*Fig. 6-6: Throw-over stops*

If the CNC crosscut-mitre fence is pushed to the other side of the cross-slide, the throw-over stops must be switched over.

**Changing over the throw-over stops**



*Fig. 6-7: Throw-over stops*

- Undo the knurled screw
- Wiggle the throw-over stop slightly and pull out the bolt (keeping a tight hold of the throw-over stop!)
- Turn the throw-over stop 180° and push the bolt into the hole
- Insert and tighten the knurled screw

### 6.1.2 Rip fence

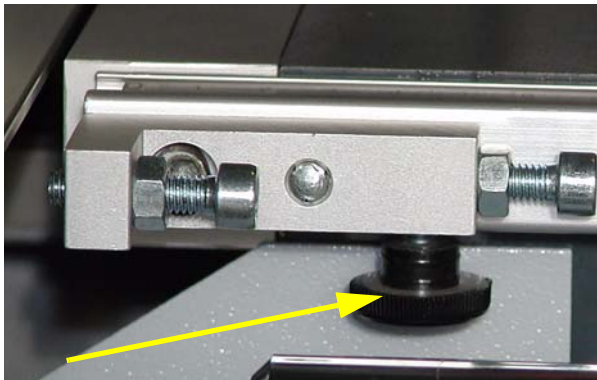


Fig. 6-8: Position of the clamping screw

For cutting parallel, the rip fence is pushed up to the required dimension. The set dimension is read off from the edge of the aluminium profile.

The dimension scale can be adjusted to the individual tool thickness after releasing the knurled screw.

**When cutting widths of less than 120 mm, make sure that the material is fed with a push stick and that the stop fence is laid flat.**



Fig. 6-9: Upright position of the stop fence

The stop fence of the rip fence can be adjusted in the cutting direction and to the profile height. Clamp it in the required position with the top eccentric lever.

For crosscutting short workpieces and for recessing or other work cycles during which offcuts can become jammed between the stop and the saw blade, the stop fence is moved forward until its rear end is in front of the saw blade.



Fig. 6-10: Flat position of the stop fence

The stop fence is moved into the flat position when cutting flat and narrow workpieces. This means there is more space for workpiece guidance and the fence can be moved closer to the saw blade, in particular when the saw blade is tilted, without hitting the safety hood.

## 6.2 Working examples

### General

The Altendorf sliding table saw is a universal machine that can be used for various saw cuts. But that means that the machine must have been set up appropriately.

### Tools

First, make sure that you only use saws in perfect condition, that the riving knife is correctly set and that the top safety hood is lowered close above the workpiece to be cut. The latter is also particularly important for ensuring perfect functioning of the top extraction system.

### Rotational speed

Make sure that the correct rotational speed is set and, after the machine has been switched on, do not start pushing the workpiece forward until the saw blade has reached its full rotational speed.



Fig. 6-11: Trimming

### Position of the hands

Lay your hands flat on the workpiece with fingers and thumbs close together, and with sufficient safety clearance from the saw blade.



Fig. 6-12: Clamping shoe

### Trimming

Tool: Circular saw blade for longitudinal cuts

Work cycle: Fit the clamping shoe on the sliding table. Lay the workpiece with the hollow side down, and press underneath the clamping shoe. Push the workpiece forward by applying pressure with the ball of your right hand on the workpiece edge. Place your hands with sufficient safety clearance from the tool.





Fig. 6-13: Longitudinal cutting

### **Longitudinal cutting – workpiece width < 120 mm**

Tool: Circular saw blade for longitudinal cuts

Work cycle: Set the rip fence to the required cutting width. Lower the top safety hood according to the workpiece height. Push the workpiece (aligned along the fence) and sliding table forward, using the push stick in the vicinity of the saw blade, and push the parted workpiece beyond the rising knife. Use the push stick from the very beginning when cutting short workpieces.



For cuts of less than 120 mm you must use the push stick to prevent your hands from getting too close to the saw blade.

The push stick holder is located near the work area on the safety hood.



Fig. 6-14: Crosscutting

### **Crosscutting wide workpieces**

Tool: Circular saw blade for crosscuts

Work cycle: Lay the workpiece against the crosscut fence; when pushing forward, push firmly against the fence with your left hand. When using the throw-over stop, raise the stop and remove the workpiece from the saw blade before pulling back after the cut, or remove the workpiece behind the rising gear rim.



Fig. 6-15: Cutting strips

### **Cutting strips**

Tool: Circular saw blade for fine cuts

Work cycle: Set the aluminium straight edge of the rip fence to the low guide surface. Lay the workpiece on the sliding table and press against the rip fence with your left hand. Push the workpiece forward with the sliding table; use the push stick in the vicinity of the saw blade to push the strip beyond the riving knife.



Fig. 6-16: Push block



Push blocks must be used to cut narrow workpieces and, when necessary, to push the workpiece against the rip fence. A push block can be easily made by the operator and be fitted with the handle that part of the scope of supply.



Fig. 6-17: Concealed cutting

### **Concealed cutting, rebating**

Tool: Circular saw blade for fine cuts

Work cycle: When rebating, select the cutting sequence so that the cut-out strip is produced on the side of the blade opposite the fence. Lower the safety hood onto the workpiece and ensure good workpiece guidance (left hand presses the workpiece against the rip fence).

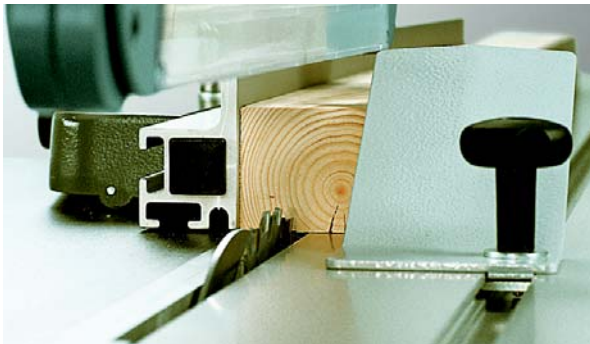


Fig. 6-18: Grooves

### **Concealed cutting, grooving**

Tool: Grooving tool for manual feed

Work cycle: Close the table opening with a table strip matched to the grooving tool. Set the tool to the required groove depth. Leave the rising knife in as a rear tool cover. When pushing forward, firmly press the workpiece on to the table (otherwise danger of unintentional insert operation.).

Always use the crosscut fence when cross-grooving narrow workpieces.



Fig. 6-19: Crosscutting

### **Crosscutting against the rip fence**

Work cycle: Lay the material against the crosscut fence of the cross-slide. Set the required dimension at the rip fence, pulling back the stop fence to the front of the saw blade after releasing the clamping, and guide the workpiece with the sliding table. When the stop fence is pulled back, the workpiece cannot jam between the saw blade and fence.



Fig. 6-20: Crosscutting

### **Crosscutting short, narrow workpieces**

Tool: Circular saw blade for fine cuts

Work cycle: Adjust the deflector wedge featuring a magnet (not part of the scope of supply) so that the workpiece cuts cannot touch the rising section of the saw blade. Only feed workpieces using the crosscut fence. Never remove off-cuts by hand from the vicinity of the tool.



## 6.3 Machine operation

### 6.3.1 Main switch



Fig. 6-21: Dividing boards

#### **Dividing large boards**

For this work cycle, the dimension can be set both on the rip fence and on the crosscut fence. If several pieces of the same size are to be cut from a large board, you cut the parallel strips at the rip fence first and then crosscut to the required dimension. However, if the workpieces exceed the cutting width of the machine, the dimension is set at the machine's crosscut fence.



Fig. 6-22: Main switch

Before turning on the saw drives, the main switch must be moved to setting I. The machine control unit runs through a self-test, after which the available axes and their current values are displayed.

#### **Grey/black main switch**

The main switch does not have an EMERGENCY STOP function! When the machine is turned off with the main switch, the saw drives run down unbraked!

#### **Red/yellow main switch**

The main switch has an EMERGENCY STOP function! When the machine is turned off at the main switch, the main saw drive is braked.

### 6.3.2 Switching the saw drives on and off

Before switching on the machine, make sure that all protective devices required for the respective work cycle are attached and operative. In addition, check that the saw blades are correctly fitted and that there are no workpieces or other objects in their vicinity. Check whether the correct rotational speed has been preselected to match the saw blade and the work cycle to be performed. Check that the circular saw blade is running in the correct direction by briefly switching on.

Make sure that the extraction system switches on at the same time as the saw drives.



Fig. 6-23: Switches for saw drives

The main saw drive is started by pressing white pushbutton I showing the main saw symbol on the panels. The scoring saw can only be started when the main saw has reached its operating speed. This is also done by pressing white pushbutton I showing the scoring saw symbol. This button lights up when the scoring saw has been switched on.



Fig. 6-24: Switches for saw drives, DRW

To switch off, press the black button marked "0". In addition, the machine can be switched off with the EMERGENCY STOP button. This possibility should only be used in case of an emergency, though. The drives can also be turned on and off with the switches on the sliding table (option).

### 6.3.3 Setting the rotational speed for the main saw blade

Three rotational speeds can be set for the main saw drive by moving over the V-ribbed belt:

- 3000 min<sup>-1</sup>
- 4000 min<sup>-1</sup>
- 5000 min<sup>-1</sup>

#### **Changing the rotational speed**

- Switch off the drive
- Open the machine door
- Turn the screw to the right until it engages
- Set the belt guide to the required rotational speed
- Place the V-ribbed belt so that it runs in the recess of the belt guide and into the vertical opposite grooves of the belt pulley
- Turn the lever to the left

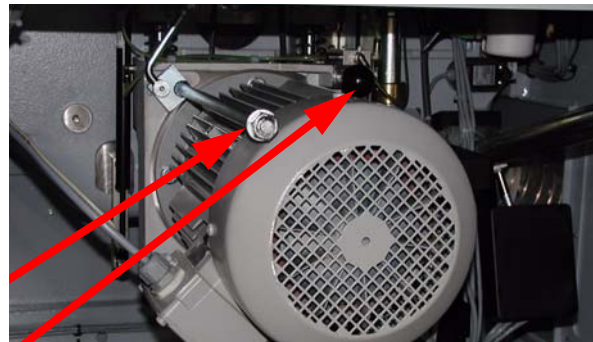


Fig. 6-25: Changing the rotational speed

**The belt tension is automatically set when the screw is turned back!**

**Only a rotational speed of 3000 min<sup>-1</sup> is permissible with a saw blade diameter of D = 550 mm (only for machines without scoring unit)!**

**for VARIO 3500 min<sup>-1</sup>!**

**Optimum position for changing speed/belt: tilt saw unit to 25°!**

### 6.3.4 Changing the belt

- Switch off the drive
- Open the machine door
- Turn the screw to the right until it engages
- Remove the V-ribbed belt and insert a new one
- Place the V-ribbed belt so that it runs in the recess of the belt guide and into the vertical opposite grooves of the belt pulley
- Turn the lever to the left



### 6.3.5 Fitting the main saw blade



Fig. 6-26: Changing the saw blade

The following points must always be observed:

- Do not fit any saw blades that are cracked or damaged in any way.
- Only fit saw blades with a diameter between 250 and 550 mm. Machines with a scoring unit have a maximum saw blade diameter of only 500 mm!
- The maximum rotational speed  $n_{\max}$  stated on the tool must not be exceeded



Fig. 6-27: Lock on the middle carriage

#### **Fitting/changing the saw blade**

- Switch off the drives
- Set the saw blade to the maximum cutting height and tilt to  $0^\circ$
- Turn off the main switch
- Move the top carriage to the middle of the saw shaft, and unlock the lock at the saw blade centre by pressing the knob on the middle carriage

- Raise the red cover plate
- Use the wrench to release the screw in the expansion-head screw
- Undo the expansion-head screw by turning it to the left with the flange
- Before fitting the new scoring blade, remove any adhering chips and dust from both flanges
- Place the saw blade and front flange on the saw shaft, turn in the expansion-head screw by hand and tighten it with the wrench.
- Check the riving knife for strength and distance from the saw blade
- Close the lower red protective cover and perform a short test run to see whether the saw blade is running freely. Do this by lowering the top safety hood down to the table so that the saw blade is completely covered.

## 64 Fitting the main saw blade

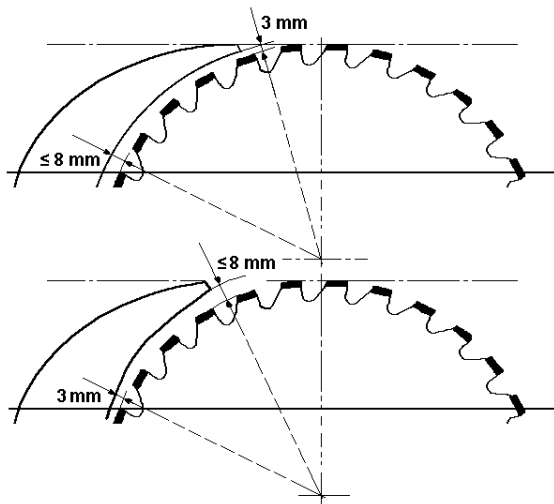


Fig. 6-28: Adjusting the riving knife

**After changing a saw blade, always check that the riving knife is correctly set!**

The distance of the riving knife from the gear rim must be between 3 mm and 8 mm.

The highest point of the riving knife must be set beneath the topmost tooth.

The riving knife must be at least 0.2 mm thicker than the main saw blade.

**Attention!**

**Check that saw blade clamping system is tight before operating the machine!**

6.3.6 Saw blade recommendation



**Note that only saw blades with side holes can be fitted. This is necessary to prevent loosening of the saw blade mounting in the course of braking.**

Do not use high-speed steel (HSS) saw blades!

The tools require a hole diameter of 30 mm and carrier holes of 10 mm diameter on a pitch circle diameter of 60 mm!

The scoring blades must have a hole diameter of 22 mm. The outside diameter is 120 mm, with 24 teeth, flat tooth.

Choosing the correct saw blade in accordance with the material to be cut and its thickness, alongside the correct cutting speed, is very important for a clean cut and low stress for the operator. A selection of saw blades for ALTENDORF sliding table saws is summarised in the following table. This table does not claim to be complete. As some of the stated cutting speeds cover large ranges, it is indispensable to empirically determine the best speed for optimum cutting results

Cutting speed in m/sec. for the adjustable rotational speeds and saw blade diameters

Diameter [mm]	Speed 1/min		
	3000	4000	5000
250	39	52	65
300	47	63	79
350	55	73	92
400	63	84	105
450	71	94	118
500	80	106	132
550	86	115	144

The areas marked grey are not allowed to be set!

Abbreviations used in the table:

- W: Alternate bevel
- WF: Alternate bevel with chamfer
- TF: Triple-chip tooth
- \* : Negative rake angle

## 66 Saw blade recommendation

Calculation of rotational speed n [1/min]:

$$n = \frac{V \times 1000 \times 60}{D \times 3,14}$$

V = Cutting speed [m/sec]

D = Saw blade diameter [mm]

Material	Cutting speed [m/s]	Rough-cut	Rough-cut	Rough-cut	Rough-cut	Finished-cut	Finished-cut	Finished-cut
		saw blade D = 250mm	saw blade D = 300mm	saw blade D = 350 mm	saw blade D = 400mm	saw blade D = 250mm	saw blade D = 300mm	saw blade D = 350 mm
Softwood, lengthwise	60 - 80	24 W	28 W	32 W	36 W	40 W	48 W	54 W
Softwood, crosscut	60 - 80	40 W	48 W	54 W	60 W	48 W	60 W	72 W
Hardwood, lengthwise	60 - 80	24 W	28 W	32 W	36 W	40 W	48 W	54 W
Hardwood, crosscut	60 - 80	40 W	48 W	54 W	60 W	48 W	60 W	72 W
Veneer	70 - 80	60 W	72 W			80 W	96 W	
Pressed laminated wood	50 - 70	40 W	48 W			48 W	60 W	
Coreboard	60 - 80	48 W	60 W	72 W		60 W	72 W	84 W
Plywood	50 - 80	40 W	48 W	54 W		60 W	72 W	84 W
Raw chipboard	60 - 80	48 W	60 W	72 W		60 W	72 W	84 W
Coated chipboard	60 - 80	60 TF	72 TF	84 TF		80 TF	96 TF	108 TF
Raw MDF boards	60 - 80	48 W	60 W	72 W		60 W	72 W	84 W
Coated MDF	60 - 80	60 W	72 W	84 W		80 W	96 W	108 W
Laminate flooring	50 - 70	60 TF	72 TF	84 TF		80 TF	96 TF	108 TF
Hardboard	60 - 80	60 W	72 W	84 W		80 W	96 W	108 W
PVC profiles *	40 - 60	60 TF	72 TF	90 TF				
Acrylic glass	40 - 50	60 W	72 W	84 W		80 WF	96 WF	108 WF
Gypsum plasterboard	40 - 60	48 W	60 W	72 W		60 W	72 W	84 W
Aluminium profiles *	60 - 70	60 TF	72 TF	90 TF		80 TF	96 TF	108 TF

### 6.3.7 Sliding table interlock

The sliding table interlock automatically locks the sliding table in its end or middle position, so that the cut material can be pushed against the crosscut fence without the easy-running sliding table being set in motion unintentionally. Unlocking is by means a handle at the end of the top carriage. The middle interlock is only triggered when the top carriage is being pulled back and the lever is in the interlock position.



*Fig. 6-29: Sliding table locked*



*Fig. 6-30: Sliding table unlocked*



## 6.4 Display control unit



Fig. 6-31: Display control unit

Press the green buttons to select the required setting; the symbol in question is shown in inverse format. Enter the dimensions via the numeric keypad and press the yellow Start button to carry out positioning. The operation can be interrupted at any time by pressing the Stop button. Positioning is finished when the dimension display switches over from inverse to normal format.

### Note:

It is also possible to change several axes in their dimension and then do them in one go by pressing the Start button.

**Infinitely variable fine adjustment** is possible by pressing the Plus or Minus button. Adjustment takes place in creep feed mode. Pressing the button for more than 3 seconds switches adjustment to rapid feed mode. Briefly touching the Plus or Minus button causes adjustment of 0.1 mm (0.1°).



### Safety area

For cutting widths of less than 180 mm, the rip fence is in the safety area and it may only be possible to change the axes in touch mode, i.e. adjustment only takes place while the Start button is pressed. Touch mode is indicated by a flashing Start symbol at the top left of the display.

### 6.4.1 Height adjustment



Fig. 6-32: Height adjustment

- Press the axis selection button for the cutting height; the symbol in the cutting height display is shown in inverse format
- Enter the required dimension via the numeric keypad; the new dimension is shown in inverse format
- Press the Start button to carry out positioning

#### Calibration

- Press the axis selection button for the cutting height
- Press the Cal button for more than 3 seconds; the display shows CAL
- Enter the measured cutting height via the numeric keypad
- Press the Cal button; the new cutting height is shown on the display

**Infinitely variable fine adjustment** is possible by pressing the Plus or Minus button. Adjustment takes place in creep feed mode. Pressing the button for more than 3 seconds switches adjustment to rapid feed mode. Briefly touching the Plus or Minus button causes adjustment of 0.1 mm.



### 6.4.2 Tilt adjustment



Fig. 6-33: Tilt adjustment

- Press the axis selection button for tilt adjustment; the symbol in the tilt angle display is shown in inverse format
- Enter the required dimension via the numeric keypad; the new dimension is shown in inverse format
- Press the Start button to carry out positioning

**Infinitely variable fine adjustment** is possible by pressing the Plus or Minus button. Adjustment takes place in creep feed mode. Pressing the button for more than 3 seconds switches adjustment to rapid feed mode. Briefly touching the Plus or Minus button causes adjustment of 0.1°.



**It is imperative to ensure the following before tilting the saw blade:**

- Use the wide safety hood!
- Clear the main table of any workpieces in the tilting area
- When cutting widths less than 180 mm, set the rip fence straight edge in the flat position
- When the tilt has been adjusted, the cutting height that has been set is automatically set to its value. Collisions can occur if the above points are not followed!
- Big cutting heights may cause the message "Warning: Cutting height was limited!" to appear, indicating that the selected cutting height is not possible with the tilt angle that has been entered.



#### Calibration

- Press the axis selection button for tilt adjustment
- Press the Cal button for more than 3 seconds; the display shows CAL
- Enter the measured cutting height via the numeric keypad
- Press the Cal button; the new cutting height is shown on the display



### 6.4.3 Rip fence adjustment (option)



Fig. 6-34: Rip fence adjustment

- Press the axis selection button for the rip fence; the symbol for the rip fence is shown in inverse format
- Enter the required dimension via the numeric keypad; the new dimension is shown in inverse format
- Press the START button to carry out positioning, see also the note about the safety area on p.67

#### Manual adjustment:

- Press the Release button on the rip fence; the brake is released
- The rip fence can now be moved by hand
- The brake reengages if the rip fence is not adjusted for longer than 1 second

**Infinitely variable fine adjustment** is possible by pressing the Plus or Minus button. Adjustment takes place in creep feed mode. Pressing the button for more than 3 seconds switches adjustment to rapid feed mode. Briefly touching the Plus or Minus button causes adjustment of 0.1 mm (0.1°).

#### Calibration:

- Press the axis selection button for the rip fence
- Press the Cal button for more than 3 seconds; the display shows CAL
- Enter the measured dimension via the numeric keypad
- Press the Cal button; the value is shown on the display



### 6.4.4 Infinitely variable speed adjustment (option)



Fig. 6-35: Setting the rotational speed

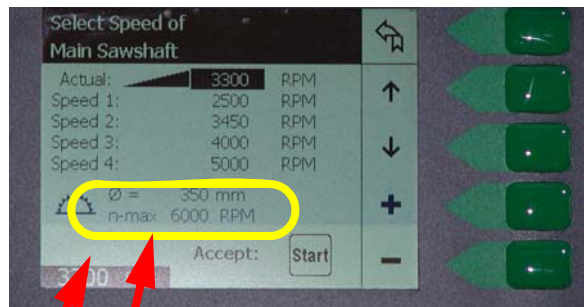


Fig. 6-36: Selecting the rotational speed

**Note:**

*For safety reasons, the maximum rotational speed that can be set is restricted in accordance with the saw blade diameter. This means that it is not possible to set the machine's maximum rotational speed when it comes to larger saw blades.*

- Press the selection button for VARIO; the following screen appears:
- Change the rotational speed in steps of 50 by pressing the Plus/Minus button, or enter the speed via the numeric keypad in units of five revolutions
- Save the rotational speed that has been set by pressing the Start button, or select another speed level

The saw blade diameter of the saw blade currently fitted and its maximum permitted speed are displayed.

<b>Saw blade Ø</b>	<b>Permitted speeds</b>
250 - 350 mm	2000 - 6000 min <sup>-1</sup>
400 mm	2000 - 5000 min <sup>-1</sup>
450 mm	2000 - 4000 min <sup>-1</sup>
500 - 550 mm	2000 - 3500 min <sup>-1</sup>

## 6.4.5 Scoring saw



Fig. 6-37: Adjusting the scorer

Press the selection button for the scorer; the following screen appears:

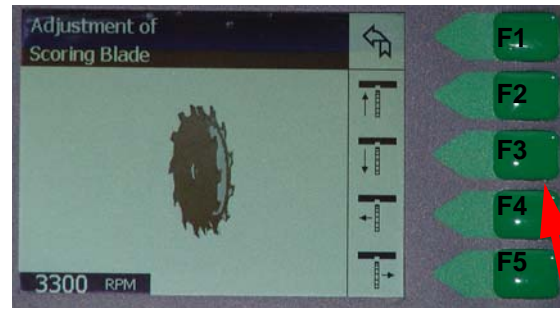


Fig. 6-38: Adjusting the scorer

### Side adjustment:

- Briefly touching the Plus or Minus button causes minimal adjustments of approx. 0.03 mm, holding these buttons down causes bigger adjustments

### Height adjustment:

- Briefly touching the Plus or Minus button causes minimal adjustments; holding these buttons down causes bigger adjustments.



Fig. 6-39: Switches for saw drives

When the scorer motor is on, the scorer is in the top position. Otherwise it is moved up when the function is called.

The cutting height of the scorer and the side position can now be defined with the aid of buttons F2 - F5.

When this function is exited (F1 button), the scorer travels down if the motor is off. Otherwise it travels down when the scorer motor is switched off, on returning from an EMERGENCY STOP, and when the machine is switched on. The height position that has been set is saved.



### 6.4.6 RAPIDO Plus scoring saw



Fig. 6-40: RAPIDO Plus

**RAPIDO Plus** is a 3-axis scoring system that can be used to electronically position the cutting height plus the right and left side of the scoring saw blade. All settings can be made while the machine is running, so they can be done very quickly.

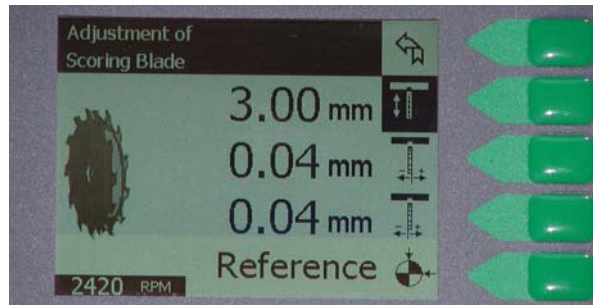


Fig. 6-41: Adjusting the scorer

Press the selection button for the scorer; the following screen appears:

**Adjustment:**

- Press the + or - button to change the dimension
- Enter the dimension on the numerical keypad and press the START button

**Button functions:**

- Button 1 <> Back to previous page
- Button 2 <> Cutting height adjustment
- Button 3 <> Position of right saw blade side
- Button 4 <> Position of left saw blade side
- Button 5 <> Reference

**Note:** *The positions given for the saw blade sides are guide figures only.*

**Calibrating the scoring saw**

- Select the position of the saw blade to be calibrated using button 2, 3 or 4; the symbol for the selected position is displayed in inverse format.
- Press the Cal > button on the function keypad for 3 sec. CAL appears on the screen for the selected position, with the current value in inverse format
- Enter the value and press the Cal button; the value is shown on the display.

**Setting the scoring saw blade**

- Setting the cutting height
  - Set the blade protrusion by pressing button 2
- Set the position of the right saw blade side
  - so that both cutting edges are congruent when a test cut is made
  - Enter + 0.05 so that the scorer cuts wider than the main saw blade
- Set the position of the left saw blade side
  - Set the scoring blade to the thickness of the main saw blade
  - If a test cut is OK, then increase the cutting width by + 0.05

When you exit the menu, the electronics saves the last values set. When the scoring saw is switched on, the scoring blade is automatically moved to the previously set values. When the saw drives are switched off, the scoring blade is automatically moved to its lowest position.

If you select this menu item when the scoring saw is running, the scorer will not travel down to its lowest position when the saw drives are switched off!

**Reference:**

The reference is the second way of storing all 3 scoring saw blade positions.

- Pressing the Reference button for more than 3 seconds saves the values that have been set.
- After adjustments have been made, the stored values can be set by pressing the Reference and START buttons.



### 6.4.7 Function button block

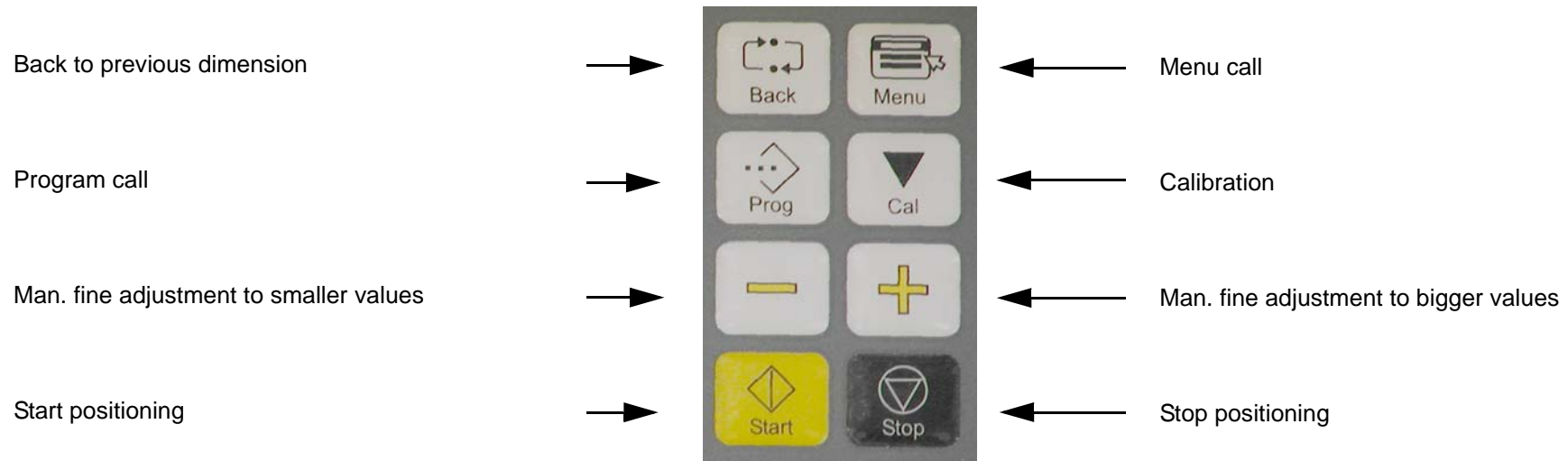


Fig. 6-42: Function button block

### 6.4.8 Menu (rip fence with manual adjustment)

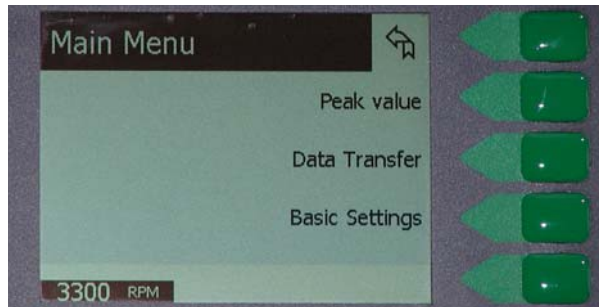
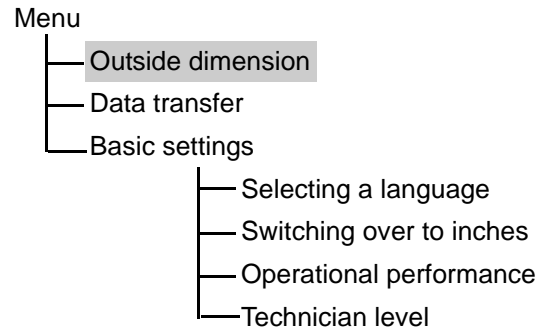


Fig. 6-43: Main menu

Pressing the button takes you to the main menu



#### Structure of the main menu



#### Outside dimension

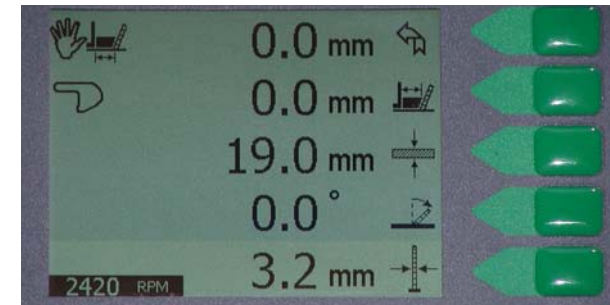


Fig. 6-44: Outside dimension

In practice, when sizing it has proved more expedient not to cut angle cuts on the rip fence, but on the sliding table, i.e. on the left side.

The "outside dimension" function is used to calculate the dimension to be set on the crosscut fence. Once all the values have been input, the dimension to be set on the crosscut fence appears on the first line.

The following values must be entered:

- Outside dimension required
- Material thickness
- Tilt angle
- Saw blade thickness

**6.4.9 Menu (option > rip fence with electronic adjustment)**

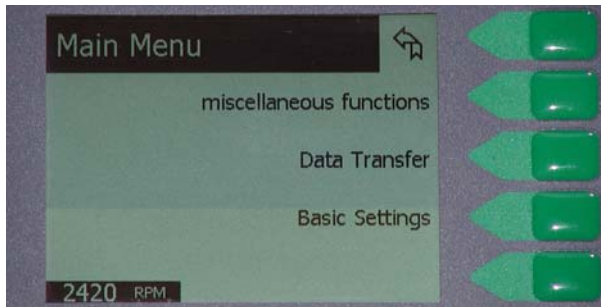
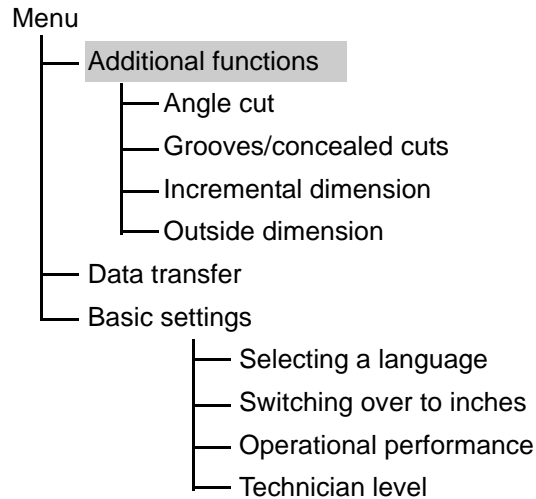


Fig. 6-45: Main menu

Pressing the button takes you to the main menu



**Structure of the main menu**



**Additional functions**

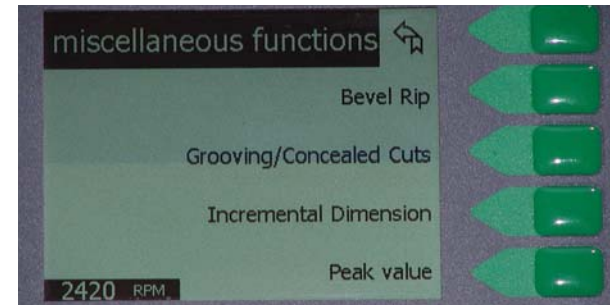


Fig. 6-46: Additional functions

The following additional functions can be selected:

- Angle cut
- Grooves/concealed cuts
- Incremental dimension
- Outside dimension selectable.

## Angle cut

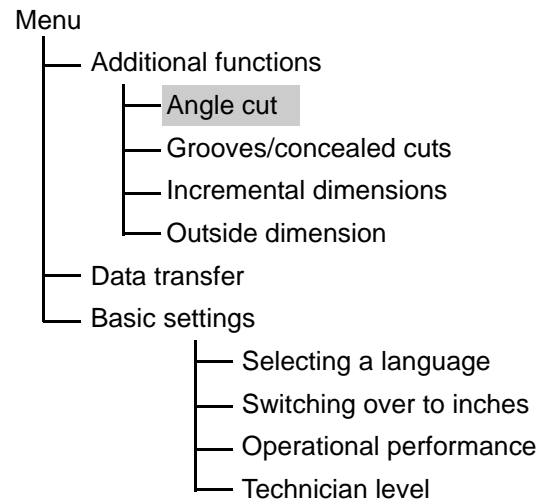
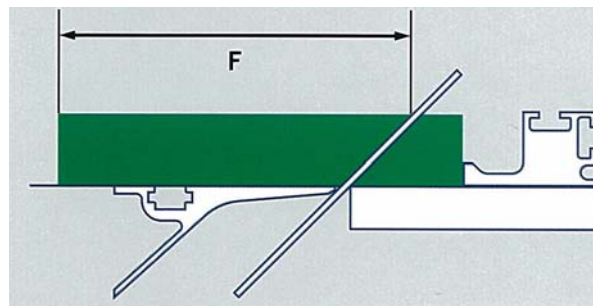


Fig. 6-47: Angle cut

The "angle cut" function enables you to cut mitres using the motorised rip fence, finished size F, with or without an oversize.



The following values must be entered:

Enter the value after pressing the corresponding function button

- **Workpiece oversize**
- **Workpiece thickness** (measured)
- **Cutting height**
- **Tilt angle**

**Note:**

**You must enter the saw blade thickness, otherwise the dimensions will be wrong!**

**The saw blade thickness must be entered in the "Grooves/concealed cuts" or "Outside dimension" menu.**

**Note that saw blades generally cut wider than the blade thickness indicated on the saw blade.**

**Grooves/concealed cuts**

This function is only possible with the "rip fence with motorised adjustment" option. It is possible with all saw blade thicknesses to cut grooves that are wider than the saw blade thickness.

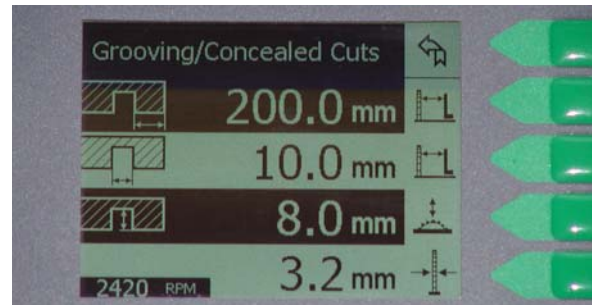
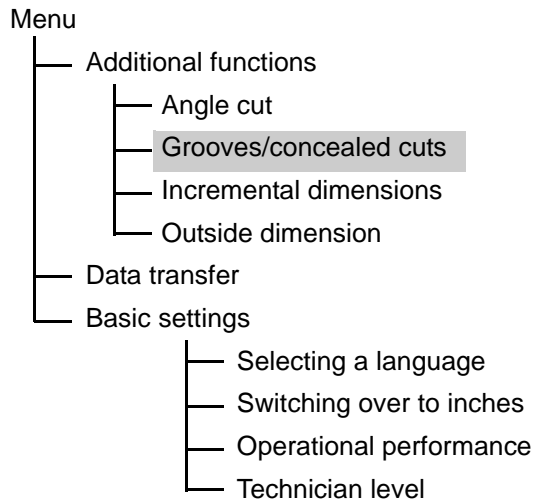


Fig. 6-48: Grooves/concealed cuts

Button functions:

- Button 1 <> Back to previous page
- Button 2 <> Start position of groove
- Button 3 <> Groove width
- Button 4 <> Groove depth
- Button 5 <> Measured cutting width of saw blade

The first press of the START button initiates positioning for the start dimension. Subsequent presses of the START button adjust the step size.

For grooves that are wider than the saw blade, the number of cuts required is shown at the bottom left of the display.

The START button must be pressed after every cut in order to adjust the rip fence.

Return to the start of the groove by exiting the groove function and selecting the groove function again.

### Incremental dimension

This function is only possible with the "rip fence with motorised adjustment" option. The "incremental dimension" function supports cutting sequences with the same distance on the rip fence in both directions.

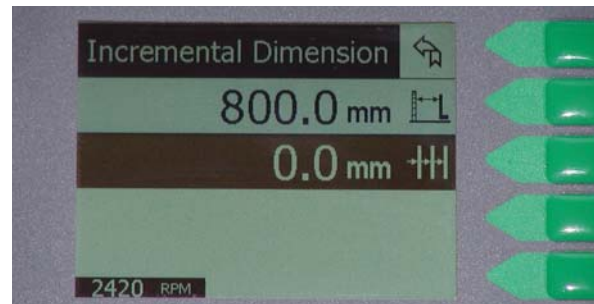
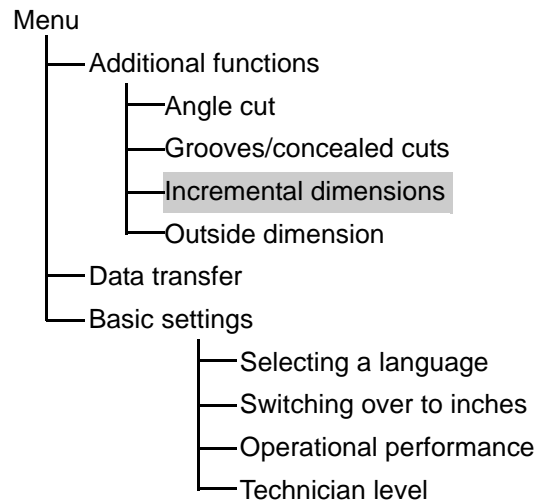


Fig. 6-49: Incremental dimensions

Button functions:

- Button 1 <> Back to previous page
- Button 2 <> Start position at rip fence
- Button 3<> Step size at rip fence (both positive and negative values are possible)

### Outside dimension



Fig. 6-50: Outside dimension

In practice, when sizing it has proved more expedient not to cut angle cuts on the rip fence, but on the sliding table, i.e. on the left side.

The "outside dimension" function is used to calculate the dimension to be set on the crosscut fence. Once all the values have been input, the dimension to be set on the crosscut fence appears on the first line.

The following values must be entered:

- Outside dimension required
- Material thickness
- Tilt angle
- Saw blade thickness

**Data transfer via USB interface (qualified personnel only)**

Menu

— Additional functions

— Angle cut

— Grooves/concealed cuts

— Incremental dimensions

— Outside dimension

— **Data transfer**

— Basic settings

— Selecting a language

— Switching over to inches

— Operational performance

— Technician level

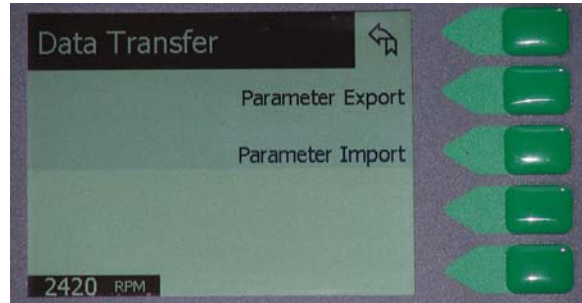


Fig. 6-51: Data transfer

Button functions:

- Button 1 <> Back to previous page
- Button 2 <> Upload parameters
- Button 3 <> Download parameters



Fig. 6-52: USB port on the machine frame



Fig. 6-53: USB port on the eye-level operating panel

The USB port is located behind the flap indicated by the arrow.



**Basic settings**

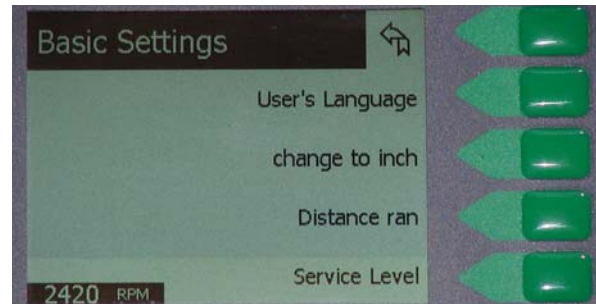
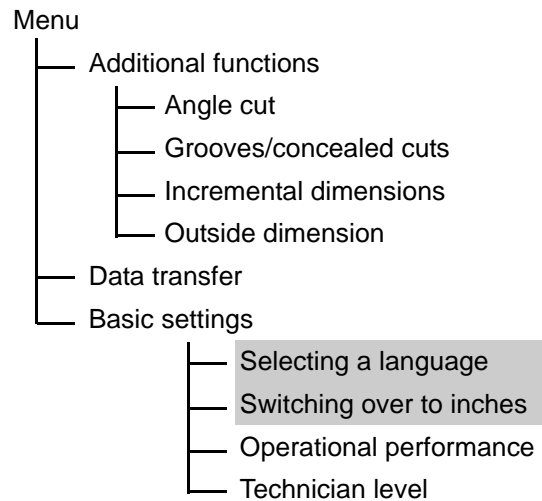


Fig. 6-54: Basic settings

Button functions:

- Button 1 <> Back to previous page
- Button 2 <> Select language
- Button 3 <> Switch over to inches or mm
- Button 4 <> Operational performance
- Button 5 <> Technician level

**Selecting a language**

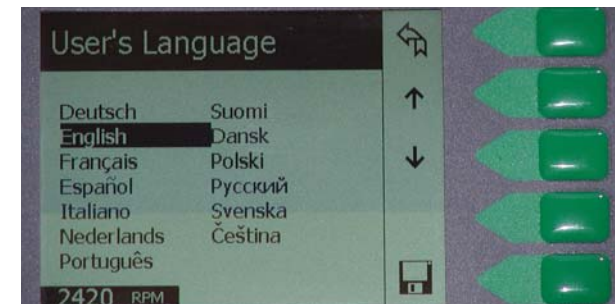


Fig. 6-55: Selecting a language

Button functions:

- Button 1 <> Back to previous page
- Button 2 <> Scroll forward
- Button 3 <> Scroll backward
- Button 4 <>
- Button 5 <> Save selected language

**Switching over to inches (mm)**

Pressing the 3rd function button changes the unit of measurement to inches (mm).



**Operational performance**

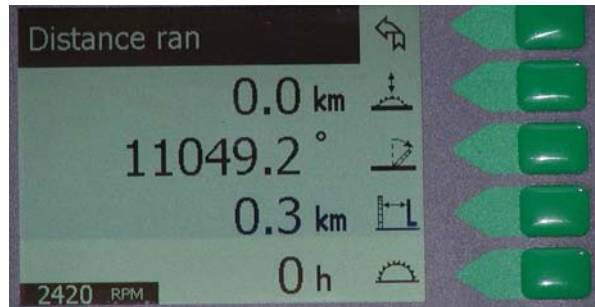
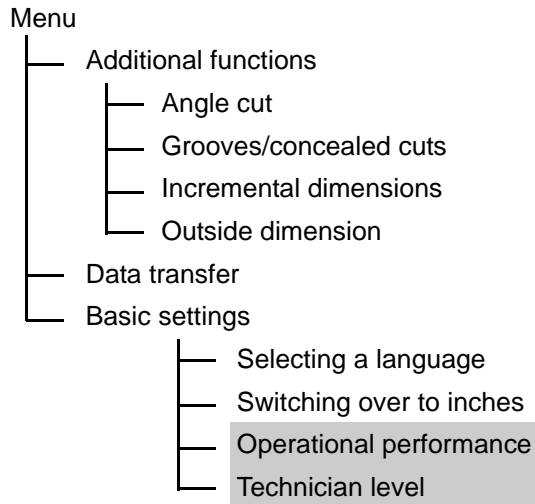


Fig. 6-56: Operational performance

Button functions:

- Button 1 <> Back to previous page
- Button 2 <>
- Button 3 <>
- Button 4 <>
- Button 5 <>

**Technician level (for qualified personnel only)**

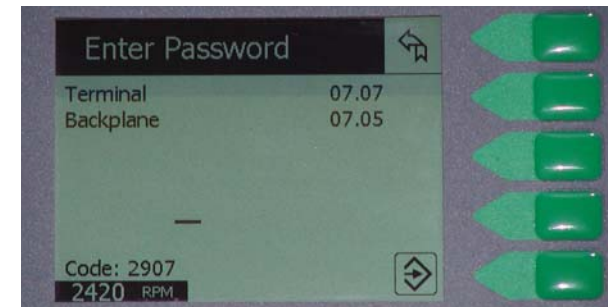


Fig. 6-57: Technician level

Button functions:

- Button 1 <> Back to previous page
- Button 2 <>
- Button 3 <>
- Button 4 <>
- Button 5 <> Password confirmation

For service calls it is important to state the version of the software indicated for terminal and backplane!

**Running programs**

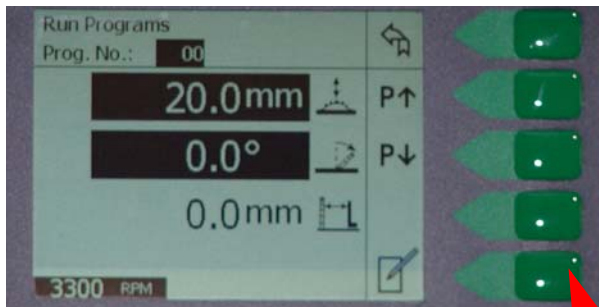


Fig. 6-58: Running programs

Press the "Prog" button on the function keypad. The following screen appears:

Button functions:

- Button 1 <> Back to previous page
- Button 2 <> Scroll up through programs
- Button 3 <> Scroll down through programs
- Button 4 <>
- Button 5 <> Change program



Press the START button to position the selected program

**Changing programs**



Fig. 6-59: Changing programs

Press button 5 in the "run programs" function to call up the "change programs" function.

Button functions:

- Button 1 <> Back to previous page
- Button 2 <> Up one line
- Button 3 <> Down one line
- Button 4 <> Delete program
- Button 5 <> Create program

**Creating programs**

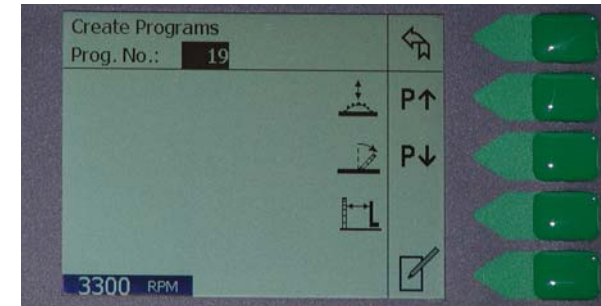


Fig. 6-60: Creating programs

Press button 5 in the "change programs" function to call up the "create programs" function.

Button functions:

- Button 1 <> Back to previous page
- Button 2 <> Next free program location
- Button 3 <> Next free program location
- Button 4 <>
- Button 5 <> Create program

**Save current axis positions**

Hold down the Prog button on the function keypad for longer than 3 sec. to save the current axis positions to program location 20.

## 6.5 Display control unit with touch screen (ELMO)

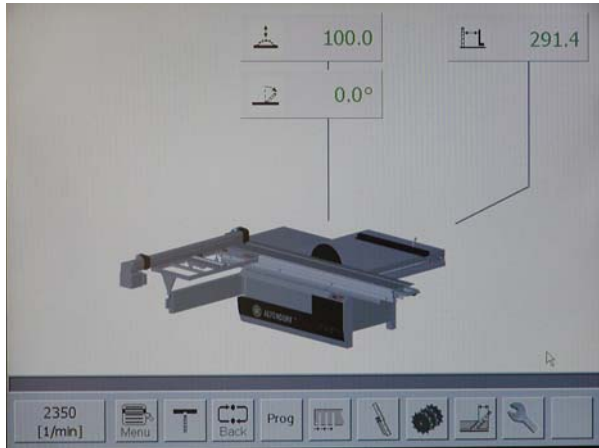


Fig. 6-61: ELMO III start screen

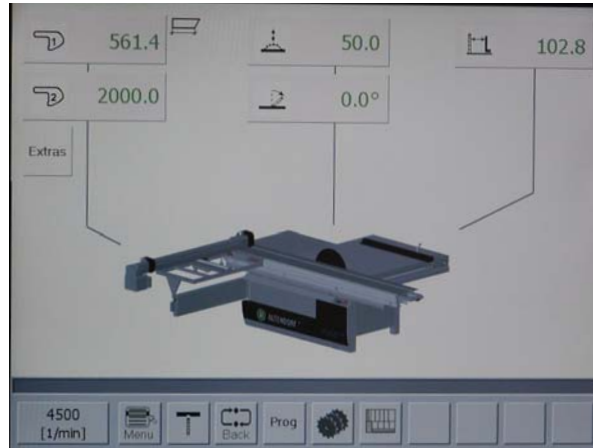


Fig. 6-62: ELMO IV start screen

A touch screen is a computer display which has areas that can be touched to control the machine. The lower section of the screen shows the menu bar with fixed fields and fields that can be freely allocated.

The following fields have fixed assignments:

- Rotational speed
- Menu
- Scorer (if present)
- Back
- Programs

When the machine has been switched on, the basic display appears after about 10 seconds. The middle part of the display shows the outline of the sliding table saw. The adjustable axes are highlighted. At the top of the display there are touch fields with axis symbols and axis values. The colours of the axis values have the following meaning:

- Green <> Axis in position
- Red <> Axis not in Position
- Yellow <> Axis being positioned

### **Note:**

It is also possible to change several axes in their dimension and then do them in one go by pressing the Start button. Positioning is then finished when the dimension display changes from yellow to green.

### **Safety area**

In the safety area, the operator is told to press the Start button to continue positioning. For clarity, a start symbol is displayed in the bottom right-hand corner of the screen.

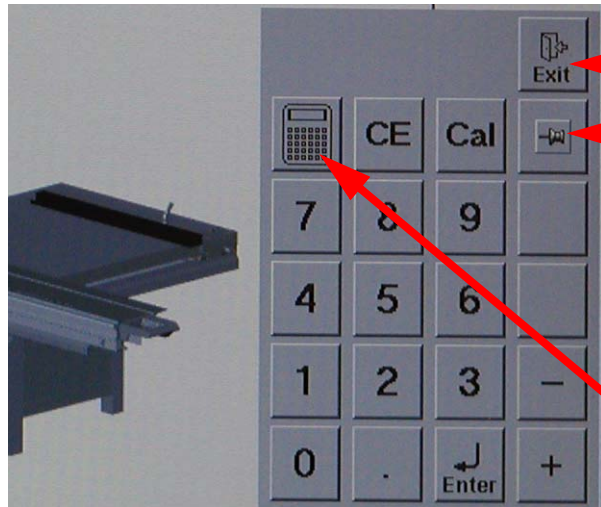


Fig. 6-63: Numeric keypad

**Description of numeric keypad functions**

Exit the numeric keypad

After pressing the PIN field, the PIN changes and the selected axis remains continuously active, i.e. you can enter new dimensions without having to press the axis selection field again. Press the PIN field a second time to cancel the function again.

CE - delete input

Cal - calibrate axis, see p.93

Calculator function

Enter - accept the dimension set

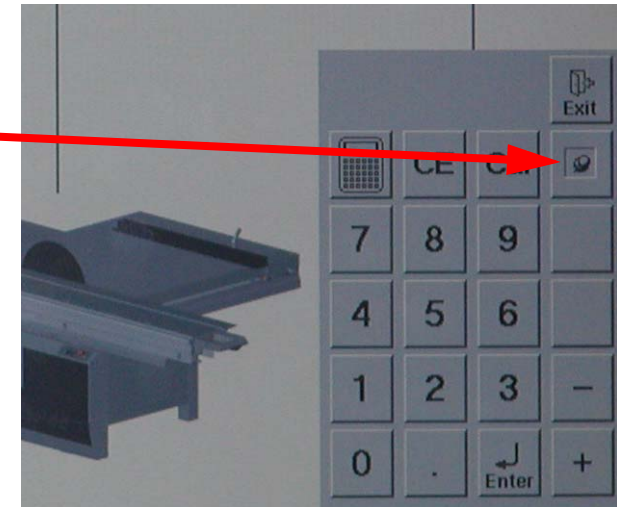


Fig. 6-64: Numeric keypad

After pressing an axis selection field, a window opens showing a numeric keypad for entering a dimension.

### 6.5.1 Height adjustment

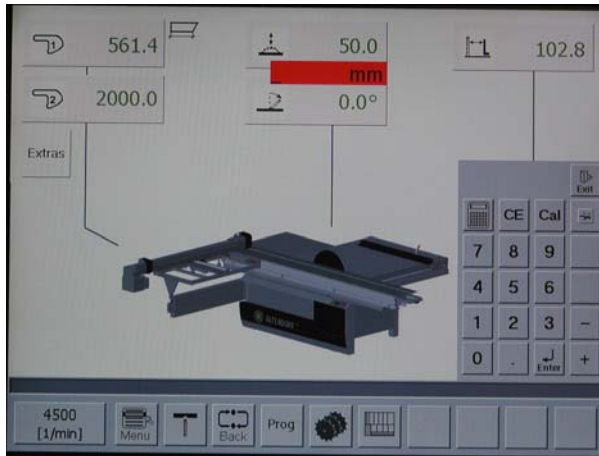


Fig. 6-65: Height adjustment (ELMO IV)

- Touch the Height Adjustment field; on the right of the display, the numeric keypad and a separate input window are shown next to the axis.
- Enter the desired figure and confirm with **Enter**, or press the **START** button immediately for positioning
- You can also use the + / - buttons (above the **START** button) to make fine adjustments

### 6.5.2 Tilt adjustment

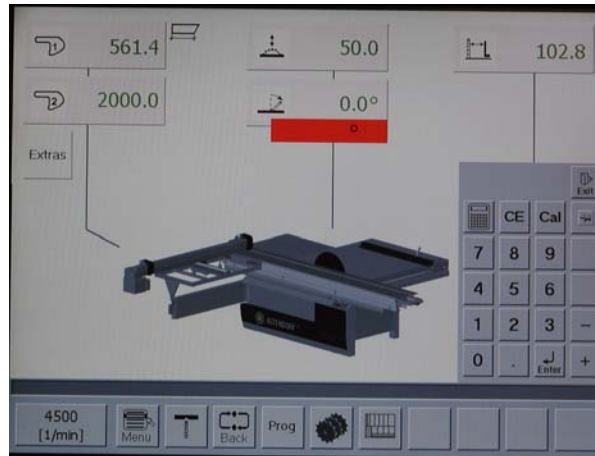


Fig. 6-66: Tilt adjustment (ELMO IV)

- Touch the Tilt Adjustment field; on the right of the display, the numeric keypad and a separate input window are shown next to the axis.
- Enter the required dimension and confirm it with **Enter**
- Press the **Start** button to carry out positioning
- You can also use the + / - buttons (above the **START** button) to make fine adjustments

**It is imperative to ensure the following before tilting:**

- Use the wide safety hood!
- Clear the main table of any workpieces in the tilting area
- When cutting widths less than 180 mm, set the rip fence straight edge in the flat position

**Note:**

When the tilt angle is changed, the position control automatically adjusts the cutting height that has been set.

### 6.5.3 Rip fence adjustment

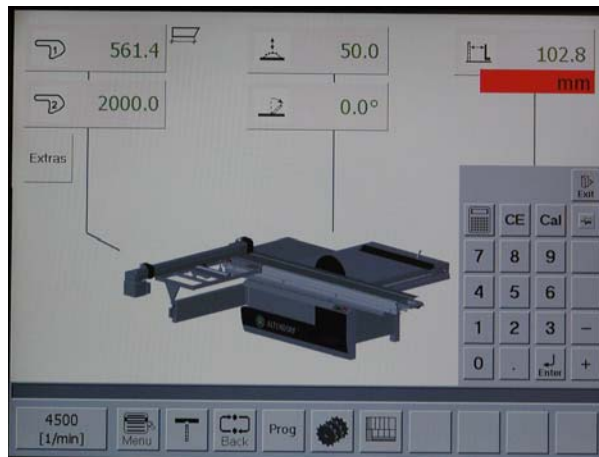


Fig. 6-67: Rip fence adjustment (ELMO IV)

- Touch the Rip Fence field; on the right of the display, the numeric keypad and a separate input window are shown next to the axis.
- Enter the required dimension and confirm it with **Enter**
- Press the Start button to carry out positioning
- You can also use the + / - buttons (above the START button) to make fine adjustments

#### Note:

- The low guide surface of the fence is used when sawing thin and narrow workpieces
- In the case of cuts less than 120 mm wide, the material must be fed with a push stick and the low guide surface of the fence must be used
- For work cycles in which cut-offs can get jammed between the saw blade and the fence, the stop fence must be adjusted so that the rear end is in front of the saw blade



Fig. 6-68: Low guide surface



Fig. 6-69: High guide surface



### 6.5.4 Crosscut-mitre fence ELMO III

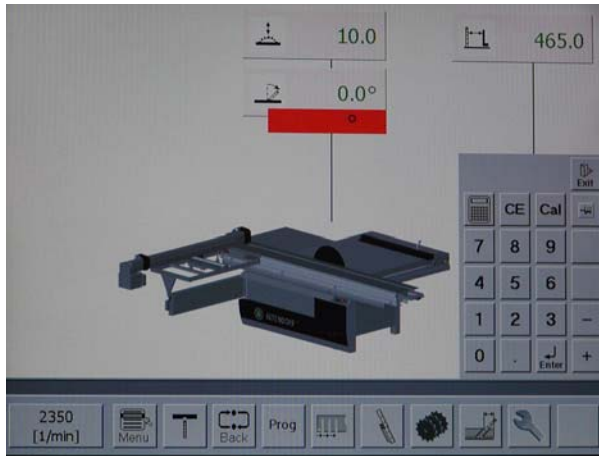


Fig. 6-70: Screen displayed for tilt angle 0°

If the machine does not feature motorised adjustment of the crosscut-mitre fence's throw-over stops, then the temporary sizes for setting the crosscut-mitre fence are displayed, provided the tilt angle is greater than 0°.

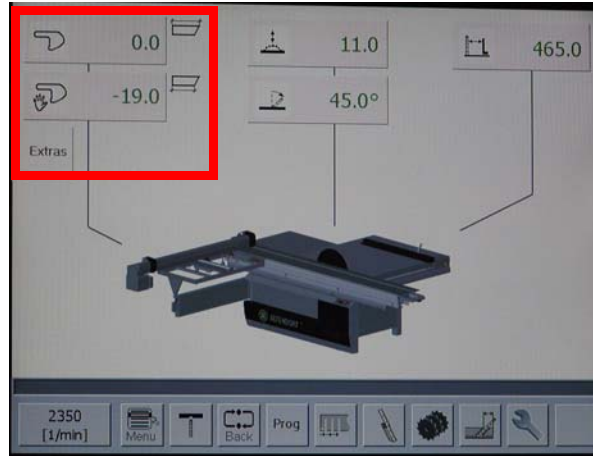


Fig. 6-71: Screen displayed for tilt angle >0°

Once the saw blade has been tilted, 2 new windows open at the top left of the screen.

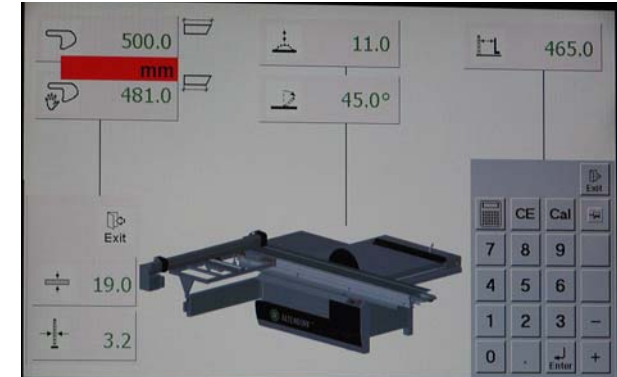


Fig. 6-72: Outside dimension

To specify the finished size, press the top left field and enter the outside dimension. The dimension to be set manually will be calculated and displayed. This dimension not only depends on the tilt angle but also on the cutting width and material thickness. The additional values are shown in a window at the bottom left. This window can be hidden with Exit. Beneath the fields at the top left an Extras field then appears with which the window can be called again.

### 6.5.5 Crosscut-mitre fence ELMO IV

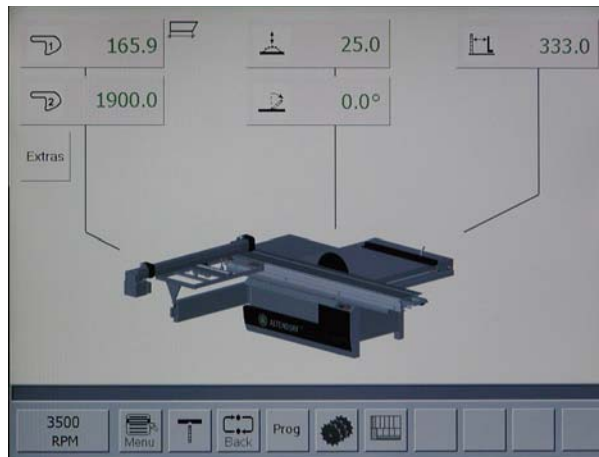


Fig. 6-73: Crosscut-mitre fence 0° position

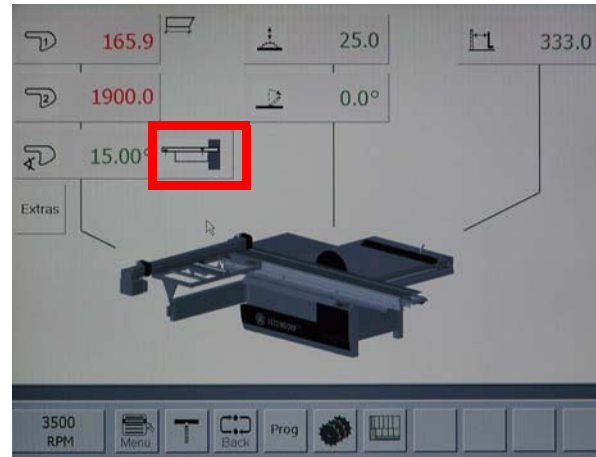


Fig. 6-74: Crosscut-mitre fence > 0° position

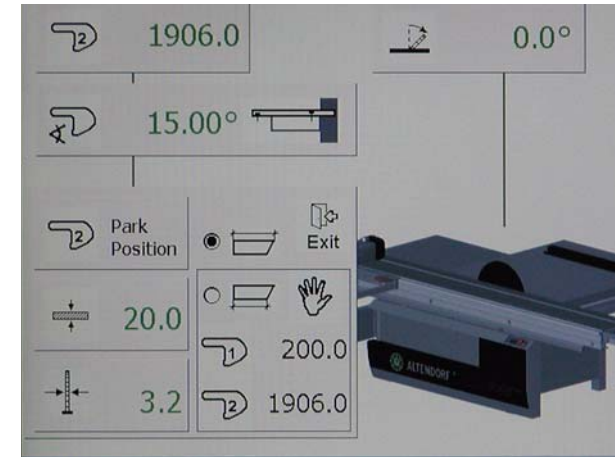


Fig. 6-75: Screen after pressing the Extras field

#### Setting the dimension for the throw-over stops

- Touch the Crosscut-Mitre Fence field (throw-over stop 1 or 2); on the right of the display, the numeric keypad and a separate input window are shown next to the axis.
- Enter the required dimension and confirm it with **Enter**
- Press the Start button to carry out positioning

#### Crosscut-mitre fence:

The crosscut-mitre fence can be swung from 0.00 to  $\pm 47.00^\circ$ . The angle can be set manually and calibrated.

The entire crosscut fence can be moved by about 260 mm to get closer to the saw blade when the fence has been swung.

Pressing the Extras field opens a window at the bottom left which shows the additional fields for the crosscut-mitre fence.

The following settings are possible:

- Parking position for 2nd throw-over stop (1900 mm)
- Material thickness
- Saw blade cutting width
- Acute or obtuse angle



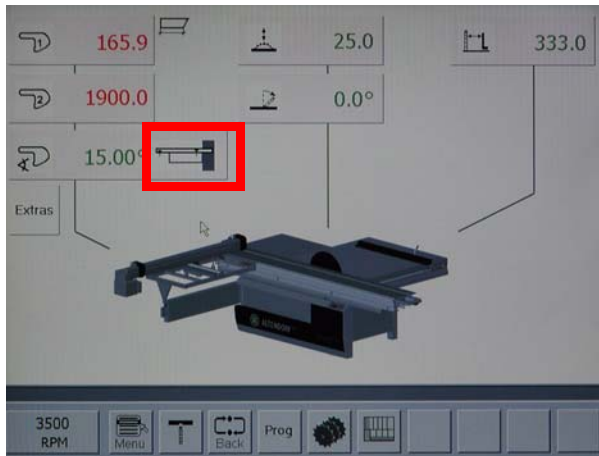


Fig. 6-76: Crosscut-mitre fence > 0° position

### Switching the throw-over stop side

Press the Crosscut-Mitre Fence field (outlined in red) to switch over the straight edge position (front/back)

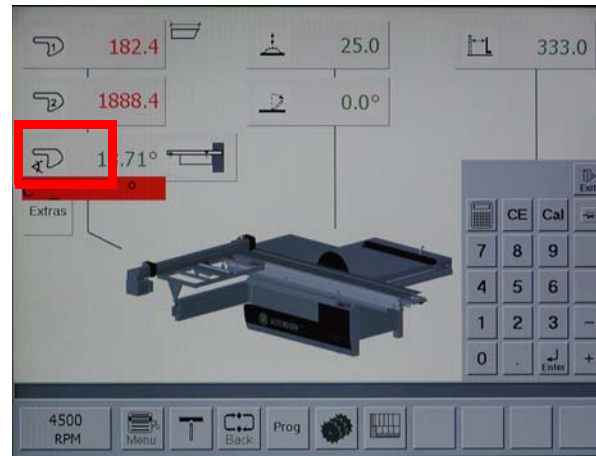


Fig. 6-77: Calibrating the crosscut-mitre fence

### Calibrating the crosscut-mitre fence

Once you have pressed the Crosscut-Mitre Fence field (outlined in red), you can calibrate the angle of the straight edge.

- Press the Cal field for >3 sec
- Enter the new value
- Press the Cal field and the new value is accepted

### 6.5.6 Calibration



Fig. 6-78: Calibration

The dimensions of the axes must be checked and possibly calibrated every time the saw blade is changed.

Select the axis to be calibrated by touching the symbol and press the Cal button in the right-hand window for more than 3 seconds. Enter the dimension that was ascertained via a test cut and confirm this by pressing Enter.

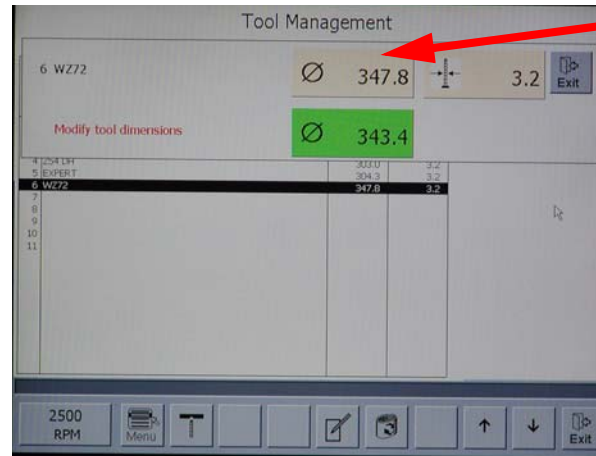


Fig. 6-79: Tool management

If you do not want to accept the corrected saw blade diameter, then press the top field with the original diameter and press Exit to close the window.

If, for example, you change the value of the cutting height and select a saw blade in Tool management, a tool management window opens. The new saw blade diameter calculated by the calibration process (after calibrating the cutting height) is displayed with a green background and can be accepted by pressing Exit. It then changes the saw blade diameter in tool management.

### 6.5.7 Rotational speed selection function

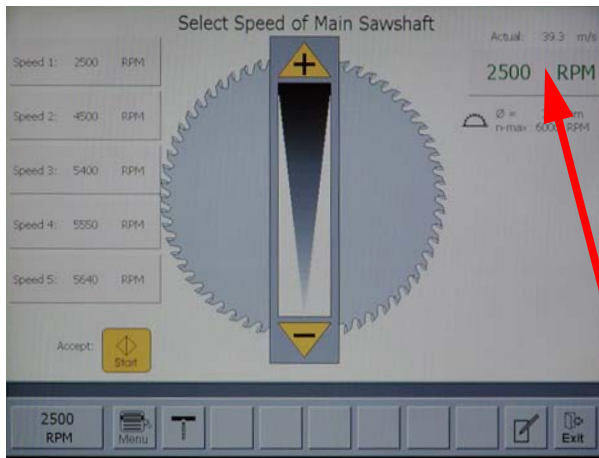


Fig. 6-80: Selecting the rotational speed for the main saw blade

The VARIO drive supports infinite adjustment of the speed so that the cutting speed can be set optimally for the different materials.

Pressing the Rotational Speed field on the menu bar takes you to the Rotational Speed Selection function.

The circumferential speed of the saw blade is shown in addition to the rotational speed. The saw blade diameter obtained from the position of the riving knife is used to calculate the speed.

#### Set/change speed

The speed can be influenced in the following ways:

- Press the Plus or Minus symbol in the middle of the screen to increase or reduce the rotational speed (within the permitted limits) by 50 rpm or to the next 50 increment.
- Press the field with the current speed display at the top right of the screen to bring up a numerical keypad on the right side of the screen. You can enter the speed here in increments of 5, and confirm by pressing Enter.
- Select one of the 5 stored speeds displayed on the left-hand side of the screen

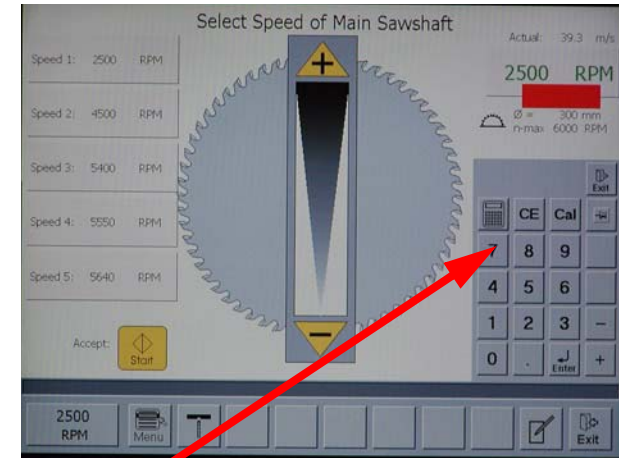


Fig. 6-81: Entering the rotational speed for the main saw blade

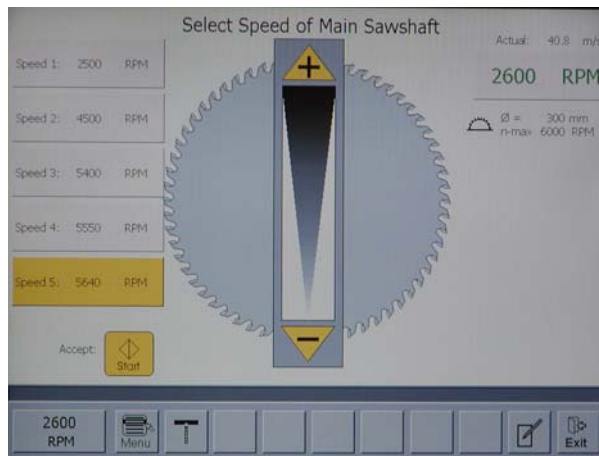


Fig. 6-82: Selecting a stored speed

**Selecting a stored speed**

- Press the desired speed field on the left of the screen; the field is displayed with a yellow background
- Press the START button and the stored speed will be set

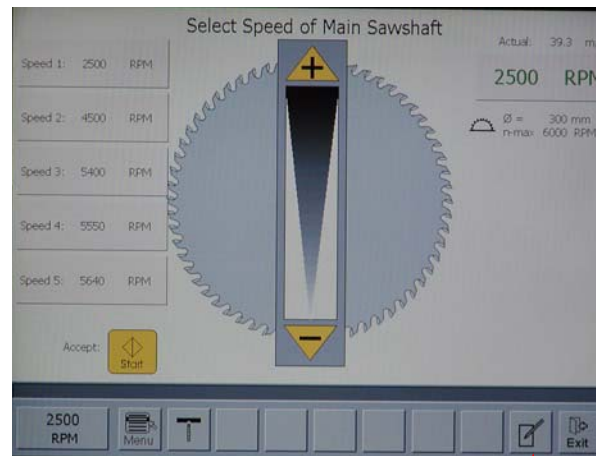


Fig. 6-83: Storing a rotational speed

**Storing a rotational speed**

- Press the Edit field
- Press the desired speed field
- Enter a value and press Enter
- The value is accepted and stored

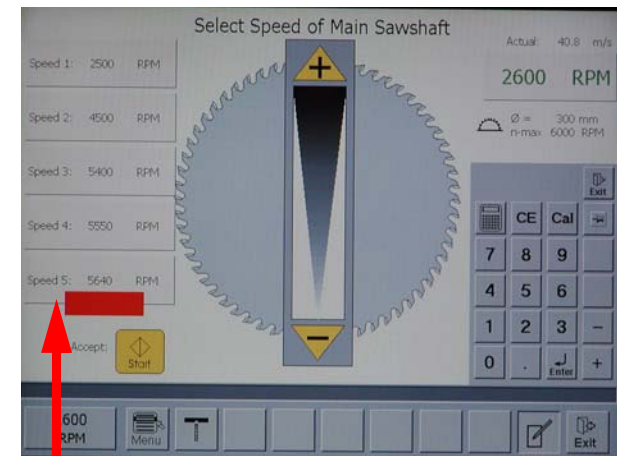


Fig. 6-84: Storing a rotational speed

### 6.5.8 2-axis scoring saw

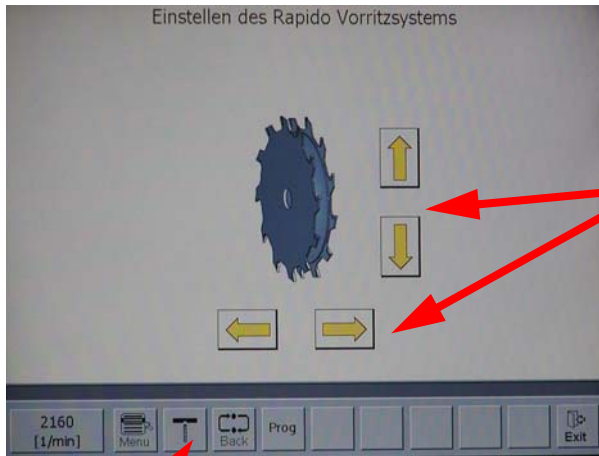


Fig. 6-85: 2-axis scoring saw

Pressing the Scorer menu field calls the Adjust Rapido Scorer System function.

When the scorer motor is on, the scorer is in the top position. Otherwise it is moved up when the function is called.

The cutting height of the scorer and the side position can now be defined with the aid of the arrow buttons.

When this function is exited (by pressing the Exit field), the scorer travels down if the motor is off. Otherwise it travels down when the scorer motor is switched off, on returning from an EMERGENCY STOP, and when the machine is switched on. The height position that has been set is saved.



Fig. 6-86: Switches for saw drives

### 6.5.9 RAPIDO Plus scoring saw



Fig. 6-87: RAPIDO Plus

**RAPIDO Plus** is a 3-axis scoring system that can be used to electronically position the cutting height plus the right and left side of the scoring saw blade. All settings can be made while the machine is running, so they can be done very quickly.

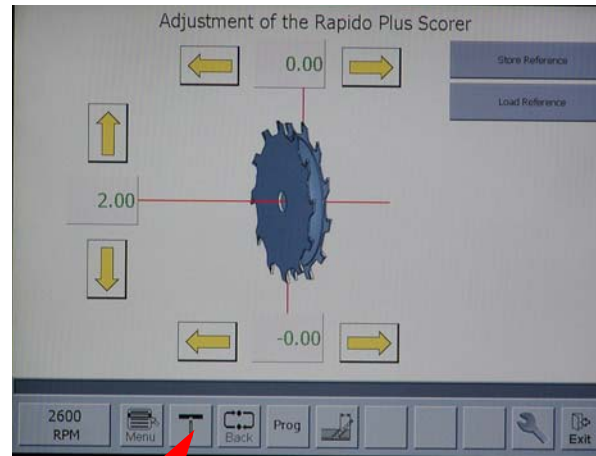


Fig. 6-88: Scoring saw

Pressing the Scorer menu field calls the Adjust Rapido Plus Scorer System function.

Function of axis position fields

- Top field <> Set the position of the right saw blade side
- Middle field <> Set the cutting height
- Bottom field <> Set the position of the left saw blade side

**Note:** The positions given for the saw blade sides are guide figures only.

#### **Adjustment**

The 3 scorer axes can be positioned using the arrow buttons. If you press the field with the axis positions, the numeric keypad appears on the right of the screen and you can enter position values. Briefly pressing the side arrow buttons causes movement of 0.2 mm each time. Briefly pressing the height arrow buttons results in movement of 1.1 mm.

#### **Calibrating the scoring saw**

- Press the Axis Position field to select the position of the saw blade to be calibrated
- Press the Cal field on the numeric keypad > 3 seconds; C will appear in the red input field
- Enter the value and press the Cal field; the value entered is shown on the display

### Setting the scoring saw blade

- Setting the cutting height
  - Set the blade protrusion
- Set the position of the right saw blade side
  - so that both cutting edges are congruent when a test cut is made
  - Enter + 0.05 so that the scorer cuts wider than the main saw blade
- Set the position of the left saw blade side
  - Set the scoring blade to the thickness of the main saw blade
  - If a test cut is OK, then increase the cutting width by + 0.05

When you exit the menu, the electronics saves the last values set. When the scoring saw is switched on, the scoring blade is automatically moved to the previously set values. When the saw drives are switched off, the scoring blade is automatically moved to its lowest position.

If you select this menu item when the scoring saw is running, the scorer will not travel down to its lowest position when the saw drives are switched off!

### Reference:

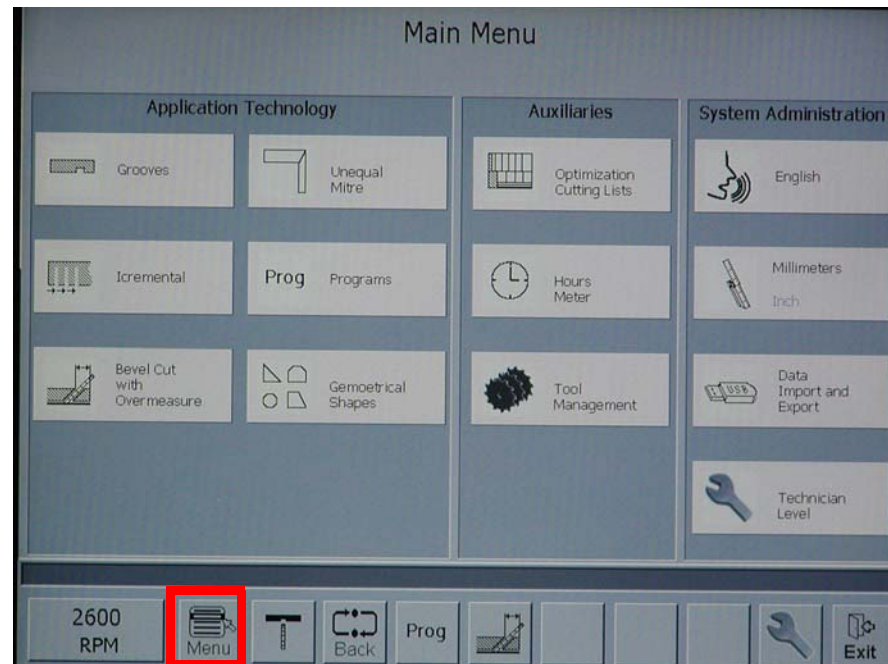
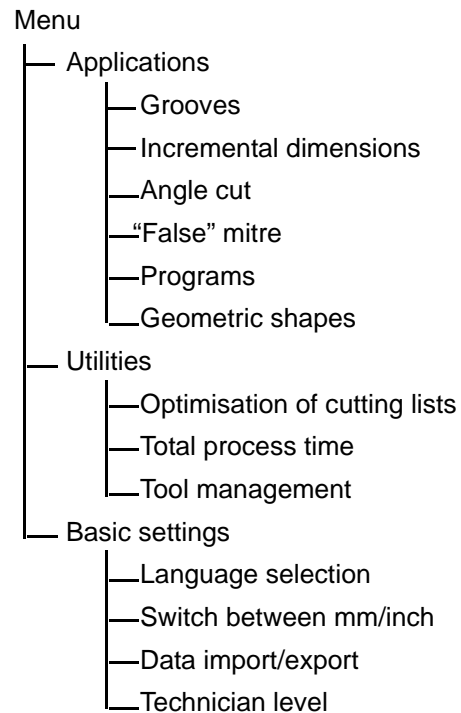
The reference is the second way of storing all 3 scoring saw blade positions.

- Pressing the Reference button for more than 3 seconds saves the values that have been set.
- After adjustments have been made, the stored values can be set by pressing the Reference and START buttons.



## 6.5.10 Main menu

### Structure of the main menu



Pressing the Menu field takes you to the main menu.

The programmable function fields on the function bar at the bottom are programmed as follows:

Press the required empty (or assigned) field for 3 seconds

- The colour of the field changes to white, and any existing symbol disappears.
- For example, press a function field under Applications and then its symbol appears on this field and it has been programmed.



### 6.5.11 The Grooves function

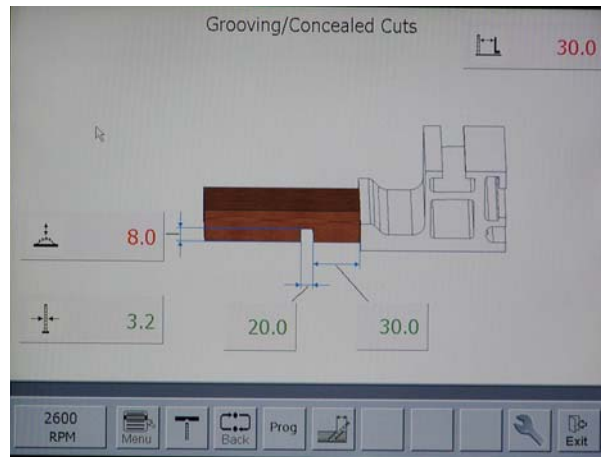


Fig. 6-89: Grooves

It is possible with all saw blade thicknesses to cut grooves that are wider than the saw blade thickness.

Pressing the Grooves function field under Main Menu/Applications takes you to the Grooves function.

You have to enter the width and start of the groove as well as the height of the saw blade. The current position of the rip fence is shown on the right, as is the number of the current cut.

“Cut .. of ..” only appears if a setting has actually been positioned. Otherwise the flashing start symbol is shown, apart from during value entry. The Start symbol is also hidden for step z of z (after final positioning).

Pressing the Back button takes you back to cut 1. This also happens if you exit the menu and call it again.

The values on this menu are also retained when the machine is switched off.

When you return to the normal display, the old actual values are retained there as setpoints, and positioning can take place again with the Start button.

### 6.5.12 Incremental dimensions function

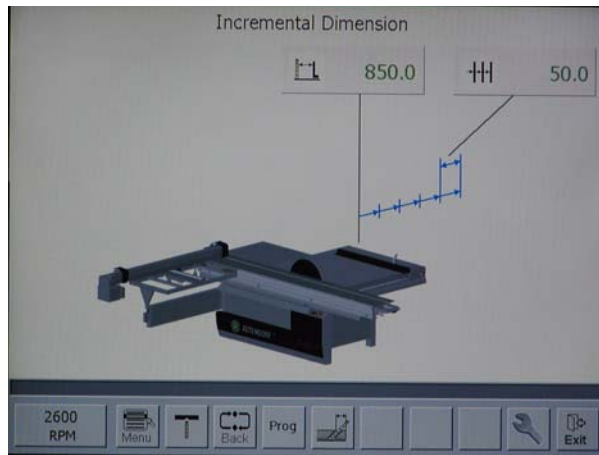


Fig. 6-90: Incremental dimension

The "incremental dimensions" function supports cutting sequences with the same distance on the rip fence in both directions.

Pressing the Incremental Dimension function field under Main Menu/Applications takes you to the Incremental Dimension function.

The current position of the rip fence is displayed. The incremental dimension is retained in storage. Every time the Start button is pressed, the fence moves another 20 mm, and the current actual position is shown in the left display.

### 6.5.13 The Angle Cut With Oversize function

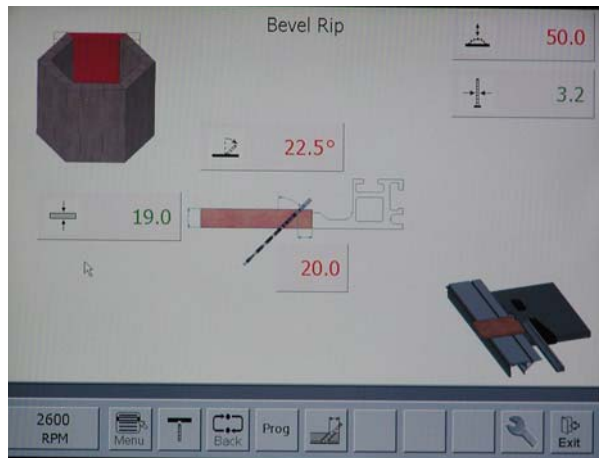
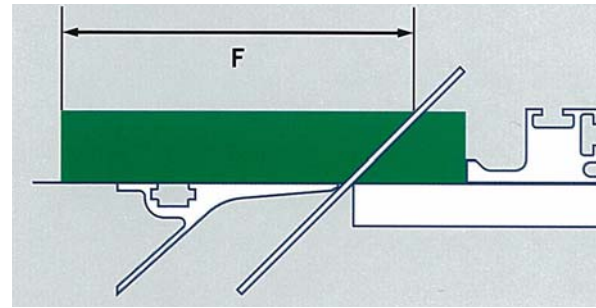


Fig. 6-91: Angle cut with oversize

This function enables you to cut mitres using the motorised rip fence, finished size F, with or without an oversize. Pressing the Angle Cut With Oversize function field under Main Menu/Applications takes you to the Angle Cut With Oversize function.



The following values must be entered:

Enter the value after pressing the corresponding function button

- **Workpiece oversize**
- **Workpiece thickness** (measured)
- **Cutting height**
- **Tilt angle**

**Note:**

**You must enter the saw blade thickness, otherwise the dimensions will be wrong!**

**The saw blade thickness must be entered in the "Grooves/concealed cuts" or "Outside dimension" menu.**

**Note that saw blades generally cut wider than the blade thickness indicated on the saw blade.**

### 6.5.14 The "False" Mitre function

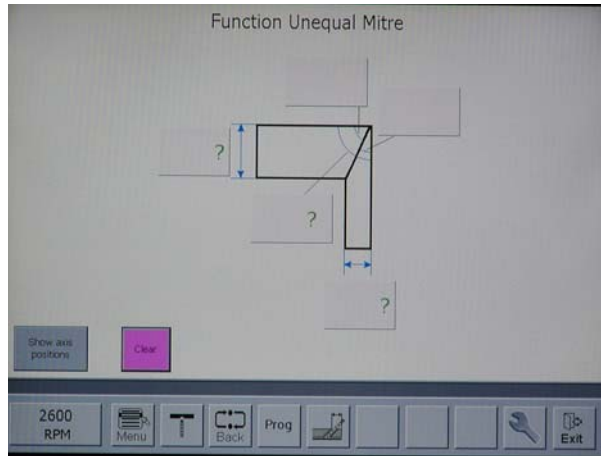


Fig. 6-92: "False" mitre

This function can be used to calculate "false" mitres of any angle. Pressing the "False" Mitre function field under Main Menu/Applications takes you to the "False" Mitre function.

This menu consists of 2 basic components – the graphic with the 5 assigned dimension windows, and the axis positions that can be shown or hidden with the Show Axis Positions or Hide Axis Positions button.

Press the Clear field to delete the false mitre values entered. A green "?" is written to the 3 dimension windows.

For this graphic, it is necessary to enter 3 values (fields with question marks). They are shown in green. The missing angles are calculated automatically and are shown in blue. The green numbers can be changed repeatedly later. Recalculation takes place.

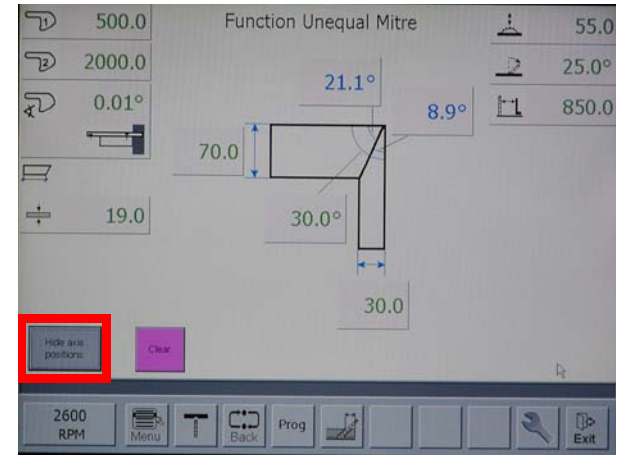


Fig. 6-93: "False" mitre

Press the Show Axis Positions field to display the current axis positions at the top right of the screen. The axes can now be positioned.

### 6.5.15 Geometric shapes

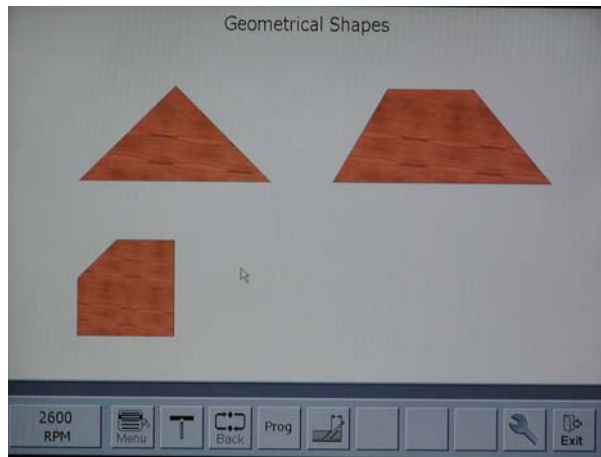


Fig. 6-94: Geometric shapes

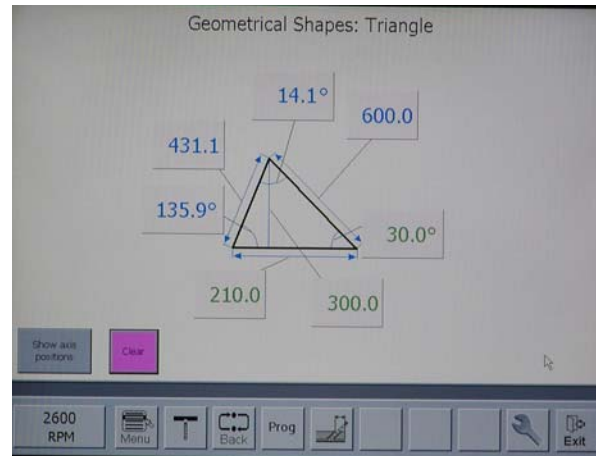


Fig. 6-95: Geometric shapes, triangle

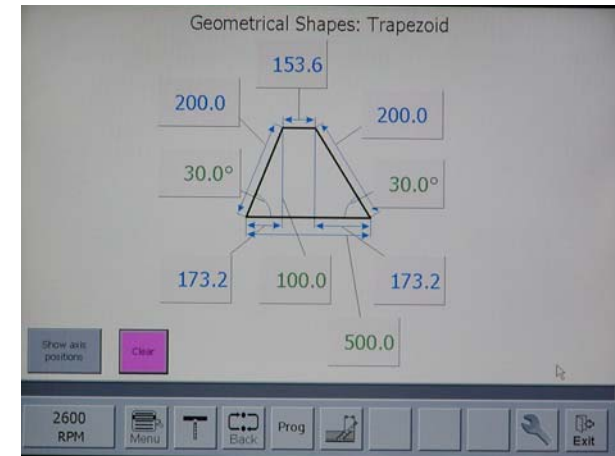


Fig. 6-96: Geometric shapes, trapezoid

Pressing the Geometric Shapes field under Main Menu/Applications takes you to the Geometric Shapes function. 3 geometric shapes - triangle, trapezoid and pentagon - can be selected.

Select a geometric shape by pressing it.

The following applies to all geometric shapes:

- Enter known dimensions (these are displayed in green)
- Calculated dimensions are shown in blue

Press the Show Axis Positions field to display the current axis positions at the top right of the screen. The axes can now be positioned.

### 6.5.16 The Programs function

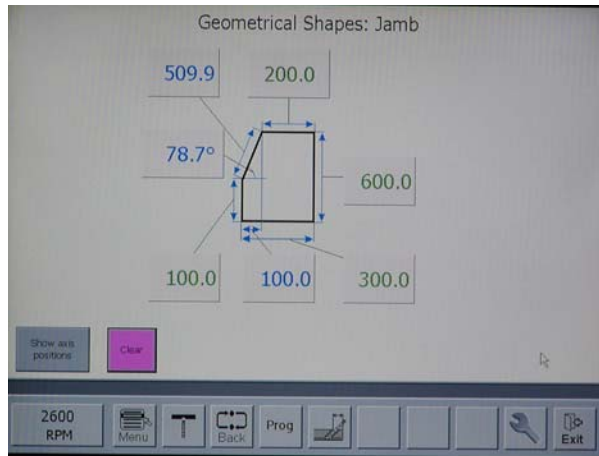


Fig. 6-97: Geometric shapes, pentagon

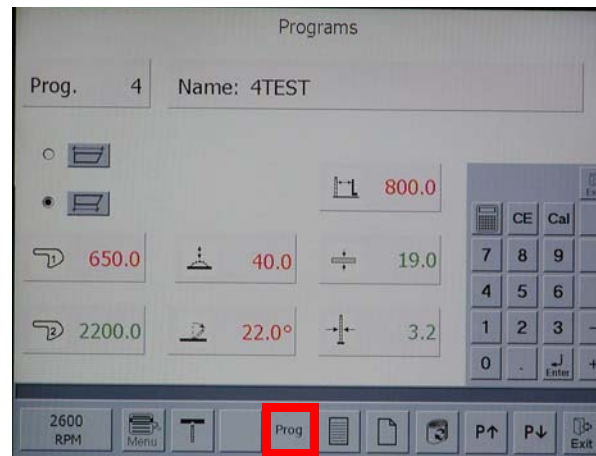
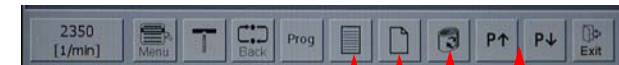


Fig. 6-98: Programs



- Program selection list →
- Create new program →
- Delete program →
- Scroll through programs →

Press the Start button to start the positioning operation.

Pressing the Programs function field under Main Menu/Applications takes you to the Programs function.

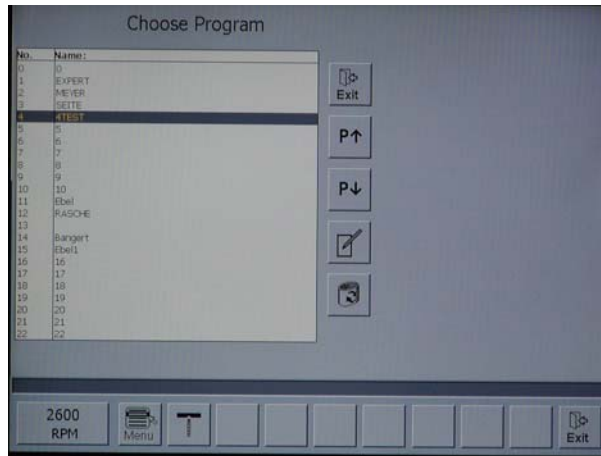


Fig. 6-99: Selecting a program

Pressing the Program Selection List field opens the selection window with the list of assigned programs.

The currently selected program is marked in this window.

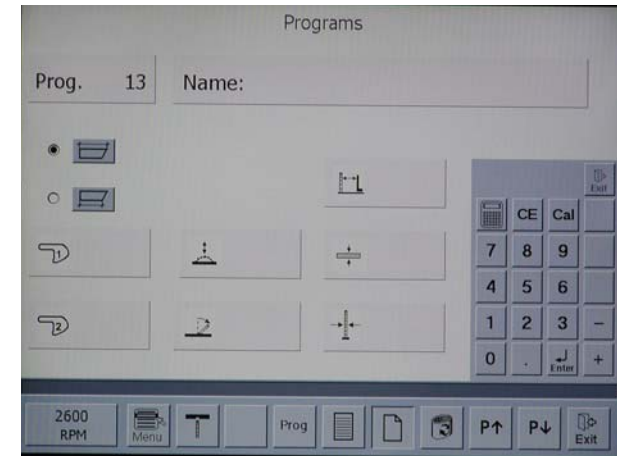
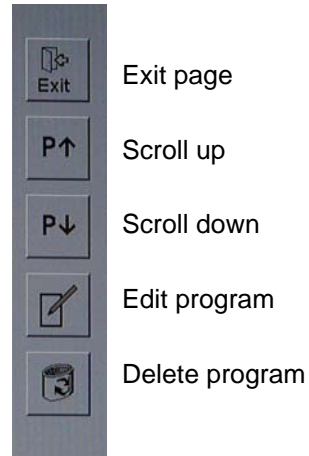


Fig. 6-100: Creating a program

Press the Create Program field to open the screen shown.

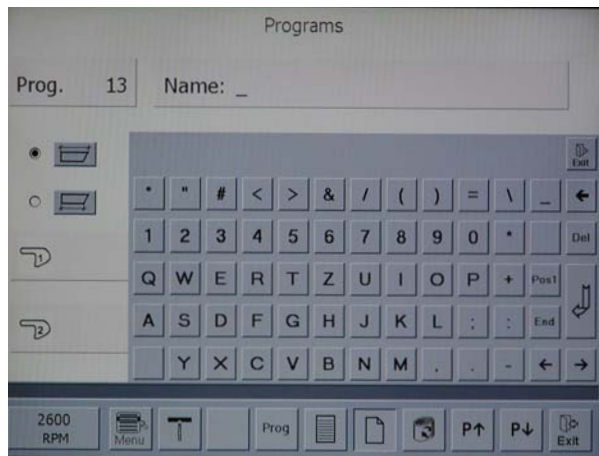


Fig. 6-101: Creating a program

After pressing the Name field, a window with a keypad for entering letters and digits opens. Enter the program name and close the window by pressing the Exit field.

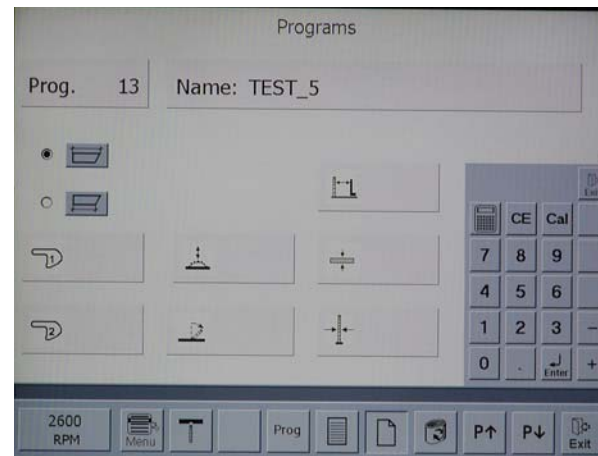


Fig. 6-102: Creating a program

You can now press an axis selection field to enter the desired dimensions. No value is assigned to axes that are not required.



### 6.5.17 Optimisation/Cutting Lists function

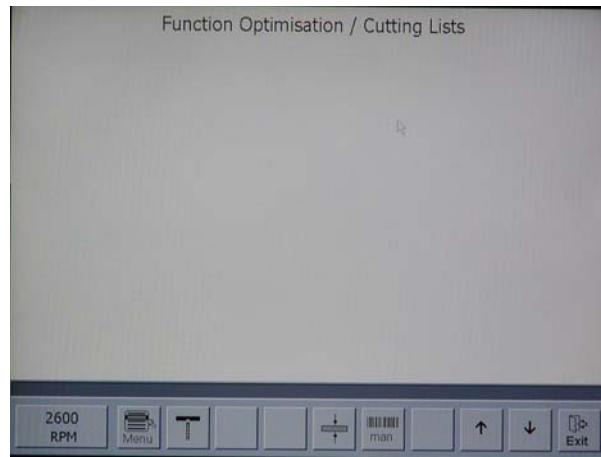


Fig. 6-103: Optimisation/cutting lists

Pressing the Optimisation/Cutting Lists function button under Main Menu/Utilities takes you to the Optimisation/Cutting Lists function.

There is an additional operating manual which is supplied along with the option.

### 6.5.18 The Total Process Time function

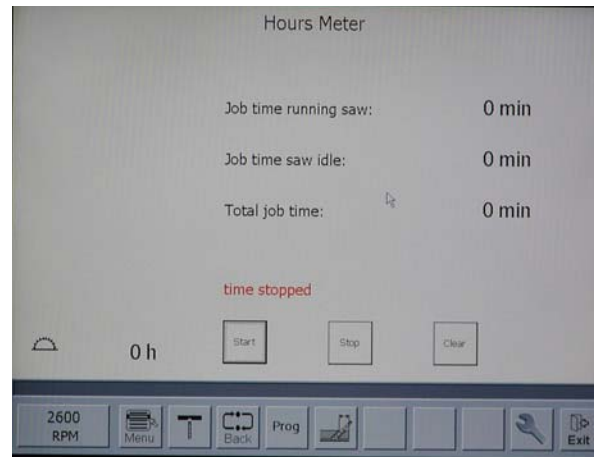


Fig. 6-104: Total process time

Time date capture is started by pressing the Start field and stopped by pressing the Stop field. Pressing the Clear field resets the time in the 3 lines to 0 min.

The running time of the main saw blade is displayed at the bottom left (operating hours counter). It is not possible to reset this time.

### 6.5.19 Tool management

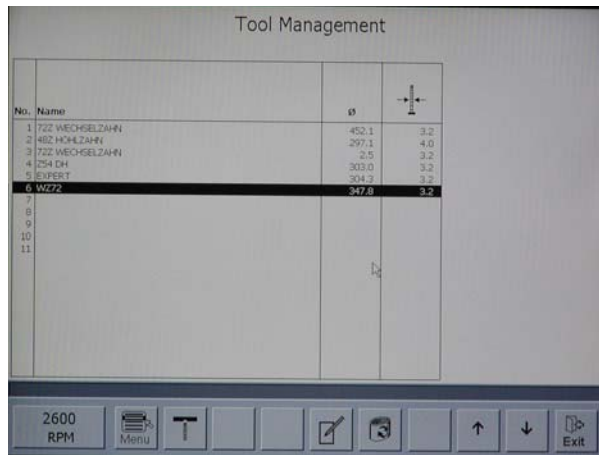


Fig. 6-105: Tool management

Pressing the Tool Management function field under Main Menu/Utilities takes you to the Tool Management function.

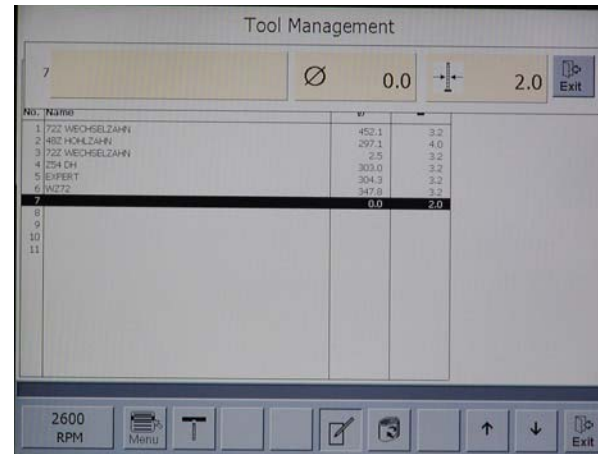


Fig. 6-106: Creating/changing a tool

Create tool:

- Select tool number with the arrow button
- Press the Edit field; a new window opens
- Enter name, diameter and thickness
- Press Exit to exit the field

#### **Adjusting dimensions following a tool change**

Select tool and exit Tool Management by pressing the Exit field. The current values of the fences are adjusted in line with the tool diameter and thickness, and the respective target values are shown in red. Press the Start button and the fences will travel to the new dimensions.

#### **Note:**

Tool management is deactivated if an empty tool location is selected.

### 6.5.20 Basic setting – Language

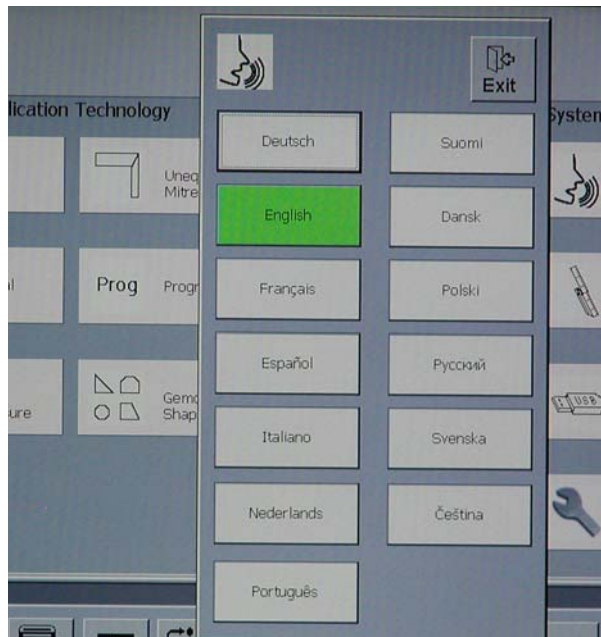
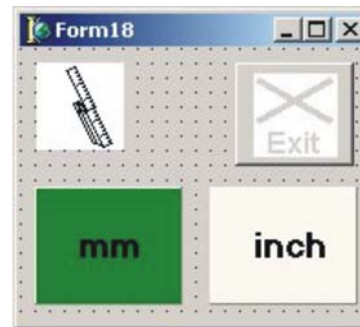


Fig. 6-107: Language

Pressing the Language function button under Main Menu/Basic Settings takes you to the Language function.

### 6.5.21 Basic Setting – mm/inch



Pressing the mm/inch function button under Main Menu/Basic Settings takes you to the Millimetre/Inch function.

## 6.6 Working with the safety hood swung away



Fig. 6-108: Safety hood swung away



Fig. 6-109: Normal working position

Unlocking/locking lever



**You must only work with the safety hood swung away in special cases and with increased caution, e.g. with bulky workpieces.**

Swing away the safety hood as follows:

- Turn off the main switch and secure against turning on again
- Actuate the release lever
- Swing the safety hood away

**After completing the work cycle, immediately swing the safety hood back into the normal working position and lock it with the lever.**

**Pull the lever forward until it noticeably engages.**

## 6.7 Optional modules

### 6.7.1 Scoring unit

When processing boards coated on both faces, the scoring unit makes it possible to cut without breakouts on the underside of the board.

The scorer cuts into the material from below approx. 1 – 2 mm; then the main saw blade cuts through it. Make sure that the scoring blade is exactly in line with the main blade and is set to the corresponding width.

To get optimum cutting results, the scoring blade runs in the workpiece advance direction, i.e. the opposite direction to the main saw blade.

The scoring saw can only be started after the main saw blade has reached its operating speed (after approx. 5 sec.). To do so press the pushbutton I that is labelled with the scoring saw symbol on the panels.

#### **Saw blades**

We recommend using two-part scoring blades which can be set to the required blade thickness by inserting spacer discs. The cutting line of the scoring blade should be 1/10 mm wider than the main saw blade, i.e., 5/100 mm to each side. In addition, the two scoring blades should have carrier pins and their thickness should be marked on the spacer discs.

The **RAPIDO scoring tool** facilitates and accelerates cutting width adjustment. Compared with two-part scoring blades, this represents a potential saving of up to 30 minutes since the cutting width can, without removing the saw blades, be adjusted infinitely to the cutting width of the main saw blade.

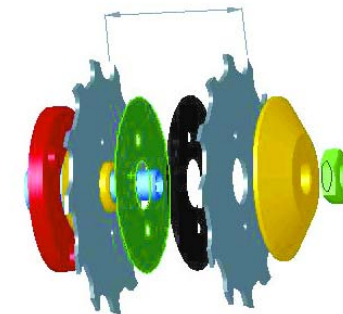


Fig. 6-110: Two-part scoring blade



Fig. 6-111: RAPIDO scoring tool

***Fitting the saw blade***

The description of fitting the saw blade applies both to two-part scoring blades and to RAPIDO scoring tools.

Only use saw blades with a diameter of 120 mm and a hole diameter of 22 mm!

- Switch off the drives
- Move the scoring saw up to its highest position
- Move the sliding table in the cutting direction
- Unlock the lock in the middle of the saw blade by pressing the ball knob on the middle carriage
- Move the sliding table to the end position in the cutting direction
- Raise the bottom safety cover (orange coloured cover plate)

- Place the saw blade and front flange on the saw shaft, and tighten the nut clockwise
- Before fitting the new scoring blade, remove any adhering chips from both flanges
- Release the nuts with a special wrench by turning to the left

**The following must also be observed when using RAPIDO scoring tools:**

- Failure to comply with the operating instructions inadmissibly reduces safety at work and excludes any claims for liability
- Incorrect use and use other than intended is forbidden

- Permissible cutting widths 2.8 – 3.8 mm
- Take particular caution when unpacking and packing the adjustment unit, danger of injury!
- Only store the adjustment unit in the original packaging!
- Fit the scoring blade outside of the machine
- Make sure that all connection elements are fitted
- Only use original spare parts in the case of loss or damage to the connection elements!

## 114 Adjusting a two-part scoring blade

### **Adjusting a two-part scoring blade**

The cutting width of the scorer should be set to the cutting width of the main saw blade (+ 0.05 mm). Carry out the adjustment toward the left side of the main saw blade. The cutting width is adjusted with the spacing discs that are supplied.

### **Adjusting the scoring blade for the RAPIDO scoring tool**

Only use the supplied tools for adjustment work!

- Release the clamping screw, approx. 2 turns
- Turn the spindle until the required dimension is reached (1 rotation = 0.5 mm)
- Tighten the clamping screw
- Make a test cut and, if necessary, recorrect the cutting width as described above.



Fig. 6-112: Releasing the clamping screw



Fig. 6-113: Adjusting the RAPIDO cutting width

### **Replacing the scoring blade for the RAPIDO scoring tool**

Remove the adjustment unit from the machine. It may be necessary to loosen the clamping screw because an excessively tight clamping screw can cause the adjustment unit to jam on the shaft!

#### **Removal:**

- Release the clamping screw (1), approx. 3 – 4 turns, turn the spindle (2) clockwise until the flange (3) can be removed from the holder (4)
- Undo the screws (5)
- Remove the circular saw blade (6)
- Carefully clean the flange (3) and screws (5). Make sure that the running and flange surfaces are dry and free of dust.

**Do not apply oil or grease!**

- Fit a new saw blade, paying attention to the rotational direction and hole pattern: The circular saw blade (6) is in full contact with the flange (3) and the shoulder on the circular saw blade must point to the contact surface.
- Turn in the screws (5) and tighten with a torque of 8.6 Nm
- Proceed in the same manner for the other half of the adjustment unit

#### **Installation:**

- The clamping screw (1) is released
- Fit the flange (3) vertically on to the holder (4) so that the spindle (2) engages in the threaded hole (7)
- Turn the spindle (2) anticlockwise with the Allen wrench. The flange (3) is drawn on to the holder (4); the force applied must not increase

- Continue turning the spindle (2), until the two circular saw blade halves are in contact
- Install the adjustment unit on the machine
- Set the cutting width, see above
- Slightly turn the clamping screw (1)

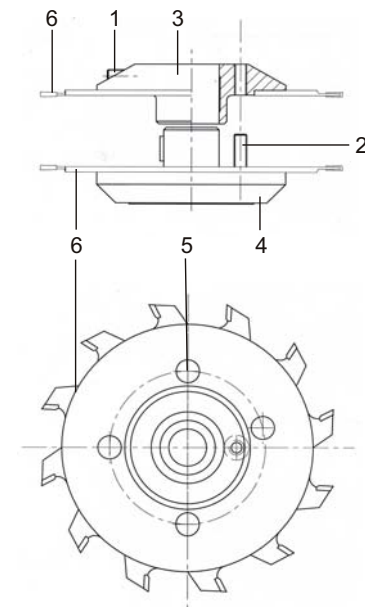


Fig. 6-114: RAPIDO scoring tool



### 6.7.2 RAPIDO Plus

The 3-axis scoring system which is used to position the cutting height, width and cutting width by motor. All settings can be entered via the keypad while the machine is running, and are shown on the display.

#### Replacing saw blades

- Remove the adjustment unit from the machine.  
**Attention: adjustment unit is under axial load!**
- Squeeze the adjustment unit together by pressing on the ball bearings to free up the securing ring
- Remove the securing ring using the special pliers supplied
- Carefully take the load off the ball bearings
- You can now pull the adjustment unit apart

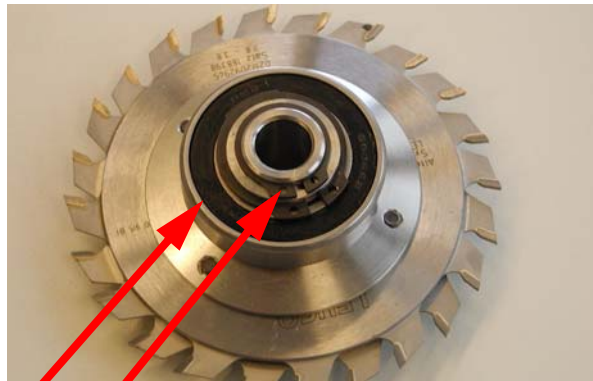


Fig. 6-115: RAPIDO Plus



Fig. 6-117: RAPIDO Plus, fitting saw blade

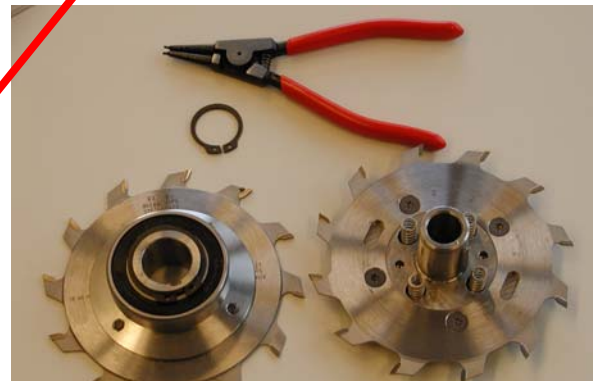


Fig. 6-116: Disassembled RAPIDO Plus

- Undo the screws
- Remove circular saw blade
- Carefully clean the flange and screws
- Fit a new saw blade, paying attention to the rotational direction and hole pattern!
- Insert screws and tighten with a torque of 8.6 Nm
- Proceed in the same manner for the other half of the adjustment unit

### 6.7.3 Mitre fences



Fig. 6-118: Single-sided mitre fence

#### **Single-sided mitre fence**

The fence can be fitted quickly and easily to the sliding table with an eccentric clamping system.

Dimension scales are inclined in order to stay in the operator's field of vision.

Crosscutting to 2500 mm.

#### **DUPLEX mitre fence**

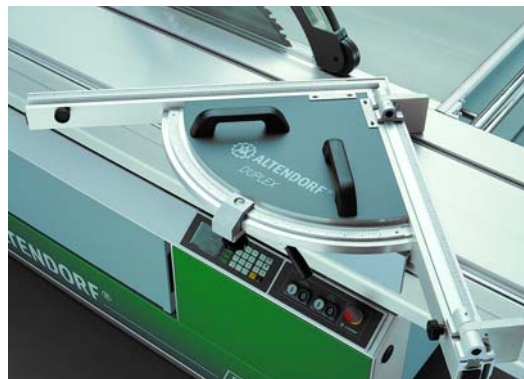


Fig. 6-119: Double-sided mitre fence

The DUPLEX mitre fence can be infinitely adjusted from 0° to 90°. The circular scale with a radius of 350 mm has 0.25° graduation, allowing precise and fast setting of the mitre angle. The DUPLEX mitre fence can be fitted at any position of the sliding table due to its eccentric clamping system.

The stop bar (2 throw-over stops) can be used in both stop profiles. It is possible to crosscut workpieces of up to 1350 mm in length or, when the extended stop fence is used, up to 2150 mm in length.

In addition, the DUPLEX and DUPLEX D mitre fence features a length compensation scale with which the length dimension is set in accordance with the mitre angle.

### **DUPLEX D mitre fence**



Fig. 6-120: DUPLEX D

The DUPLEX mitre fence with its electronic measuring system and digital display can be infinitely adjusted from 0° to 90°. Settings in the 2/100° range can be made quickly and easily with a fine setting system.

Alkali manganese batteries have an operating life of approx. 1 year. A battery capacity display provides a timely reminder of a battery change.



Fig. 6-121: Changing the battery

### **Changing the battery**

To change the battery, open the closure caps of the battery compartments by turning them. Check for the correct poling when inserting the batteries!

If rechargeable batteries are used, the estimated operating life of approx. 12 months will not be reached, and the battery capacity display will not be correct.

### **Calibrating the display unit**

- Turn the mitre fence to the right or left against the mechanical stop
- Fix the mitre fence with a clamping screw
- Hold the F button down and briefly press Reset
- The basic setting (0.00°) reappears on the display unit

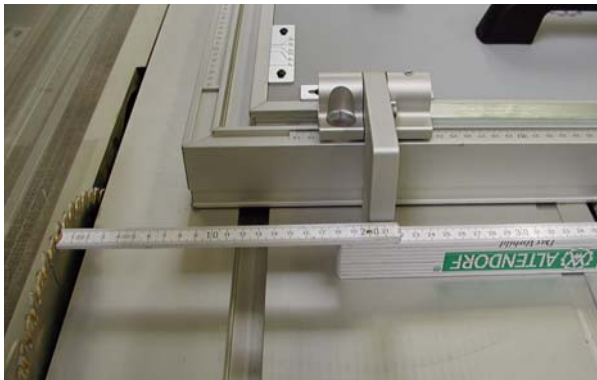
**Basic setting of length compensation scales**

Fig. 6-122: Test cut

- Swing the DUPLEX to a 90° angle and fix it
- Set the first stop to a distance 200 mm from the saw blade and fix it
- Cut a test piece and measure it, e.g. 201 mm

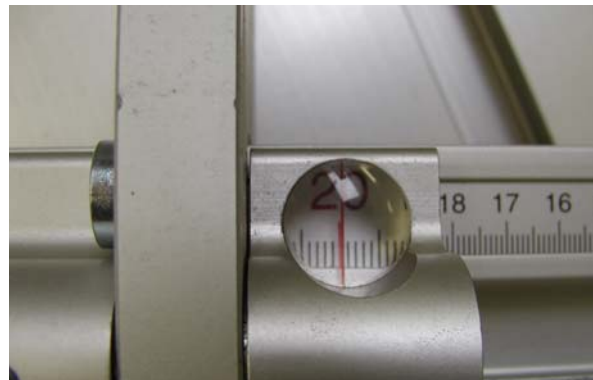


Fig. 6-123: Adjusting the fence stop

- Adjust the length scale so that the mark in the magnifying glass corresponds to the cut dimension (the length scale can be adjusted by exerting slight pressure on its centre point and moving it)
- Adjust the throw-over stop to 200 mm

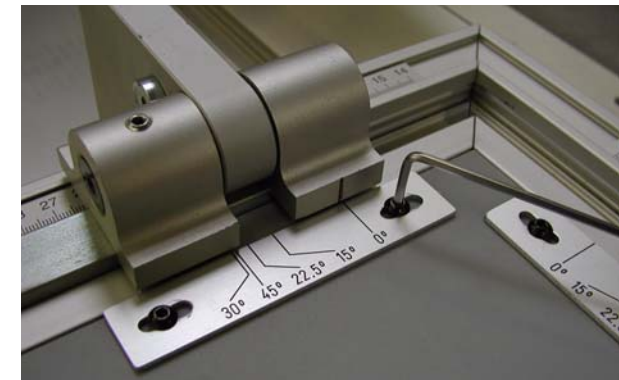
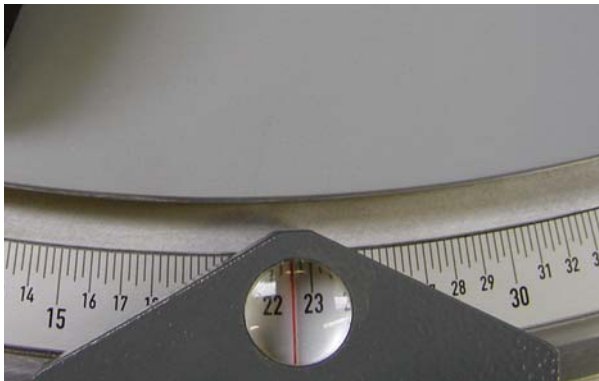


Fig. 6-124: Adjusting the length compensation scale

- Release the screws of the length compensation scale with a 2.5 wrench
- Move the length compensation scale so that the 0° mark corresponds to the mark on the throw-over stop
- Tighten the screws

**Run through this process for both sides of the fence!**

**Cutting with length compensation**



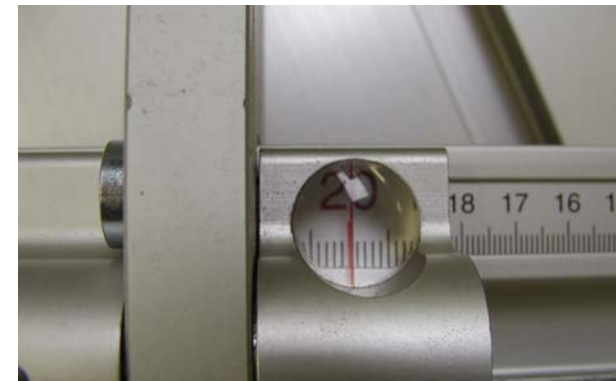
*Fig. 6-125: Adjusting the angle*

- Adjusting the cutting angle acc. to scale, e.g. 22.5°



*Fig. 6-126: Adjusting the fence stop*

- Adjust the mark on the throw-over stop to the cutting angle of the degree scale.



*Fig. 6-127: Adjusting the length compensation scale*

- Move the length scale so that the mark of the red "20" corresponds to the mark in the magnifying glass
- The length scale has now been adjusted to the corresponding angle of 22.5°
- Now the required measure of length can be adjusted



**DUPLEX DD mitre fence**

Fig. 6-128: DUPLEX DD

The DUPLEX DD mitre fence can be fitted at any position of the sliding table due to its eccentric clamping system. The stop bar has two throw-over stops and can be used in both stop profiles. It allows crosscutting of workpieces up to 1350 mm in length.



Fig. 6-129: Display

Length display

Angle display

As an option, a stop bar with 2 throw-over stops is available for 2150 mm crosscuts.



Fig. 6-130: Changing the battery

**Changing the battery**

To change the battery, open the closure caps of the battery compartments by turning them. Check for the correct poling when inserting the batteries!

### **Operating life**

The operating life of approx. 6 months of a set of batteries can only be reached with alkaline-manganese batteries. We recommend the use of VARTA-ALKALINE, Duracell Alkaline or Energizer Alkaline batteries.

The use of rechargeable batteries of any type is not recommended as their voltage and capacity deviate from those of alkaline batteries. As a result, the estimated operating life of approx. 6 months would not be reached, and the symbol in the battery capacity display would not show the battery condition correctly.

### **Basic setting of the display unit**

The basic setting of the display unit is needed in order to adapt the measuring system to the machine situation. After every tool change, the basic setting must be checked and entered again if necessary. The basic setting can only be carried out together with the tools used so it cannot be done at the factory.

***The basic setting must be carried out for the left and right working sides.***

### **How to proceed:**

- Move the mitre fence to an end position and fix it. The stop bar is positioned 90° to the saw blade.
- Move the stop bar against the fence and fix it
- Hold the F button down and press Reset; the display shows 0.00° and, for example, 180.0 mm.
- Cut a test piece and measure it with a vernier caliper

**Correcting dimensions:**

- Hold the F button down. After 3 seconds the last digit of the length display will start to flash
- Hold the F button down
- Pressing button 1 increments the flashing digit by 1 in each case
- Pressing button 2 decrements the flashing digit by 1 in each case
- Release the F button; the display unit automatically saves the corrected measurement and is ready for operation again.

***Holding button 1 or 2 down causes continuous incrementation or decrementation. When the number 9 or 0 is passed, the electronics switch to the next decade.***

***Run though this process for both working sides!***

**Switching over the working side:**

The working side is recognised automatically when the stop bar is switched over. When the stop bar has been switched over, the display shows either P\_L or P\_R, depending on the side that was switched from.

- Move the mitre fence to an end position and fix it
- Move the stop bar against the fence and fix it
- Hold the F button down and press Reset
- The display unit is ready for operation again.

**Calibrating the display unit**

Calibration of the display unit is required after every battery change.

- Turn the mitre fence to the right or left against the mechanical stop
- Fix the mitre fence with a clamping screw
- Hold the F button down and briefly press Reset
- The basic setting (0.00°) reappears on the display unit

**Switching the display unit from mm > inches or inches > mm**

- Hold the Plus button down for more than 3 seconds; the display shows inches (mm)
- Release button 1, the display unit shows the set dimension in inches (mm).



### 6.7.4 DIGIT L dimension display unit



Fig. 6-131: DIGIT L

The dimensions that have been set are displayed digitally in the 150 mm to 3200 mm range to an accuracy of  $\pm 0.1$  mm. The touch-free sensor is not sensitive to dust. A fine setting system is used for exact setting to 1/10 mm.

#### *Operating the display unit*

Pressing button 1, 2 or 3 switches the measuring range over on the display unit. Throw-over stop 1 is firmly connected to the measuring system and the display unit. The measuring range is from approx. 150 mm to approx. 1630 mm. Throw-over stop 2 is a flip stop and, when making contact at the left of throw-over stop 1, it is at a distance of 295.0 mm from throw-over stop 1. If throw-over stop 2 is pushed on to the length extension, this results in a measuring range of about 1750 mm to 3200 mm; if necessary, the length extension can be connected to throw-over stop 1 with the aid of the detent bolt.



Fig. 6-132: DIGIT L display unit

### **Changing the battery**

To change the battery, open the closure caps of the battery compartments by turning them. Check for the correct poling when inserting the batteries!

The operating life of approx. 12 months of a set of batteries can only be reached with alkaline-manganese batteries. We recommend the use of VARTA-ALKALINE, Duracell Alkaline or Energizer Alkaline batteries.

The use of rechargeable batteries of any type is not recommended as their voltage and capacity deviate from those of alkaline batteries. As a result, the estimated operating life of approx. 12 months would not be reached, and the symbol in the battery capacity display would not show the battery condition correctly.

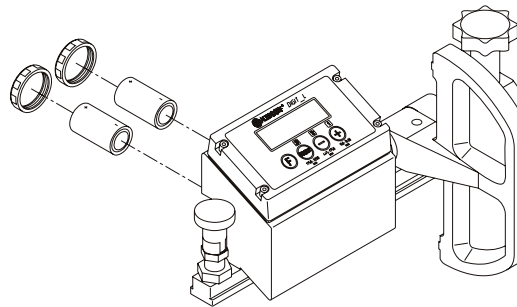


Fig. 6-133: DIGIT L

### **Basic setting of the display unit**

The basic setting of the display unit is needed in order to adapt the measuring system to the machine situation. Check and, if necessary, re-enter the basic settings following each tool change.

How to proceed:

- Push throw-over stop 1 with the display unit to the right against the mechanical stop
- Fix throw-over stop 1 with a clamping screw
- Cut a test piece, measure the workpiece width with a sliding caliper and enter the precise value as follows:
- Press the F button, all digits of the display will light up after 3 seconds

- Hold the F button down
- The right-hand digit of the display starts flashing
- Pressing the + button increments the flashing digit by 1 in each case. When the maximum number value (9) is passed, the numbers start again with 0
- Pressing the - button decrements the flashing digit by 1 in each case; when the maximum numeric value (9) is passed, the numbers start again with 0
- Release the **F** button
- The dimension that has been set is saved as the basic setting.
- The display unit is now ready for operation

#### ***Calibrating the display unit***

- Move throw-over stop 1 with the measuring system **to the right against the mechanical stop**
- Fix throw-over stop 1 with a clamping screw
- Hold the F button down and press the Reset button; the basic setting appears.

The display unit is now calibrated and ready for operation.

#### ***Switching the display unit from mm > inches or inches > mm***

- Hold the Plus button down for more than 3 seconds; the display shows inches (mm)
- Release the Plus button; the display unit now shows the set dimension in inches (mm)

### 6.7.5 Crosscut-mitre fence with digital angle and length display



Fig. 6-134: Crosscut-mitre fence WGA\_LD

The angle is shown in the top display to an accuracy of  $0.01^\circ$ . The dimensions set in the 150 mm to 3200 mm range are shown in the bottom display to an accuracy of  $\pm 0.1$  mm. The length dimensions shown are automatically corrected when the angle is changed.

#### *Operating the display unit*

Pressing button 1, 2 or 3 switches the measuring range over on the display unit. Throw-over stop 1 is firmly connected to the measuring system and the display unit. The measuring range is from approx. 150 mm to approx. 1630 mm. Throw-over stop 2 is a flip stop and, when making contact at the left of throw-over stop 1, it is at a distance of 295.0 mm from throw-over stop 1. If throw-over stop 2 is pushed on to the length extension, this results in a measuring range of about 1750 mm to 3200 mm; if necessary, the length extension can be connected to throw-over stop 1 with the aid of the detent bolt.

#### *Changing the battery*

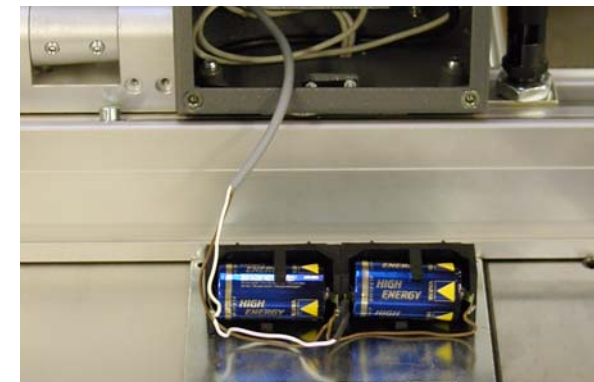


Fig. 6-135: Changing the battery, WGA\_LD

- Undo the 4 screws on the rear of the display unit
- Change the batteries, making sure the poling is correct!

### ***Basic setting of the display unit***

The basic setting of the display unit is needed in order to adapt the measuring system to the machine situation. Check and, if necessary, re-enter the basic settings following each tool change.

The basic setting can only be carried out together with the tools used so it cannot be done at the factory.

- Push throw-over stop 1 with the display unit to the right against the mechanical stop
- Fix throw-over stop 1 with a clamping screw
- Cut a test piece, measure the workpiece width with a sliding caliper and enter the precise value as follows:
- Press the F button, all digits of the display will light up after 3 seconds

- Hold the F button down
- The right-hand digit of the display starts flashing
- Pressing the + button increments the flashing digit by 1 in each case. When the maximum number value (9) is passed, the numbers start again with 0
- Pressing the - button decrements the flashing digit by 1 in each case. When the maximum numeric value (9) is passed, the numbers start again with 0
- Release the **F** button
- The dimension that has been set is saved as the basic setting.
- The display unit is now ready for operation

### ***Calibrating the display unit***

- Move throw-over stop 1 with the measuring system **to the right against the mechanical stop**
- Fix throw-over stop 1 with a clamping screw
- Press the F and Reset buttons; the length display shows the basic setting and the angle display shows 0.00°

The display unit is now calibrated and ready for operation.

The display unit must be calibrated each time the WGA\_LD is moved over to the other side of the cross-slide and after every tool change.

### ***Switching the display unit from mm > inches or inches > mm***

- Hold the Plus button down for more than 3 seconds; the display shows inches (mm)
- Release the Plus button; the display unit now shows the set dimension in inches (mm)

### 6.7.6 Rip fence with DIGIT X digital dimension display



Fig. 6-136: Rip fence with Digit X

### Changing the battery



Fig. 6-137: Release the clamping screws



Fig. 6-138: Remove the housing with the display unit

The electronic measuring system with digital display and fine setting system ensures precise and fast setting of the rip fence. The display is always in the field of vision. The touch-free measuring system is not sensitive to dust. When the guide surface of the stop fence is changed, the dimensions are corrected automatically in the measuring system.

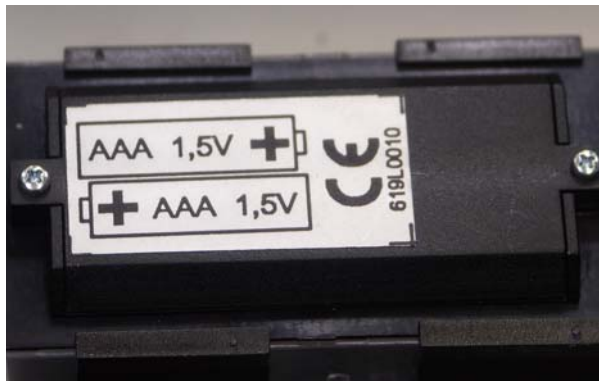


Fig. 6-139: Undo the screws and remove the cover



Fig. 6-140: Change the batteries, making sure the poling is correct!

#### Basic setting of the display unit



Fig. 6-141: Operating the Digit X

The basic setting of the display unit is needed in order to adapt the measuring system to the machine situation. Check and, if necessary, re-enter the basic setting for each tool change. The basic setting can only be carried out together with the tools used so it cannot be done at the factory.

- Push the rip fence to the left against the mechanical stop
- Hold the F button down and press the Reset button
- Set the rip fence to a cutting width of 130 mm (straight edge in the position of the low guide surface)
- Cut a test piece and measure the workpiece width with a sliding caliper
- Hold the F button down; the right-hand digit of the display starts flashing after approx. 3 seconds
- Pressing the Plus button increments the flashing digit by 1 in each case. When the maximum number value (9) is passed, the numbers start again with 0
- Pressing the Minus button decrements the flashing digit by 1 in each case.
- Release the F button
- The dimension that has been set is saved as the basic setting.

#### ***Calibrating the display unit***

Calibration of the display unit is required when the fence has been moved under the main table.

- Push the rip fence to the left against the mechanical stop
- Hold the F button down and briefly press the Reset button; the display shows the basic setting again.

#### ***Switching the display unit from mm > inches or inches > mm***

- Hold the Plus button down for more than 3 seconds; the display shows inches (mm)
- Release the Plus button; the display unit now shows the set dimension in inches (mm)



### 6.7.7 Parallel cutting device



Fig. 6-142: PALIN parallel cutting device

Parallel cutting of long, small parts is done to the left of the saw blade. The PALIN and PALIN\_D parallel cutting devices are good for this. In parallel cutting, the flip stop is set to the same dimension at the crosscut fence and at the PALIN. The workpiece can be placed safely and be guided easily on the left of the saw blade.

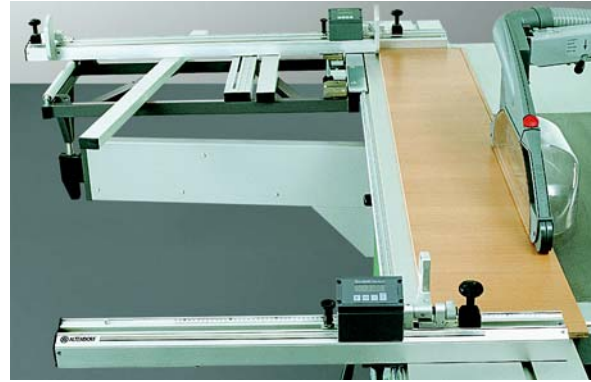


Fig. 6-143: PALIN D parallel cutting device

#### **Parallel cutting device with digital dimension display and fine setting system**

PALIN\_D with digital dimension display and fine setting system A fine setting system is used for exact setting to 1/10 mm. Both parallel cutting devices can be adjusted to a workpiece width of up to 900 mm. The picture shows the PALIN\_D together with a crosscut fence with DIGIT\_L.

#### **Changing the battery**

To change the battery, open the closure caps of the battery compartments by turning them. Check for the correct poling when inserting the batteries!

The operating life of approx. 12 months of a set of batteries can only be reached with alkaline-manganese batteries. We recommend the use of VARTA-ALKALINE, Duracell Alkaline or Energizer Alkaline batteries.

The use of rechargeable batteries of any type is not recommended as their voltage and capacity deviate from those of alkaline batteries. As a result, the estimated operating life of approx. 12 months would not be reached, and the symbol in the battery capacity display would not show the battery condition correctly.

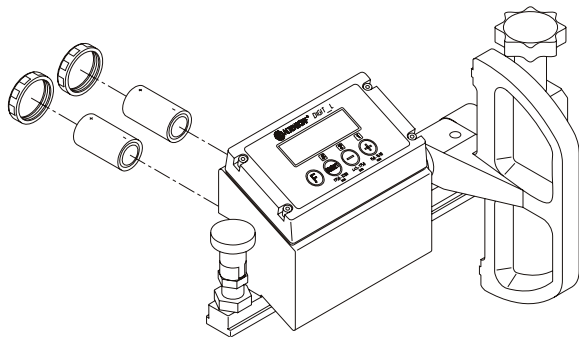


Fig. 6-144: Changing the battery, PALIN\_D

### **Basic setting of the display unit**

The basic setting of the display unit is needed in order to adapt the measuring system to the machine situation. Check and, if necessary, re-enter the basic settings following each tool change. The basic setting can only be carried out together with the tools used so it cannot be done at the factory.

- Push throw-over stop 1 with the display unit to the right against the mechanical stop, and fix it with a clamping screw
- Cut a test piece, measure the workpiece width with a sliding caliper and enter the precise value as follows:
- Press the F button, all digits of the display will light up after 3 seconds
- Hold the F button down
- The right-hand digit of the display starts flashing
- Pressing the + button increments the flashing digit by 1 in each case. When the maximum number value (9) is passed, the numbers start again with 0
- Pressing the - button decrements the flashing digit by 1 in each case; when the maximum numeric value (9) is passed, the numbers start again with 0
- Release the F button
- The dimension that has been set is saved as the basic setting.
- The display unit is now ready for operation

***Calibrating the display unit***

- Move throw-over stop 1 with the measuring system **to the right against the mechanical stop**
- Fix throw-over stop 1 with a clamping screw
- Hold the F button down and press the Reset button; the basic setting appears.

The display unit is now calibrated and ready for operation again

***Switching the display unit from mm > inches or inches > mm***

- Hold the Plus button down for more than 3 seconds; the display shows inches (mm)
- Release the Plus button; the display unit now shows the set dimension in inches (mm)

## 6.7.8 Clamping devices



Fig. 6-145: Manual quick-action clamp

### **Manual quick-action clamp**

The manual quick-action clamp fixes the workpiece to the crosscut fence.



Fig. 6-146: Electropneumatic quick-action clamp

### **Electropneumatic quick-action clamp**

The pneumatic quick-action clamp fixes the workpiece to the crosscut fence and operates with a clamping force of max. 100 kp at a pressure of 6 bars. The maximum spanning height is 90 mm.

Movement up and down is controlled wirelessly via a small hand-held radio transmitter



Fig. 6-147: Remote control for quick-action clamp

The state of the quick-action clamp is shown on the safety hood support's switch box.

Yellow lamp: Cylinder under tension

White lamp: Cylinder not under tension

If the remote control fails, the quick-action clamp can be controlled directly by pressing the illuminated pushbutton.

**Pneumatic pressure beam**

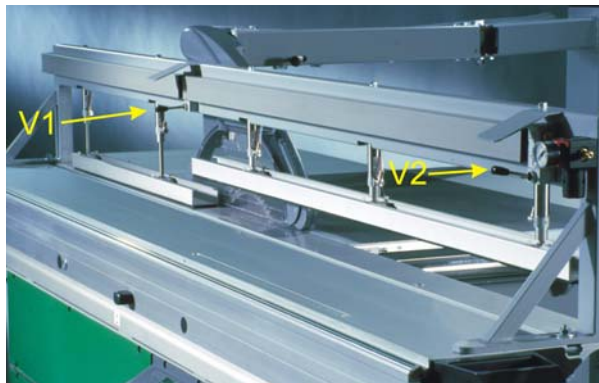


Fig. 6-148: Pneumatic pressure beam

This device is particularly practical when cutting thin boards or veneer. The split pressure beam can be controlled separately. This ensures optimum adjustment to differing workpiece lengths with one or both pressure beams. The pressure beam stroke is 80 mm; the customer must provide a 6 bar compressed air supply.

**Operating**

The pressure beam is in two parts and can be operated by two control levers to ensure optimum clamping of different workpiece lengths.

When valve V1 has been actuated, the two compressed-air cylinders lower the short part of the pressure beam on to the workpiece and clamp it.

The entire length of the pressure beam is controlled via valve V2. After actuation, the two parts of the pressure beam are lowered simultaneously. The rubber coating of the pressure beam prevents the workpiece from slipping.

Sliding table length [mm]	Clamping length [mm]
2250	2050
3000	2800
3400	3200
3800	3600

**Installation**

- Place the pressure beam on the sliding table
- Insert the two T-nuts in the sliding table groove
- Align the pressure beam in parallel with the safety hood
- The distance between the pressure beam and the safety hood should be 15 mm; the length of the slots prevents contact with the safety hood
- Tighten the M12 nuts
- Connect the compressed-air supply to the maintenance unit, and set the pressure reducer to 3 bars

### 6.7.9 Cross-slide width extension



*Fig. 6-149: Cross-slide width extension*

The cross-slide width extension is intended to facilitate work with large format or long workpieces. It extends the width of the workpiece support surface to max. 700 mm by means of two telescopic tubes. Long boards can be securely loaded and crosscut. The additional horizontal roller allows the workpiece to be easily pushed throughout the entire length.

### 6.7.10 Additional cross-slide



*Fig. 6-150: Additional cross-slide*

Optional equipment for optimal support extension for large format or particularly heavy boards. The additional cross-slide can be easily fitted at any point of the sliding table due to its quick-action clamping system.

Max. workpiece weight up to 250 kg.

The customer must provide the guides!



### 6.7.11 LASER cutting line display



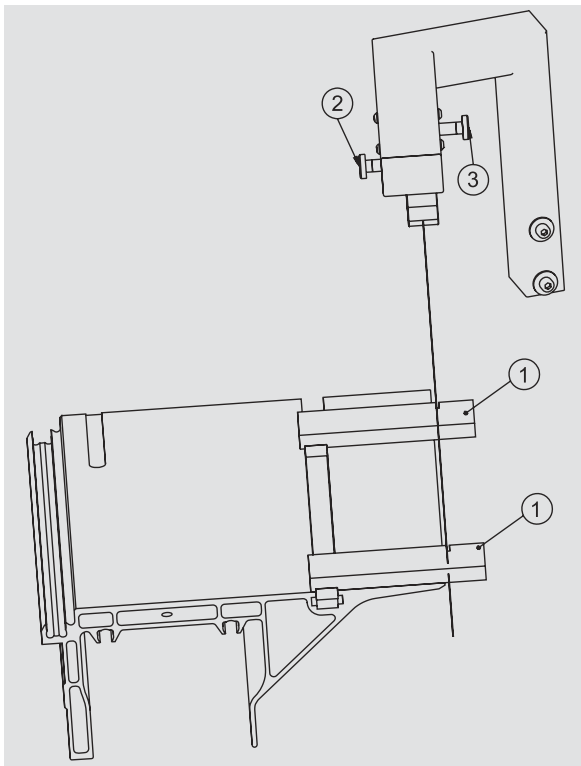
Fig. 6-151: LASER

The laser beam shows the run of the cutting line over a length of approx. 5000 mm. For trimming or cutting along a marked line (e.g. for stairs/steps) in particular, valuable set-up time and material can be saved.

*The laser creates a red luminous beam of approx. 3 mm width. The intensity of this laser is sufficiently low that looking into it briefly is harmless. The eye is protected by its natural reflex to close. The laser is therefore allowed to be used without any further safety measures. Never observe the laser beam using optical aids or instruments, e.g. glasses, binoculars or magnifying glasses etc. which could bundle the light, and then possibly damage the eye.*

*Never attach mirror surfaces in the laser area! Never undertake modifications of the laser optics! Furthermore, make sure that the warning signs attached to the laser are always legible. They must not be removed! Never replace the laser for a laser unit of a different type! Only have the supplier repair defective laser units!*

### Aligning the laser beam with the cutting line



At the factory the laser is set so that the beam is perpendicular and parallel to the sliding table.

When the hood has been swung away and this has been followed by positioning, it is necessary to check and possibly correct the laser settings.

Setting:

- Place wooden gauges (1) in the sliding table groove, and saw for approx. 15 mm
- Set the laser beam parallel to the cutting line with the left setscrew (2)
- Move the laser in parallel with the right-hand setscrew (3) until the beam aligns with the cutting line



### 6.7.12 Coolant spray device



Fig. 6-152: Coolant spray device

To improve the cutting quality, we recommend the use of a coolant spray device for plastics having a low melting point and for certain light metal alloys, especially in the case of infinitely variable speed adjustment.

A sensor is fitted in the front table strip to detect the workpiece. It will interrupt the coolant supply when not obstructed by a workpiece.

#### Commissioning

- Fill the tank (3)
- Connect the compressed air to the compressed-air connection (7) and, at the pressure reducer (6), set a figure of 0.5 – 5 bars (this controls the degree of spraying)
- Open the air valve (5). Switch on the factory-set control for Spraymates with an electromagnetic valve (8)
- Open the liquid valve (4) and set the amount that you want to be sprayed.
- Low operating pressure >> drops
- High operating pressure >> fine jet/mist

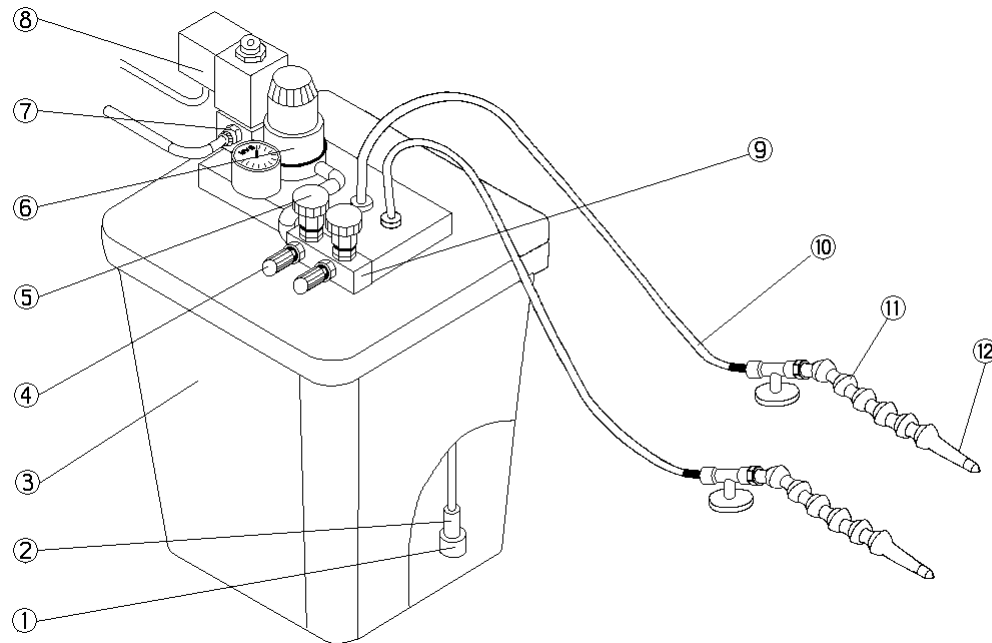
#### Technical data

Max. filling quantity:	1 LITRE
Max. viscosity:	40 mm/s
Max. ambient temperature:	50° C
Max. input pressure:	6 bar

Steidle® Spraymat® 100 is a pneumatic device for dosed output of Steidle® cooling lubricants. The required operating pressure is 0.5 - 5 bars.



**Do not spray easily inflammable liquids! This could give rise to ignitable mixtures of air!**



Number	Designation
1	Liquid filter
2	Check valve
3	Tank
4	Liquid valve
5	Air valve
6	Pressure reducer
7	Compressed-air connection
8	Electromagnetic valve
9	Valve block
10	Inlet pipe
11	Nozzle
12	Nozzle head

## 7 Faults/maintenance/cleaning

### 7.1 Safety measures



Always turn off the main switch and secure it against being turned on again before doing any maintenance work!

***Before using solvents and cleaning agents, make sure that these substances do not cause damage to the painted, anodised or galvanised surfaces as well as plastic parts. For information on these substances, please refer to the safety data sheets available from the manufacturers of the solvents or cleaning agents.***

### 7.2 Maintenance/cleaning by the user

#### 7.2.1 Cleaning/care

Regular cleaning prolongs the life of the machine and is also a prerequisite for perfect cutting results. The machine should therefore be cleaned at least once a week, depending on the degree of soiling. Pay attention to the following:

- Machine table
- Sliding table
- Sliding table guides
- Tilt segments
- Stop bar of rip fence
- Machine interior
- Machine environment

Remove any chips and dust adhering to the machine with a vacuum cleaner. To remove resin residue, it is advisable to use a cleaning agent which dissolves resin. Parts treated in this way must subsequently be treated with an oil-impregnated cloth to prevent rusting.

Regularly clean the sliding table guides. If soiled with resin, clean the guides with petroleum and, if necessary, with Scotch Britt sponges. Do not use steel wool or grinding paper as the guideways will be irreparably damaged.

## 7.2.2 Lubrication

### **Saw shafts**

No relubrication of the saw shaft bearings is required.

### **Crosscut fence with motorised adjustment**

No relubrication of the crosscut fence is necessary.

### **Rip fence/height adjustment.**

After travel of 100 m a fault message is shown on the display. Irrespective of the distance travelled, it must be lubricated once a year.

### **Clearing the message**

The message can be cleared temporarily by pressing the STOP button. After 10 adjustments or an interruption to the power, the message reappears! After lubricating, clear the fault message by pressing the START button 3 times.

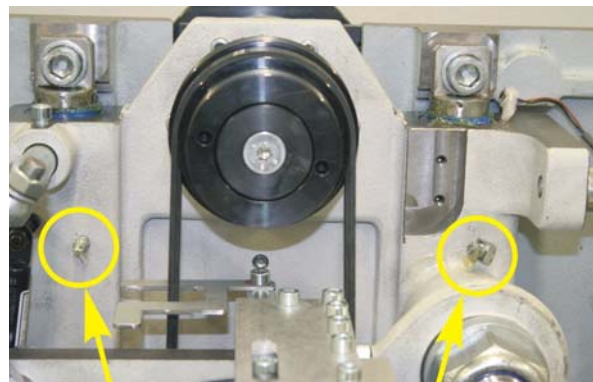


Fig. 7-1: Lubricating nipple height adjustment

To relubricate, open the machine door or remove the cover plate (VARIO), set the tilt to 0° and the cutting height to 0 mm. The lubricating nipples are then in the optimum position for access.

### **Attention!**

Turn off at the main switch before removing the cover plate!

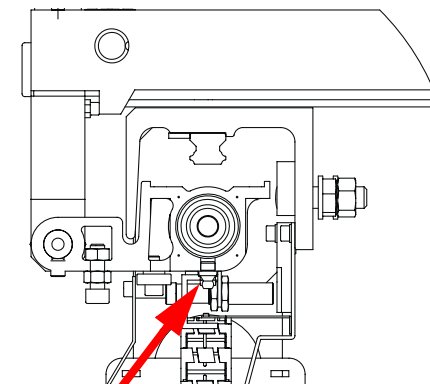


Fig. 7-2: Lubricating nipple for motorised rip fence

In the rip fence, the guide is lubricated via a lubricating nipple on the carriage. For lubrication, the rip fence must be moved to the max. cutting width in order to reach the lubricating nipple.

**Quantity of lubricant**

When lubricating with the filled grease gun that is part of the scope of supply, 5 strokes are necessary to inject the required quantity.

Excessive lubrication due to short intervals and/or by too much lubricant will lead to failures!

**Choice of lubricants**

Lubricant	Manufacturer
Aralub HL 2	Aral
BEACON 2	Esso
BP Energrease LS 2	BP
ELF ROLEXA 2	Elf
Gulfcrown Grease No. 2	Gulf
Marson EPL 2	Wintershall
Shell Alvania grease R 2	Shell
Extreme pressure-bearing grease LGEP 2	SKF
Way Lubrivant 220	Texaco

***Lubricants containing graphite or MoS<sub>2</sub> additives are not allowed to be used!***

## 7.3 Faults/problems/troubleshooting

### 7.3.1 Machine diagnosis

The display shows when limit switches have been actuated at protective devices and so on. There are two function groups.

Function group 1:

- Motor temperature
- Machine door
- Lower saw blade cover
- EMERGENCY STOP button
- Sliding table limit switch

Function group 2:

- Brake unit

Response by function group 1:

Machine drives are switched off or cannot be started

Response by function group 2:

Machines will not start

Indication to request a service technician to check the functioning

### 7.3.2 Motor overload protection

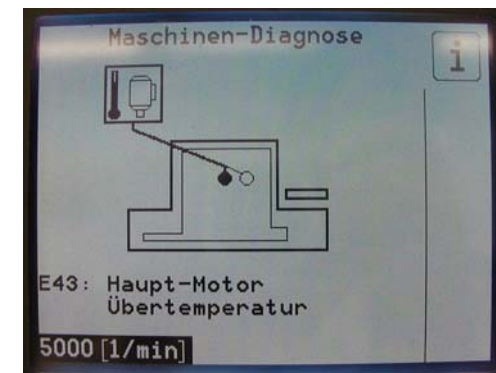


Fig. 7-3: Motor overload protection

The drive motors are protected against overload by a winding shield. This switches a motor off automatically if it overheats. In the case of machines equipped with a scorer, the scorer drive is also switched off even if this motor was not overloaded. The motor can only be switched on again when it has cooled down. It may take several minutes (max. 10) for the motor to cool down!

### 7.3.3 Troubleshooting/faults/messages



As a rule, troubleshooting involves a higher risk. For this reason, pay particular attention to safety aspects when carrying out the necessary measures.

Fault	Cause	Troubleshooting
The machine cannot be switched on	The main switch is not turned on  Power failure or phase failure  Overload protection has responded Sliding table moved over saw blade centre line  EMERGENCY STOP button pressed	Turn the main switch to switch position "I"   Wait for power to be reinstated, or eliminate cause for loss of power, check factory fuses Allow motor to cool down, also refer to machine diagnosis display Move the sliding table back to the saw blade centre line; also refer to machine diagnosis display Release EMERGENCY STOP button again by pulling, also refer to machine diagnosis display

Fault	Cause	Troubleshooting
The machine cannot be switched on	Door in machine frame or lower base plate in front of saw blades plate opened Control circuit fuses defective	Close the machine door or cover plate; also refer to machine diagnosis display Turn off the main switch, open the switch cabinet and identify which of the fuses F1, F2, F8 is defective. Find and eliminate the cause. Replace defective fuses, only using fuses of the same rating!
The machine switches off automatically during operation  Workpiece jammed while feeding forward	Power failure in one or several phases due to responding factory fuses  Overload protection has responded due to blunt saw or excessive feed speed Control circuit fuses defective  Blunt saw blade  Riving knife thickness does not match the saw blade used	Eliminate cause of phase failure  Change saw blade or reduce feed speed. Allow motor to cool down, also refer to machine diagnosis display Turn off the main switch, open the switch cabinet and identify which of the fuses F1, F2, F8 is defective. Find and eliminate the cause. Replace defective fuses, only using fuses of the same rating! Fit a sharp saw blade  Fit the correct riving knife; it must thicker than the main saw blade (or at least the same)



Fault	Cause	Troubleshooting
The finished size of the cut workpiece does not match the cutting width set on the rip fence	Dimension scale for cutting widths display is misadjusted  Incorrect calibration for DIGIT_X, CONTROL	Reset the dimension scale. Cut a workpiece on the rip fence, precisely measure the cut width and position the measuring scale so that the measured cutting width is displayed on the fence edge.  Recalibrate
The finished size of the cut workpiece does not match the cutting width set on the crosscut stop	Dimension scale for cutting widths display is misadjusted  Incorrect calibration for DIGIT_L, CONTROL	Reset the dimension scale. Cut a workpiece on the crosscut stop, precisely measure the cut width and position the measuring scale so that the magnifying glass display matches the measured cut width  Recalibrate
Swinging arm does not move smoothly	Soiled telescopic tube or track rollers	Clean telescopic tube or track rollers; check wiper
Sliding table has side play	Sub-rollers incorrectly set	Set the sub-rollers
Sliding table higher than machine table at end position	Sub-rollers incorrectly set	Set the sub-rollers
Saw blade burns on the sliding table side  Saw blade burns on the rip fence side	Insufficient free cut on sliding table  Excessive free cut on the rip fence  Insufficient free cut on rip fence	Readjust the free cut  Readjust the rip fence  Readjust the free cut

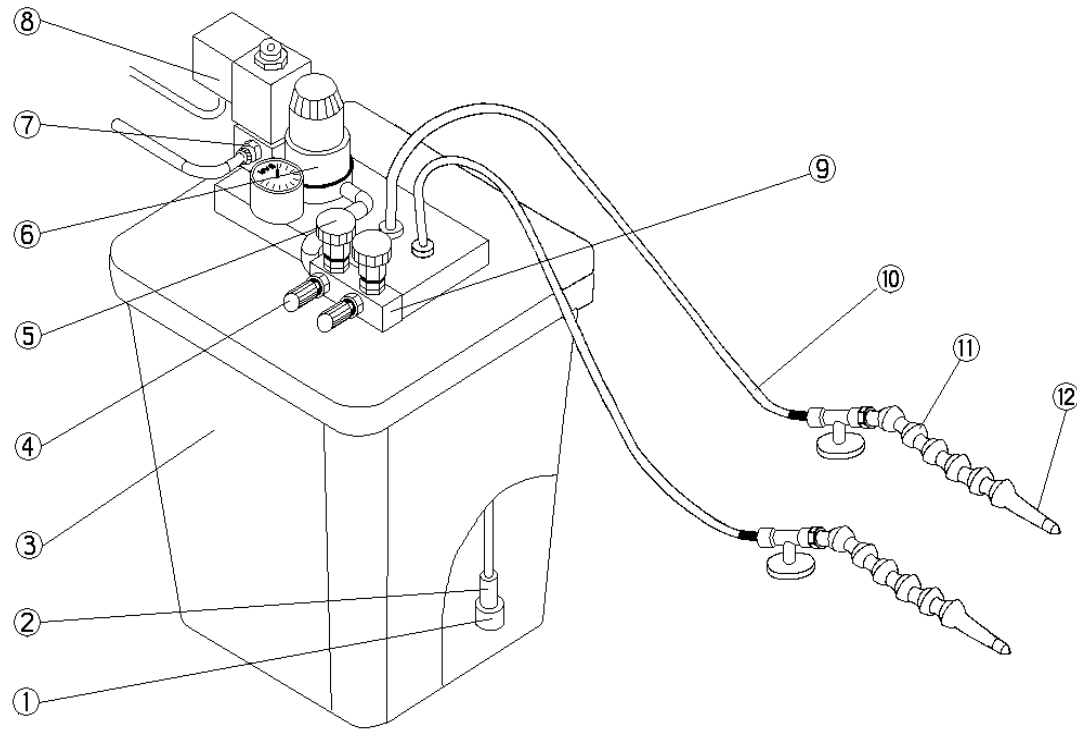
Fault	Cause	Troubleshooting
Saw blade burns on both sides	Incorrect free cut setting  Cut material jammed  Operating error	Readjust the free cut  Insert a riving knife in the cutting line or use a wider riving knife  Either move the workpiece to the left- or right-hand stop. Do not guide the workpiece on the rip fence when cutting with the sliding table
Workpiece has burn marks	Blunt saw blade  Feed too low  Saw blade has too many teeth  Incorrect free cut	Change the saw blade  Increase the feed rate  Change the saw blade  Readjust the free cut
Break-outs in spite of scorer	Scorer not aligned with main saw blade  Scoring blade too narrow	Readjust free cuts; the free cut should be almost "0"  Adjust saw width
Workpiece rises when cut with the scorer	Blunt scoring blade  Cutting height too low	Exchange the sawing blade  Set the scoring blade higher

<b>Fault messages</b>	<b>Cause</b>	<b>Troubleshooting</b>
E 01	Limit switch ES_Min1 reached	
E 02	Limit switch ES_Min2 reached	
E 03	Limit switch ES_Max reached	
E 06	Fault, fast shutoff collision	
E 07	Drive positioning fault	
E 40	20V AC control voltage missing	Check fuse F9
E 41	24V AC control voltage missing	Check fuse F8
E 42	Scoring saw motor overheated	Allow motor to cool down
E 43	Main saw motor overheated	Allow motor to cool down
E 44	Sliding table limit switch	
E 45	Saw blade cover open	
E 46	Machine door open	
E 47	EMERGENCY STOP button 1 pressed	
E 48	EMERGENCY STOP button 2 pressed	
E 49	EMERGENCY STOP button 3 pressed	
E 51	Brake unit fault: Phase loss	Check fusing in the building and fuses F15 / F16
E 52	Brake unit fault: Brake time exceeded	Can be caused by voltage dips during braking; request a service technician to check the functioning
E 53	Brake unit fault: Netzschütz nicht in Ruhelage	Request a service technician to check the functioning

Fault	Cause	Troubleshooting
E 54	Operating error, incorrect riving knife position speed setting, e.g. too fast for 450 mm saw blade Drives won't start!	Check rotational speed and riving knife position
E 55	Brake unit fault: Communication is problem with machine control unit – brake unit is operating in default mode, 450 mm saw blade / 4000 rpm	Request a service technician to check the functioning
E 56	Frequency converter phase loss/overvoltage	Press any button on the control unit
E 08	Reference travel axis error	Perform new reference travel
E 99	Over-temperature	

**Coolant spray device**

Two transparent hoses lead to each nozzle (12) – one for compressed air via the air valve (5) and one for liquid via the liquid valve (4). The latter is under vacuum. Most faults occur because of a leak in this hose and at the points at which it is connected to the valve block (9).



**Coolant spray device**

Fault	Cause	Troubleshooting
No air discharge at the nozzle (12)	Air valve closed  Electromagnetic valve (8) closed because there is no control pulse  Electromagnetic valve (8) is stuck	Open the air valve  Check the table strip limit switch  Magnetic valve is defective and must be replaced
No jet of liquid or a discontinuous jet	Tank (3) is empty or not filled enough  Liquid valve (4) closed Liquid filter (1) blocked Nozzle (12) blocked  Liquid connections to valve block (9) leaky Not enough pressure Spray too viscous	Fill the tank  Open the valve Open the filter and clean or replace it Release the liquid hose nozzle beneath the valve block (9), and detach the liquid hose with the check valve (2). Switch on the compressed-air supply and open the air valve (5). Hold your finger over the nozzle (12) so that it can be blown out. Unscrew and seal with Loctite 222e or Uhu Set the pressure reducer (6) higher (pay attention to mist) Use another spray
Volume sprayed decreases gradually	Liquid hoses will fur up, thus reducing the cross-section	Replace the hoses, and clean the nozzle

## **7.4 Maintenance/cleaning by qualified persons**

### **7.3.4 Electronic brake module**

The main saw shaft is braked with an electronic brake module. This brake module is located in the contractor control housing, and is accessible when the rear panels have been removed.

Braking is controlled in such a way that there is a high brake current at the beginning of braking. This is reduced over time to ensure smooth braking. In addition, a standstill monitoring facility switches off the brake current if the motor is standing still. The brake module contains various function blocks for control and monitoring tasks. There is also a communications connection for machine control.

### **7.4.1 Checking the winding shield**

The resistance of the PTC resistors must be checked in the motor terminal box by an electrician at least once a year. Resistance must be measured with a cold motor, and should be  $750 \text{ ohms} \pm 200 \text{ ohms}$ .

## 8 Technical data

### 8.1 Standard equipment

<b>Features</b>
<p><b>Motorised height and tilt adjustment - 0.5 – 47° of the main saw blade</b>                  With automatic correction of the cutting height when tilting the saw unit, and with display of tilt angle and cutting height</p>
<p><b>F 45 display control unit with dimension input via the keypad</b>                  Storage of 20 programs as well as angle cut and grooving functions</p>
<p><b>F 45 ELMO display control unit with 12" touch screen</b>                  Windows operating system, eye-level operating panel with clipboard                  600 programs and 1800 cut dimensions (ELMO IV: 2400 cut dimensions) can be stored, incremental dimensions, grooves                  Angle cuts (finished size), total process time, interface to connect a PC (c.a.t.s.)</p>
<p><b>Sliding table incl. middle and end position interlock</b>                  Sliding table length 3000 mm</p>
<p><b>Rip fence</b>                  Cutting width 1000 mm, table width extension, aluminium anodised</p> <ul style="list-style-type: none"> <li>– F 45: Manual adjustment with fine setting</li> <li>– F 45: ELMO motorised adjustment</li> </ul>
<p><b>Crosscut-mitre fence</b></p> <ul style="list-style-type: none"> <li>– F 45, F 45 ELMO III: manual adjustment, crosscutting up to 3500 mm, angle adjustment from 0° to 49°, with length compensation</li> <li>– F 45 ELMO IV: manual adjustment of throw-over stops, crosscutting up to 3500 mm, angle adjustment from 0° to 47°, with automatic length compensation, usable on both sides</li> </ul>
<p><b>Drive power/rotational speed of main saw shaft</b>                  With automatic brake and display of rotational speed</p> <ul style="list-style-type: none"> <li>– F 45: 5.5 kW (7.5 PS) with three rotational speeds - 3000/4000/5000 rpm, manually adjustable</li> <li>– F 45 ELMO: 5.5 kW (7.5 PS) VARIO, infinitely variable electronic speed control, 2000 – 6000 rpm</li> </ul>



<b>Features</b>
<b>Tool clamping system</b> For main saw blade
<b>Max. cutting height 200 mm, max. saw blade diameter 550 mm</b> Cutting heights: see table
<b>Table length extension</b> 840 mm, aluminium anodised
<b>USB-A port for data and program transfer</b>
<b>Machine diagnosis and operating hours meter</b>
<b>Aluminium parts in anodised finish</b>
<b>Clamping shoe, push stick, push block handle and pull-back handle</b>

Usable saw blades:

Saw blade diameter	250 mm 9.84 inch	300 mm 11.81 inch	315 mm 12.40 inch		350 mm 13.78 inch	400 mm 15.75 inch	450 <sup>1)</sup> mm 17.72 inch	500 <sup>1)</sup> mm 19.69 inch	550 <sup>2)</sup> mm 21.65 inch
Saw blade height, vertical	0 - 50 mm 0 - 1.97 inch	0 - 75 mm 0 - 2.95 inch	0 - 82 mm 0 - 3.23 inch		0 - 100 mm 0 - 3.94 inch	0 - 125 mm 0 - 4.92 inch	10 - 150 mm 0 - 5.90 inch	35 - 175 mm 1.37 - 6.89 inch	90 - 200 mm 3.54 - 7.87 inch
Saw blade height at 45°	0 - 33 mm 0 - 1.30 inch	0 - 50 mm 0 - 1.97 inch	0 - 56 mm 0 - 2.20 inch		0 - 68 mm 0 - 2.68 inch	0 - 86 mm 0 - 3.38 inch	4 - 103 mm .15 - 4.05 inch	22 - 121 mm .86 - 4.76 inch	61 - 139 mm 2.40 - 5.47 inch

**Note:** <sup>1)</sup> For machines with a scoring unit, the scoring blade, including the front and rear flange, or RAPIDO must be removed.

**Note:** <sup>2)</sup> Only possible for machines *without* a scoring unit!

**Technical data:**

<b>Main saw</b>	Tool holder diameter [mm]	30
	Saw blade tilting range [°]	-0.5 - 47
	Idling speed [rpm]	3000/4000/5000
	Idling speed [rpm] VARIO option	In steps of 5 from 2000 to 6000
<b>Sliding table</b>	Sliding table cutting length	See table
<b>Crosscut fence</b> WGA WGA_L, WGA_LD	Crosscutting at crosscut fence 90° [mm]	3200
	Crosscutting at crosscut-mitre fence [mm]	3500
	Crosscutting at crosscut-mitre fence [mm]	3200
<b>Rip fence</b>	Cutting width at rip fence [mm]	800/1000/1300/1600

<b>Scoring saw</b>	Saw blade diameter [mm]	120
	Tool holder diameter [mm]	22
	Saw shaft diameter [mm]	15
	Idling speed [rpm]	8200
<b>Extraction</b>	Connection socket diameter below table [mm]	120
	Connection socket diameter at top safety hood [mm]	80
	Vacuum at extraction connection diameter 140 mm [PA]	1500
	Air speed [m/s]	20
	Minimum air volume [m <sup>3</sup> /h]	1150

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<b>Ambient conditions</b>	Operating temperature [°C] Max. relative humidity [%] <i><b>Do not expose the machine to a gaseous environment which is explosive or may cause corrosion!</b></i>	10.....40 90, no condensation
<b>Weight</b>	Machine weight, dependent upon equipment [kg]	Approx. 1100
<b>Electrical equipment</b>	Lockable main switch Contactor control with pushbutton operation Rotational speed, tilt angle, cutting height Braking of main saw motor, monitoring of winding temperature  Adjustment of tilting and cutting height for the main saw	Control voltage 24 VAC Digital display Electronic multifunction module/frequency converter CNC-controlled

**Sliding table cutting lengths**

Maximum cutting length with clamping shoe or crosscut-mitre fence

<b>Sliding table length</b>	<b>2250 mm 88.58 inch</b>	<b>3000 mm 118.11 inch</b>	<b>3200 mm 126.00 inch</b>	<b>3400 mm 133.86 inch</b>	<b>3800 mm 149.60 inch</b>	<b>4300 mm 169.30 inch</b>	<b>5000 mm 196.85 inch</b>
<b>With or without scoring blade</b>	<b>2155 mm 88.84 inch</b>	<b>2905 mm 114.37 inch</b>	<b>3105 mm 122.24 inch</b>	<b>3305 mm 130.12 inch</b>	<b>3705 mm 145.87 inch</b>	<b>3870 mm (4205 mm*) 152.36 inch (169.56 inch)</b>	<b>3870 mm (4905 mm*) 152.36 inch (193.11 inch)</b>

**Note!**

- (mm \*) Possible cutting lengths without use of the crosscut fence and cross-slide
- Cutting lengths refer to mechanical travel, i.e. from end stop to end stop on the sliding table.

## 8.2 Special equipment

Available special equipment
<p><b>Main saw drive</b></p> <p>Heavy-duty motors up to 11 kW                      Infinite rotational speed adjustment (VARIO, adjustable in steps of 5, power 5.5 kW)</p>
<p><b>Main saw</b></p> <p>Saw blade diameter max. 550 mm, cutting height 175 mm (only possible without installation of a scoring unit)</p>
<p><b>Sliding table</b></p> <p>Sliding table lengths from 2250 mm to 5000 mm                      Second support (STEG), support width extension by 400 mm                      On/Off switch at the end of the sliding table</p>
<p><b>Crosscut-mitre fence</b></p> <p>Length dimension adjustable via digital display with fine adjustment (DIGIT L), setting accuracy 0.1 mm, crosscutting up to 3200 mm                      Length dimension, angle, length compensation via digital display (DIGIT LD), setting accuracy 0.1 mm / 0.1°, crosscutting up to 3200 mm</p>
<p><b>Mitre fences</b></p> <p>One-sided mitre fence, angle adjustable via scale from - 30° to 45°, crosscutting up to 2500 mm                      Double-sided mitre fence (DUPLEX), angle adjustable via scale from 0° to 90°, crosscutting up to 1350 mm or 2150 mm, length compensation                      Double-sided mitre fence (DUPLEX D), angle digitally adjustable, setting accuracy 0.01°, crosscutting up to 1350 mm or 2150 mm, length compensation                      Double-sided mitre fence (DUPLEX DD), angle and length digitally adjustable, setting accuracy 0.01° / 0.1 mm, length display is adapted automatically in accordance with the angle that is set, crosscutting up to 1350 mm or 2150 mm</p>
<p><b>Rip fence</b></p> <p>With digital dimension display and fine adjustment, setting accuracy 0.1 mm</p>

<p><b>Parallel cutting device</b></p> <p>Parallel cutting device (PALIN), crosscutting up to 900 mm, adjustable via scale</p> <p>Parallel cutting device (PALIN_D), crosscutting up to 900 mm, digitally adjustable, setting accuracy 0.1 mm</p>
<p><b>Pneumatic pressure beam</b></p> <p>For sliding table length 2,250 mm, clamping length 2,050 mm</p> <p>For sliding table length 3,000 mm, clamping length 2,800 mm</p> <p>For sliding table length 3,200 mm, clamping length 3,000 mm</p> <p>For sliding table length 3,400 mm, clamping length 3,200 mm</p> <p>For sliding table length 3800 mm, clamping length 3600 mm</p> <p>Max. clamping height 80 mm, min. pneumatic connection 6 bars</p>
<p><b>Electropneumatic quick-action clamp</b></p> <p>With 1 clamping cylinder</p> <p>With 2 clamping cylinders</p> <p>Max. clamping height 0 – 90 mm or 80 – 170 mm, min. pneumatic connection 6 bars, wireless remote control</p>
<p><b>Manual quick-action clamp</b></p> <p>Max. clamping height 175 mm</p>
<p><b>Cross-slide</b></p> <p>Telescopic cross-slide width extension for up to 700 mm extra</p> <p>Additional cross-slide with floor supporting roller, max. workpiece weight 250 kg</p>
<p><b>LASER cutting line display</b></p> <p>Light beam width approx. 3 mm, light beam length approx. 5 m</p>
<p><b>Three-phase A/C socket</b></p> <p>In European standard version, fusing 10 A, switchable via the main switch</p>
<p><b>Coolant spray device</b></p> <p>Minimal cooling lubrication, operating pressure 0.5 – 5 bars</p>
<p><b>Front table, tiltable</b></p> <p>Positioned in front of the machine table</p>

## 9 Maintenance and repairs

Keeping a supply of the most important spare and wear parts on site is an important prerequisite for the constant functioning and operating capability of the sliding table saw.

We only accept a guarantee for original spare parts supplied by us.

We expressly point out that original spare parts and accessories not supplied by us have not been checked and released by us. Therefore, the fitting and/or use of such products may negatively influence the properties of the sliding table saw and thus impair its active and/or passive safety. Wilhelm Altendorf GmbH&Co KG will not accept any liability or guarantee for damage resulting from the use of non-original spare parts and accessories.

Please note that special production and delivery specifications exist for our own and our suppliers' parts, and that we always supply spare parts that meet the latest state of the art and comply with the latest statutory regulations.

Please refer to the spare parts list when ordering spare parts.

For further information please refer to the spare parts drawings included in the spare parts list.

When ordering spare parts, please state the following information:

- Machine no.
- Article no.

### 9.1 Customer service addresses

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