

TRANSLATION OF THE ORIGINAL VERSION

CE

PANHANS

QUALITÄT SEIT 1918

Operating Manual

Sliding Table Saw PANHANS - 690|200



Machine Type: **Sliding Table Saw 690|200**

HOKUBEMA Maschinenbau GmbH

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Space for notes:

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Handover Certificate

Machine type:		
Machine no.:		
Construction year:		
Customer address (location of the machine):		
Name:		
Street:		
Postcode/City:		
Phone:		Fax:
E-mail:		
Warranty:		
<p>On the basis of our Terms and Conditions of Sale, Delivery and Payment of the respective current status, we assume a warranty of 12 months, calculated from the day of delivery, for material defects and defects of title in connection with the delivery for the above-mentioned machine.</p>		
Warranty claims:		
<p>Warranty claims on the part of HOKUBEMA Maschinenbau GmbH only exist if we have received the signed handover certificate and the machine has been properly commissioned. We therefore ask for immediate return.</p>		
<p>Important: Please read and follow the instructions in chapter ⇒ 1 "Liability and Warranty".</p>		
Confirmation of the buyer:		
<ul style="list-style-type: none"> ✓ The machine described above was purchased by me/us. ✓ Together with this handover certificate, I have received the operating manual valid for the machine (edition: _____). ✓ The operating instructions have been read and understood by me, as well as by all persons responsible for operating the specified machine. I will ensure that persons working on the machine at a later date are also instructed accordingly. 		
_____	_____	_____
Name and position	Date	Signature of the customer
Address of the dealer (company stamp):		The machine, including the operating manual, was handed over to the buyer and installed according to the specifications in the operating manual.

		Date

		Signature - Customer Service

Space for notes:

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Revisions

Revision	Editor	Modification	Date
1	AG	Original document translated	16.03.2022
2	AG	Minor corrections made and section 10.5 adapted	08.09.2023

1 Liability and Warranty

When purchasing a machine or additional component (hereinafter referred to as “machine”), the General Terms and Conditions of Sale and Delivery of HOKUBEMA Maschinenbau GmbH generally apply. These are provided to the purchaser or operator at the latest when the contract is concluded.



IMPORTANT NOTE: Liability and warranty claims shall only commence from the point in time at which the signed handover certificate (see ⇒ page 3 resp. 5) from the dealer and/or end customer for the delivered machine has been submitted to HOKUBEMA Maschinenbau GmbH in written form.

Liability and warranty claims for personal injury and property damage are generally excluded if they are due to one or more of the following causes:

- Commissioning of the machine without prior machine instruction by an authorised and adequately trained specialist who is familiar with the function and dangers of the machine.
- Electrical connection as well as repair and/or maintenance work on electrical components by personnel who do not have the appropriate qualifications.
- Connection and repair and/or maintenance work on hydraulic or pneumatic components by personnel who do not have the appropriate qualifications.
- Non-observance of the instructions in the operating manual, in particular the chapter “Safety”.
- Improper use or operation in an unauthorised area of application.
- Improper assembly, commissioning, operation and maintenance of the machine.
- Unauthorised conversions or modifications to the machine or additional components.
- Operating the machine without using all the protective equipment available for the operation.
- Inadequate monitoring and maintenance of the machine components and protective devices.
- Continuing to operate the machine when faults, damage or defects are present.
- Processing materials that do not correspond to the machine's area of application.
- Carrying out operations that are not permitted for the machine supplied.
- Use of tools that are not permitted for the machine supplied.
- Operating the machine outdoors or in damp, wet or potentially explosive environments.
- Operation of the machine outside permissible ambient temperatures or humidity.
- Grossly negligent behaviour when handling or operating the machine.
- Impact by foreign bodies, e.g. stones, metal parts, etc.
- Improperly carried out repairs.
- Catastrophic events due to force majeure.

2 Introduction


This operating manual applies exclusively to the PANHANS sliding table saw type 690|200. The purpose of this document is to acquaint the user with the machine and enable him to use it to the full extent of its intended capabilities. Additionally it contains important information to operate the machine safely, properly and economically. Observance of the manual helps to avoid hazards, reduce repair costs and downtimes and increase the reliability and service life of the machine.

Furthermore, this operating manual serves to supplement instructions based on national regulations for accident prevention and environmental protection.

Apart from the operating manual and the legally binding accident prevention provisions applicable in the country and place of use, the recognized technical regulations for safe and proper work must also be observed.



Figure 1: Saw blade

	<p><i>This operating manual must always be available at the place of use of the machine. It must be read and followed by every person who is assigned to work on the machine, e.g.</i></p> <ul style="list-style-type: none"> • <i>during operation, including set-up, troubleshooting in the work process, removal of production waste and maintenance,</i> • <i>during maintenance (servicing, inspection, repair)</i> • <i>and/or during transport.)</i>
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2.1 Legal Notice




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2.2 Illustrations

All photos, figures and graphics contained in this document are for illustration and better understanding only and may differ from the current state of the product.

3 Symbols

3.1 General Symbols

Symbol	Meaning
	Indicates passages within this operating manual that must be particularly observed in order to prevent malfunctions or damage to the machine.
	Refers to chapters, sections, or figures within this document.
	Refers to an external document or a third-party source.

3.2 Symbols in Safety Instructions

Symbol	Safety Instruction
	General danger symbol, which requires the highest attention! <i>Failure to observe may result in damage to the equipment, serious injury or even death.</i>
	Warning of possible danger from forklift traffic! <i>Non-observance may result in life-threatening injuries.</i>
	Warning indicates a possible hazard under suspended loads! <i>Non-observance may result in life-threatening injuries.</i>
	Warning indicates a possible fall hazard! <i>Non-observance of these instructions may result in serious injuries.</i>
	Warning indicates a possible cutting hazard! <i>Risk of personal injury and possibly additional damage to equipment.</i>
	Reference to the obligation to wear protective gloves! <i>Non-observance of these instructions may result in personal injury.</i>
	Reference to the obligation to wear hearing protection! <i>Non-observance of these instructions may result in personal injury.</i>
	Reference to the obligation to wear protective goggles! <i>Non-observance of these instructions may result in personal injury.</i>
	Reference to the obligation to wear a respiratory protection mask! <i>Non-observance of these instructions may cause breathing difficulties and lung damage.</i>
	Reference to the obligation to wear safety shoes! <i>Non-observance of these instructions may result in personal injury.</i>
	Possible dangerous crushing hazard in the area of stationary objects! <i>Risk of personal injury and possibly additional equipment damage.</i>
	Reference to a possible crushing hazard! <i>Non-observance increases the risk of injury to hands and fingers!</i>
	This symbol warns of the dangers of electric voltage! <i>Failure to observe may result in damage to the equipment, serious injury or even death.</i>
	Fire hazard! Do not smoke and do not ignite open fire.
	Access for unauthorized persons prohibited! <i>Risk of personal injury and possibly additional equipment damage.</i>
	This safety notice indicates a possible dangerous pull-in hazard! Wearing loose clothing, jewellery as well as long untied hair is prohibited! <i>Risk of personal injury and possibly additional damage to property.</i>

4 General

This sliding table saw was produced by HOKUBEMA Maschinenbau GmbH according to the current state of the art and placed on the market as a complete machine. All legal and normative regulations were observed.

All measuring scales are manufactured in accordance with the calibration regulations to accuracy class 2.

4.1 Intended Use

The PANHANS - 690|200 sliding table saw is designed for cutting materials for which the respective saw blade used is suitable (e.g. wood, pressboard, veneer, plastic or aluminium). This machine is not suitable for cutting metal, plastic or scrap wood (which could contain nails, screws and other metal parts). The machine may only be operated on a firm, level surface with a minimum load-bearing capacity of 1,000 kg/m².



Improper use can lead to danger to persons and to a defect or damage to the machine.

4.2 Target Group and Previous Experience

This operating manual is intended for the operating and maintenance personnel of the machine. The operating personnel is to be determined by the operator and must further meet the following requirements:

- Basic technical knowledge (e.g. apprenticeship as carpenter, machine fitter, etc. and/or practice in operating sliding table saws resp. woodworking machines)
- Reading and understanding these operating and maintenance instructions

In order to acquire the knowledge required to operate this machine, the operator must ensure the following measures:

- Product training for every operator (also possible external personnel)
- Regular safety instruction

4.3 Requirements for the Operators

- The sliding table saw may only be operated by trained personnel who have also read this manual.
- Inspection, maintenance, cleaning and repair may only be performed by technical specialists with product-specific training and mechanical and/or electrical training.
- Specialists with product-specific training are to be commissioned and held responsible for planning and checking the work.
- The national protective regulations for employees must be observed.
- The operator is responsible for the safe use of the machine.
- The legal minimum age must be observed.

4.4 Accident Prevention

To avoid accidents, the following rules must be observed for operation:

- Prevent unauthorized persons from gaining access to the machine.
- Keep unauthorized persons away from the danger areas.
- Repeatedly inform present other persons about existing residual risks (see section ⇒ 5.1.3).
- Conduct and record regular training & instruction for persons who must be in the area of the machine.
- New employees must be trained internally to work on a thickener and this training must be documented.

4.5 General Safety Regulations

In general, the following safety regulations and obligations apply when handling the machine:

- A sliding table saw may only be operated in a technically perfect and clean condition.
- It is prohibited to remove, modify or bypass any protective, safety or monitoring equipment.
- It is forbidden to modify or alter the machine without the written approval of the manufacturer / supplier.
- Faults or damage must be reported to the operator immediately, eliminated without delay and repaired if necessary.
- For repairs, only original spare parts may be used.
- All protective, safety and monitoring devices must be regularly checked and maintained by the operator.
- Only instructed, trained or qualified persons may work on this machine.
- Maintenance work must be carried out and documented in accordance with the maintenance instructions.
- After maintenance or repair, the machine may only be started with all protective devices fitted. A responsible person must be defined for this purpose, who checks that the guards have been properly installed.

For the operation of a sliding table saw, the respective national safety regulations for employees as well as the national safety and accident prevention regulations apply.

4.6 Structure and Function

- PANHANS - 690|200 - Sliding table saw with tiltable saw blade 0 ... 46°
- Cutting length of slide table = 3200 mm -> slide table length = 3200 mm
- Table top surface size: 655 mm x 1200 mm
- Cutting width at rip fence: 1250 mm
- Cutting height at 90°: max. 155 mm
- Cutting height at 46°: max. 105 mm

The drive is provided by a three-phase motor. The speed adjustment is done by V-belt changeover. The speeds are displayed in the touchscreen positioning control.

The circular saw shaft (30 mm \varnothing) accepts a saw blade up to \varnothing 450 mm.

The height and tilt adjustment of the saw is carried out via a positioning control. The double sliding table made of special aluminium profiles runs on wear-resistant guideways. The cross slide is hooked onto the slide table and supported by a strong telescopic swivel arm. The cross cut fence has continuous scales and an adjustable slide. It can be extended to 3200 mm and can be used on both sides of the cross slide.

The rip fence with a quick clamp can be adjusted to any dimension up to 1250 mm.

The main switch is lockable. The motor brake and the star-delta start-up are controlled via a contactor circuit.

4.7 Standard Equipment

- Saw motor with 5.5 kW (7.5 HP)
- 4 speeds with saw blade \varnothing 450 mm, cutting height 155 mm and saw blade guard
- Cross cut fence on cross slide with mm scale and telescopic pull-out extendable up to 3500 mm; with 2 pieces of robust and backlash-free sliding flip stops
- Cross cut fence can be used on both sides as angular mitre fence up to 46°
- Table widening 1430 x 940 mm
- Table extension 750 x 655 mm
- Manually adjustable rip fence with cutting width up to 1250 mm
- Electronic, wear-free motor brake
- Saw blade guard with interchangeable wide/narrow insert
- Cross slide with support roller on the outer narrow side
- Operation via a swivelling control panel with 7" touch screen control placed at eye level
- Height and tilt adjustment of the sawing unit via the integrated positioning control
- Digital indicators for height, tilt adjustment, rip fence and speed
- APA saw blade quick clamping system
- Saw blade \varnothing 400 mm retractable under the table top
- Suction nozzle \varnothing 120 mm on machine body, \varnothing 80 mm on saw blade guard
- Push-button control with electronic soft start for start and stop
- Riving knife 250 ... 450 mm, width = 2.5 (Art. No. 0001.0864)
- Open-end spanner SW 17 (Art. No. 0746.0992)
- Wooden push stick type 2391 (Art. No. 3416)
- Allen spanner SW 4 (Art. No. 0345.0741)
- Push handle 2390 (Art. No. 3328)
- Grease gun (Art. No. 0345.0132)
- CE conform and GS tested

4.8 Special Equipment

A wide range of special accessories and optional components are available for the sliding table saw type 690|200. These allow you to expand your machine individually.

Detailed information and the corresponding article numbers can be found in chapter ⇨ 23.

4.9 Expandability

The machine is prepared for the later addition of special accessories (see chapter ⇨ 23) from the extensive manufacturer portfolio. If you would like to retrofit your machine, please request documentation from us about the accessories you require.

Please indicate the following data:

Type

Machine No.

Voltage (V)

Motor Power (kW)


Year of manufacture

(see nameplate on the machine)


5 Safety

5.1 Basic Safety Instructions

Woodworking machines can be dangerous if used improperly. Therefore, observe the safety instructions listed in this chapter and the accident prevention regulations of your employer's liability insurance association!

	<p><i>The manufacturer accepts no liability for damage and malfunctions resulting from failure to observe these operating instructions.</i></p>
---	--

5.1.1 Application Area and Intended Use

	<p><i>The PANHANS 690 200 sliding table saw is used exclusively for cutting materials for which the saw blade used is suitable (e.g. wood, chipboard, veneer, plastic and aluminium).</i></p> <p><i>This sliding table saw is not suitable for cutting metal, plastic or scrap wood (which may contain nails, screws etc.).</i></p> <p><i>The machine may only be operated on a firm, level surface with a minimum load-bearing capacity of 1,000 kg/m².</i></p>
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Any processing of other materials requires prior consultation with and approval of the manufacturer.

Only one-piece (CV) or compound (HM) circular saw blades (according to EN 847-1) with the following dimensions are permissible as tools:

Saw blade	min.	max.
Main saw blade	∅ 250 mm	∅ 450 mm
Scoring saw blade	-	∅ 125 mm

Minimum saw blade thickness:

Main saw blade: 2.2 mm

Scoring saw blade: 3.6 mm


The machine is not suitable for operation outdoors or in potentially explosive areas.

- Permissible ambient temperature: +5 ... +40° C.
- Permissible humidity: 30 ... 90 %.

Intended use also includes the connection of the machine to an adequately dimensioned extraction system and compliance with the operating, maintenance and servicing conditions specified in the operating manual.

Any other use is not in accordance with the intended use and is therefore prohibited.




























5.1.2 Modifications and Conversions to the Machine
















	<p><i>Unauthorised conversions and modifications to the machine are strictly prohibited for safety reasons. This will invalidate the CE declaration of conformity! The manufacturer is not liable for any resulting damage. The risk for this is borne exclusively by the operator/user.</i></p>
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5.1.3 Residual Risks

The machine is built according to the latest state of the art and the recognised safety rules. Nevertheless, the use of the machine may cause danger to life and limb of the user or third parties or damage to the machine and other equipment.


Due to the construction of the machine, the following residual risks can occur even when used as intended and despite compliance with all relevant safety regulations:

	Reading and applying the operating manual is mandatory for the operating personnel.
 	Be alert to possible crushing hazards: a) when transporting the machine by forklift truck → between forks & pallet / machine b) when picking up the machine → between machine / pallet and floor c) when lowering the machine → between machine and fixed equipment
 	Be alert to possible crushing hazards when lowering the machine (from the cargo pallet to the floor) with a forklift truck or overhead crane.
	Make sure that no objects fall from the forklift truck / crane. Do not leave any objects / tools on the machine.
	It is strictly prohibited to ride on the machine during a lifting operation (with the indoor crane or forklift). There is a danger of falling!
	Unauthorised persons are not allowed to enter the installation area of the machine (responsibility of the operator).
 	Be aware of the danger of cutting at the saw blade. Never reach into the running saw blade! Always wear protective gloves when changing a saw blade.
 	The saw blade guard must be used resp. moved over the saw blade during every cutting operation. Cutting without using the saw blade guard is strictly prohibited. The wearing of protective goggles is mandatory.
 	Be aware of the danger from falling objects such as workpieces, tools or similar. Therefore, wear safety shoes, especially when transporting and setting down the machine.
	Be aware of the risk of injury from flying tool parts in the event of tool breakage. Therefore wear protective goggles.
	Be aware of the risk of injury from flying workpiece parts and chips, splinters and dust coming out of the machine. Therefore wear protective goggles.
	Be aware of the increased noise emission and wear hearing protection.
	Be aware of the increased dust generation. Use the extraction device and wear a dust mask if necessary.
	Be aware of a possible danger of being drawn in by moving machine parts or tools. This can cause pieces of clothing or hair to be caught. Always wear tight-fitting clothing or avoid loose clothing and wear a hair net if necessary.
	Danger of being drawn in and increased risk of injury when wearing watches and jewellery. Wearing watches and jewellery is prohibited on the tilting spindle moulder.
	Never reach into the area between the saw blade guard and the aluminium profile rail (cross-cut fence). There is a danger of crushing!
	Electrical equipment must be maintained and cleaned regularly.
	The saw blade guard for mitre cutting (inclined saw blade) is wider and can therefore be reached earlier by the profile rail. Therefore the danger of splintering exists earlier.
	Danger from electric shock! It is strictly forbidden to bypass safety devices (e.g. safety switches).
	Danger from electric shock! There are hazards when working on the electrical system. This work must only be carried out by qualified personnel!
	Be aware of the crushing hazard when closing the saw blade guard and the cutting hazard at the saw blade.
	Be aware of the risk of crushing between the slide table and the holding block for the saw blade.

	Be aware of the risk of crushing at the end of the running rail for the slide table between the running rail and the slide table.
	Pay attention to the risk of crushing on the inside of the slide table on fixed components / guide rail (2x) on the inside of the slide table.
	Be aware of the risk of crushing when pushing the slide table forward between the slide table and the front holding block for the saw blade.
	Do not stand between the cross-cut fence and the telescopic swivel arm (when pushing the slide table forwards or backwards). There is a danger of crushing (it is forbidden for the operator and third persons to stay in this area).
	Pay attention to the danger of crushing in the area of the support for the cross slide (at the swivel arm). Reaching into this area is prohibited!
	Do not reach into the area between the rip fence and the ruler bar (especially when pushing back the rip fence).
	Pay attention to the danger of cutting and crushing in the area of the scoring saw blade. Access during normal operation and by unauthorised persons is strictly prohibited.
	Make sure that you do not reach into the area of the rotation angle limiters on the underside of the upper guide arm for the saw blade guard. There is a risk of crushing there.
	Make sure that no unauthorised persons are in the area of the machine.
	Be aware of the risk of crushing between the sliding cross-cut fence and the cross slide on both sides: Do not reach into these areas!
	Before telescoping the cross-cut fence, make sure that the main element is fixed in place using the two black star wheels.
	Be aware of the danger of crushing between the telescopic extendable part of the cross-cut fence and the end piece of the scale.
	The emergency stop buttons must always be freely accessible. They must not be moved, e.g. with hopper boxes. Check the function of the emergency stop buttons daily (before starting work).
	Laser warning: The machine can be optionally equipped with a laser pointer for the cut position. Looking directly into the laser beam will cause serious eye injury!
	Fire hazard due to wood dust in connection with flying sparks and/or open fire!

5.1.4 Observe the Environmental Protection Regulations

During all work with the machine, the environmental protection regulations, obligations and laws for waste avoidance and proper recycling and/or disposal applicable at the place of use must be observed. This applies in particular to installation, repair and maintenance work involving substances that could pollute the groundwater (e.g. hydraulic oils and cleaning agents and liquids containing solvents). In any case, prevent them from seeping into the ground or entering the sewage system.

	Store and transport the above-mentioned hazardous substances only in suitable containers. Avoid leakage of hazardous substances by using suitable collection containers. Ensure that the above-mentioned substances are disposed of by a qualified disposal company.
---	---

5.1.5 Organisational Measures

- ⚠ Always keep this operating manual within easy reach and at the place of use of the machine.
- ⚠ In addition to the operating manual, observe and instruct on generally applicable legal and other binding regulations for accident prevention and environmental protection.
- ⚠ Supplement the operating manual with further instructions, including supervisory and reporting duties, to take account of special operational features (e.g. with regard to work organisation, work processes, personnel employed).
- ⚠ Operators must not wear open long hair, loose clothing or jewellery (including rings). There is a risk of injury, e.g. by getting caught or drawn in.
- ⚠ Observe the safety instructions and danger warnings on the machine and keep them complete and in legible condition.
- ⚠ In case of safety-relevant changes to the machine or its operating behaviour, shut down the entire system immediately and report the fault to the responsible office/person.
- ⚠ Spare parts must meet the technical requirements specified by the manufacturer. The exclusive use of original spare parts ensures this. Therefore, only use original spare parts from the manufacturer.
- ⚠ Observe the fire alarm and firefighting possibilities. Make the location and operation of fire extinguishers (fire class ABC) known. Do not use water!

5.1.6 Personnel Selection and Qualification - Basic Duties

- ⚠ The machine design and operation is intended for right-handers.
- ⚠ Work on and with the machine may only be carried out by reliable personnel. Observe the legal minimum age!
- ⚠ Only use trained or instructed personnel. Clearly define the responsibilities of the personnel for operating, setting up, maintaining and repairing!
- ⚠ Ensure that only authorised personnel work on the machine!
- ⚠ If personnel to be trained or apprenticed have to work on the machine, this may only be done under the constant supervision of an experienced resp. qualified person.
- ⚠ Work on the electrical equipment of the machine may only be carried out by a qualified electrician or by untrained persons under the direction and supervision of a qualified electrician in accordance with the electrotechnical regulations.

5.2 Safety Instructions for Specific Phases of Operation

5.2.1 Normal Operation

- ⚠ Refrain from any working method that could compromise safety!
- ⚠ Take measures to ensure that the machine can only be operated in a safe and functional condition.
- ⚠ The machine may only be operated when all protective devices and safety-related equipment, such as e.g.
 - Detachable safety devices
 - Emergency stop system
 - Sound insulation
 - Extraction unit
 are present and functional.
- ⚠ Check the machine at least once per shift for externally visible damage and defects!
- ⚠ Report any changes that have occurred (including changes in operating behaviour) immediately to the responsible office or person! If necessary, stop the machine immediately and secure it!
- ⚠ Adjust the cutting angle and cutting height only when the saw blade is stationary.
- ⚠ An obstacle-free working area around the machine is essential for safe operation.
- ⚠ The floor should be level, well maintained and free of debris such as chips and cut workpieces.
- ⚠ The workplace should be adequately lit by general or local lighting.
- ⚠ Never try to remove cuttings, chips or other parts from the cutting area while the machine is running!
- ⚠ Inspect the workpiece for foreign inclusions, knots, twists and other irregularities.

- ⚠ Switch off the machine even during short work interruptions!
- ⚠ Switch off the control voltage and main switch before leaving the machine. Never leave the machine unattended in an unsecured state.

5.2.2 Special work within the Scope of Maintenance Work as well as Troubleshooting in the Workflow


- ⚠ Observe maintenance and inspection activities prescribed in the operating manual!
- ⚠ These activities, as well as all other repair work, may only be carried out by qualified personnel!
- ⚠ For all work concerning operation, production adjustment, conversion or setting of the machine and its safety-related equipment as well as maintenance and repair, observe switch-on and switch-off procedures according to the operating manual and instructions for maintenance work!
- ⚠ Secure the machine against unexpected restarting during maintenance and repair work.
 - Lock the main switch with a padlock!
- ⚠ Always tighten screw connections that have been loosened during maintenance and repair work!
- ⚠ If it is necessary to dismantle safety equipment during set-up, maintenance and repair, the safety equipment must be reassembled and checked immediately after completion of the maintenance and repair work!
- ⚠ Ensure safe and environmentally friendly disposal of operating and auxiliary materials (e.g. oils) and replacement parts (e.g. electronic components).!

5.3 Safe Working Practices

- Whenever possible, a push stick must be used to prevent working with the hands close to the saw blade. Observe the danger zone of 120 mm around the saw blade. See also section ⇒ 5.4 “Hazardous Areas on the Sliding Table Saw”.
- Always work with all available guards and protective devices! These must be accessible at the right places and in perfect working order.
- Working position: Always to the side of the saw blade, outside a possible kickback area (= area directly in front of the saw blade). See also section ⇒ 5.4 “Hazardous Areas on the Sliding Table Saw”.
- Do not start cutting until the saw blade has reached full speed.
- Set the distance between the saw blade and riving knife to 3 - 8 mm as evenly as possible.
- The riving knife must not be thicker than the kerf width and not thinner than the saw blade body.
- Only use saw blades suitable for the respective operation.
- Do never use damaged saw blades.
- A detachable feeding unit should be used whenever possible. This must be equipped with a separate on/off switch.
- A removable feeding unit is not a substitute for the riving knife. The riving knife must always remain installed.
- When using a feeding unit, there must be sufficient space on the removal side in front of stationary obstacles (danger of crushing by the workpiece!).
- The use of the sliding table saw for cutting rebates, tenons or grooves is prohibited unless the part of the saw blade above the table is effectively secured.
- For “insert cutting”, suitable anti-kickback devices must be fitted. The riving knife has to be removed and the holder has to be fixed.
- The saw blade guard must be positioned above the saw blade and rest on the workpiece. The saw blade is then raised by the workpiece to the correct height, the cut is made and the saw blade is lowered again before the workpiece is removed.
- When cutting concealed, use aids such as an auxiliary fence and a push handle.
- The riving knife must not be removed during “concealed cutting” and “grooving”.
- If a second person is working at the sliding table saw to remove processed workpieces, this person must not stand at any other place than at the end of the table extension.

- Use a ram plate on the slide table when “trimming”.
- Use an aluminium profile rail with a narrow contact edge for cutting narrow and low batten.
- For cross-cuts use a cross-cut table with cross-cut fence.
- Use a deflector wedge to cut battens to length.
- Damaged table inserts must be replaced with new ones.
- When cutting narrow workpieces, use the push stick.
- Repairs may only be carried out by qualified personnel with the main switch locked.
- The machine must be connected to an effective extraction unit with a minimum flow rate of 20 m/s.
- The machine is equipped with an electric magnetic brake. If this brake no longer brakes within the prescribed braking time (10 s) despite readjustment, the customer service must be informed.

5.4 Hazardous Areas on the Sliding Table Saw


	Carry out adjustment work within the danger zones only when the saw blade is stationary!
---	---

5.4.1 Danger Zone Saw Blade



Figure 2: Danger zone saw blade

- The area 120 mm around the saw blade is considered to be a danger area with an increased risk of injury.
- Hands must never be within this danger zone when the saw blade is running!
- Never remove chips and parts lying around with your hands!
- Within the danger zone, use a push stick, push block or other suitable aid for feeding.
- When feeding the workpiece manually, place your hands flat with your thumbs on them and do not spread your fingers.
- Lower the saw blade guard before starting work.

	Be aware of the danger of cutting and being drawn in within the danger zone of 120 mm around the saw blade! Wearing gloves, loose clothing, open hair as well as watches or jewellery is prohibited when working on the sliding table saw!
--	---

5.4.2 Danger Zones around the Machine

Another danger zone is located in front of the machine within the feed area of the saw blade. Here, there is a particular risk of serious injury from a material kickback. During operation, the operator as well as any helpers and possible observers must refrain from being in the marked danger zone!

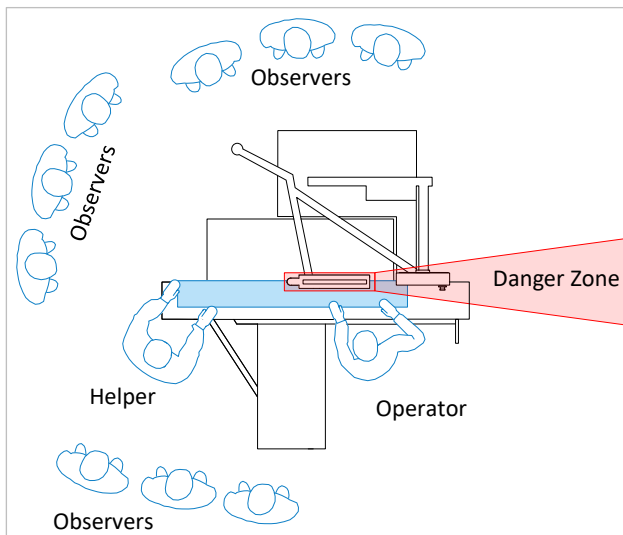



Figure 3: Danger zones around the machine

- The operator of the machine must generally stand at the front of the machine, outside the danger zone (depending on the application, to the left or right of the saw blade (see also ⇨ Figure 7)).
- A helper for workpiece removal must generally stand behind the machine and outside the danger zone. The helper must not stand within the movement range of the slide table.
- Observers must stand in a semi-circle formation outside the danger zone. An adequate distance must be maintained so that the operator of the machine and any helper are not hindered in their work.

	Be aware of the danger of kickback due to ejecting workpieces! Entering the danger zone during the cutting process can lead to serious injuries.
---	---

5.5 Avoidance of Kickback Hazards

Uncontrolled kick-back of workpieces and parts must be prevented with all available means, as these provide a very high hazard potential. The kickback area starts from the centre of the saw blade towards the rear, where the saw teeth rotate in an upward direction. If the rising teeth come into contact with the workpiece or loose boards, battens or blocks lying around, these can be ejected immediately, which can cause the most serious injuries. In this section you will find valuable hints to effectively avoid kickbacks.



Many serious injuries on a sliding table saw occur due to workpieces kicking back. To avoid kickbacks, please observe the following sections.

5.5.1 Use fence and saw blade guard

Increased danger exists (as mentioned above) due to parts lying around that are caught by the rising teeth. Equally dangerous is freehand cutting without a guide, because even a trained carpenter's hand is not able to make an absolutely straight cut. If the cut is slightly skewed, the workpiece can twist on the saw table in such a way that it gets into the area of the rising teeth and can be gripped.

- ➔ Therefore, generally use a fence to guide the workpiece and lower the saw blade guard to just above workpiece height.

5.5.2 Never work without the riving knife

The riving knife is an elementary guarantee of safety. It prevents the kerf from closing again behind the saw blade (especially in the case of material with a lot of tension) and thus from jamming with the rising teeth.

- ➔ Only in very few exceptional cases (e.g. when insert cutting) may the riving knife be removed for the duration of the corresponding operation.

5.5.3 Rip fence when cutting short workpieces to width

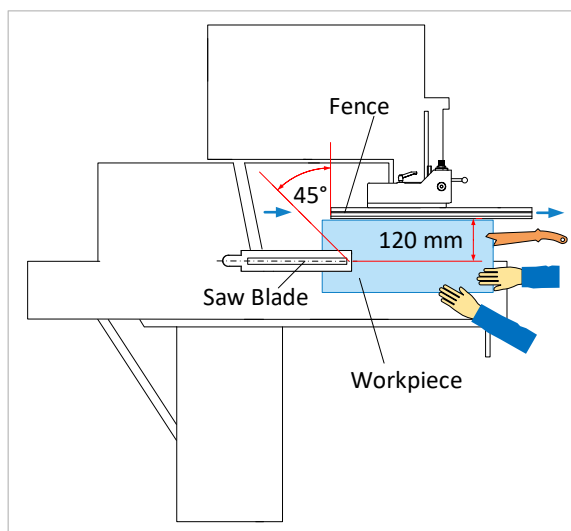



Figure 4: Cutting short workpieces to width

The rip fence must not be set too far towards the saw blade when cutting short workpieces to width. Workpieces that have already been cut can jam between the fence and the saw blade. This is especially dangerous when the workpiece reaches the area of the rising teeth.

- ➔ To move the rip fence out of the danger zone, pull the fence rail back towards the operator's side so that the rear edge of the fence forms an angle of approx. 45° relative to the front edge of the saw blade.
- ➔ For cutting widths < 120 mm, generally use a push stick and < 30 mm an even narrower, sufficiently long wooden strip for feeding.

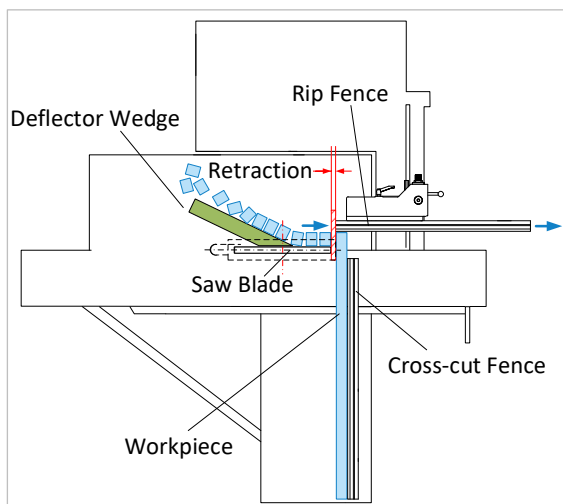
5.5.4 Parallelism of the rip fence

Regularly check the parallelism of the fence by measuring the front and rear of the machine table. Even a slight deviation of 1 to 2 degrees can press the workpiece against the saw blade in such a way that it jams. Then it can be caught by the rising teeth and trigger a kickback. Ideally, the distance of the fence to the rear (in the direction of the rising teeth) is approx. 0.2 mm higher than in front of the saw blade.

	<i>Danger of kickback due to ejecting workpieces! The distance of the fence in front of the saw blade must never be higher than at the rear in the area of the rising teeth.</i>
---	---

Clear indications that the parallelism of the fence is no longer correct are sluggishness of the workpiece when it is fed, a strong noise development and burn marks on the workpiece. If your fence has been misaligned, please contact our customer service (phone number: 0049 - 7571 / 755-0).


5.5.5 Cutting off small pieces on the rip fence




If you are using the rip fence to cut many smaller pieces of identical dimensions from a long piece (which rests against the cross-cut fence), it is important to prevent cut pieces from jamming between the fence and the saw blade and being caught by the rising teeth.

- ➔ To do this, move the rip fence backwards towards the operator's side and fix it so that there is enough space between the fence and the front edge of the saw blade for the retraction (see ⇨ Figure 5).
- ➔ Fix an additional deflector wedge (see ⇨ Figure 5) auf on the table top so that small parts that have already been cut off cannot be caught by the rising teeth and flung upwards.

Figure 5: Fixing the deflector wedge on the table


	<i>Important: The deflector wedge must be fitted so far towards the operator's side that the cut-off parts are already deflected shortly before the centre of the saw blade.</i>
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	<i>Danger of kickback due to ejecting workpieces! Never remove already cut parts by hand and fix a deflector bar on the machine table.</i>
---	---

5.6 Special Characteristics of Guards Made of Polycarbonate (Plexiglas)

Polycarbonate guards require special attention if they are to protect against possible flying tool parts (e.g. in case of tool breakage of cutters or saw blades).

Polycarbonate guards must therefore be checked regularly for deep scratches, cracks, bulges or cloudiness (visual inspection). If corresponding damage becomes apparent, the protective device must be replaced immediately, as the required protective capability is no longer given.

	<i>Do not use oils, fuels or solvents to clean and maintain polycarbonate protective devices. Do not use aggressive or toxic industrial cleaners that can damage the windows or bonding. Under no circumstances may nitro thinner be used. The cleaner must be free of hydrocarbons.</i>
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5.6.1 Effect of cooling lubricants on polycarbonate

The ingredients in cooling lubricants can negatively influence the material properties of polycarbonate. When cooling lubricants are used regularly (e.g. when machining aluminium), the polycarbonate guards should be renewed every 2 years at the latest. Even if there is no externally visible damage, the material may no longer have the required impact protection.

6 Machine Data

6.1 Technical Specifications

Table size:	1200 x 665 mm
Table height:	900 mm (± 20 mm)
Cutting length slide table:	3200 mm
Main saw blade speed [rpm]:	3000/4000/5000/6000
Cutting height at 90°:	max. 155 mm
Cutting height at 46°:	max. 105 mm
Cutting width (rip fence):	1250 mm
Pull-out cross-cut fence:	max. 3200 mm
Saw blade:	max. Ø 450 mm
Saw blade tilt range:	0° ... +46°
Mitre fence angle:	46° (on both sides)
Saw blade (retractable u. table):	Ø 400 mm
Table extension:	750 x 655 mm
Table widening:	1430 x 940 mm
Motor power:	5.5 kW / 7.5 HP
Motor voltage:	230/400 V / 50 Hz
Protection class	IP54
Slide table surface:	coated
Space requirement:	7000 x 6500 mm
Net weight:	approx. 1150 kg
Suction nozzles:	120 / 80 mm
Manufacturer:	
HOKUBEMA Maschinenbau GmbH	
Graf-Stauffenberg-Kaserne	
Binger Str. 28 Halle 120	
DE-72488 Sigmaringen (Germany)	
Tel.: +49 (0) 7571 / 755-0	
Fax: +49 (0) 7571 / 755-2 22	



PANHANS
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Telefon/phone +49(0)7571 755-0

Formatkreissäge 

Baureihe line	
Typ type	680I200
Maschinen-Nr. machine no.	
Baujahr year of construction	20
Bemessungsspannung U = nominal voltage U =	V
Frequenz/Phasenzahl frequency/phases	Hz / 3
Stromart kind of current	AC
Volllaststrom I = operating current I =	A
Überstromschutz, intern excess current protection, internal	A

Figure 6: Nameplate

6.2 Technical Characteristics

- Sliding table saw for trimming, cutting to length, sizing, mitre cutting, etc.
- Dimensionally stable and self-supporting machine body
- Torsion-resistant and finely planed cast iron table top
- Robust and powerful saw unit for precise saw cuts
- Double-guided swivel segments made of grey cast iron
- Double column guide for height adjustment with 2-fold ball bearing mounted, long circular saw shaft for absolutely smooth running and with remote locking in 50 mm grid
- Smooth-running and maintenance-free double slide table (ball-bearing mounted and extra stable) with precise and play-free running over the entire length
- Stable and lightweight cross slide, made of steel profiles with a support roller on the outer narrow side
- Cross-cut fence profile with mm scale and magnifying glass, telescopic extension up to 3200 mm, including two robust and backlash-free flip stops and additional end flip stop
- Electromotive rip fence with cutting width 1250 mm to the right of the saw blade, position setting at the top of the control panel via positioning control (accuracy 0.1 mm).
- Fold-down fence for free table surface; safety shut-off bar in case of danger of crushing between rip fence and slide table
- Table widening 1430 x 940 mm and table extension 750 x 655 mm with pull-out tool drawer
- Control panel with 7" touchscreen control placed at eye level, swivelling, including template holder
- Motorised height and tilt adjustment via positioning control, including visualisation of cutting height, cutting width, tilt adjustment and saw blade speed
- Swivel-mounted control panel, template holder included
- Tilt range of the saw blade 0 - 46°
- APA saw blade quick clamping system
- Main saw blade speed 3000/4000/5000/6000 rpm
- Protective device can be swivelled away to both sides, guard with interchangeable insert wide/narrow
- Push-button control with electronic soft start (start/stop)
- Electronic, wear-free motor brake
- Saw blade Ø 400 mm retractable under the table
- Extraction port Ø 120 mm on machine body, Ø 80 mm on protective hood
- Slide table, length and width stop profile anodised
- Machine body and swivel arm powder coated
- CE-conform, GS tested

6.3 Emission Levels

Noise Information:

The values given are emission levels and therefore do not necessarily represent safe workstation values at the same time. Although there is a correlation between emission and immission levels, it cannot be reliably deduced whether additional precautionary measures are necessary or not.

Factors that may affect the current immission level at the workstation include the duration of exposure, the nature of the workspace, other noise sources (e.g. the number of machines and other adjacent operations). The permissible workstation values can also vary from country to country.

However, this information should enable the user to make a better assessment of hazard and risk.

6.3.1 Noise Emission Values:


The measurement values given are determined in accordance with the EN 1870-1 standard.

Uncertainty allowance $K = 4 \text{ dB(A)}$

<i>Workplace-related emission value</i>	
Idle	87 dB(A)
Operation	85 dB(A)

<i>Noise level</i>	
Idle	99 dB(A)
Operation	101 dB(A)

The measurements were based on the operating conditions according to ISO 7960 Annex A. (with carbide saw blade $\varnothing 350 \text{ mm}$, $Z=54$, 4000 min^{-1} , Soundstar).

	<p><i>The noise emission values of the machine partly exceed 85 dB(A)!</i> <i>Therefore, suitable hearing protection must be provided to the personnel!</i></p>
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Workplace-related dust emission value: The determined values comply with the required assessment values for the "GS wood dust test" mark by the German Woodworkers trade association (Holz BG).

7 Dimensions

7.1 Working Areas

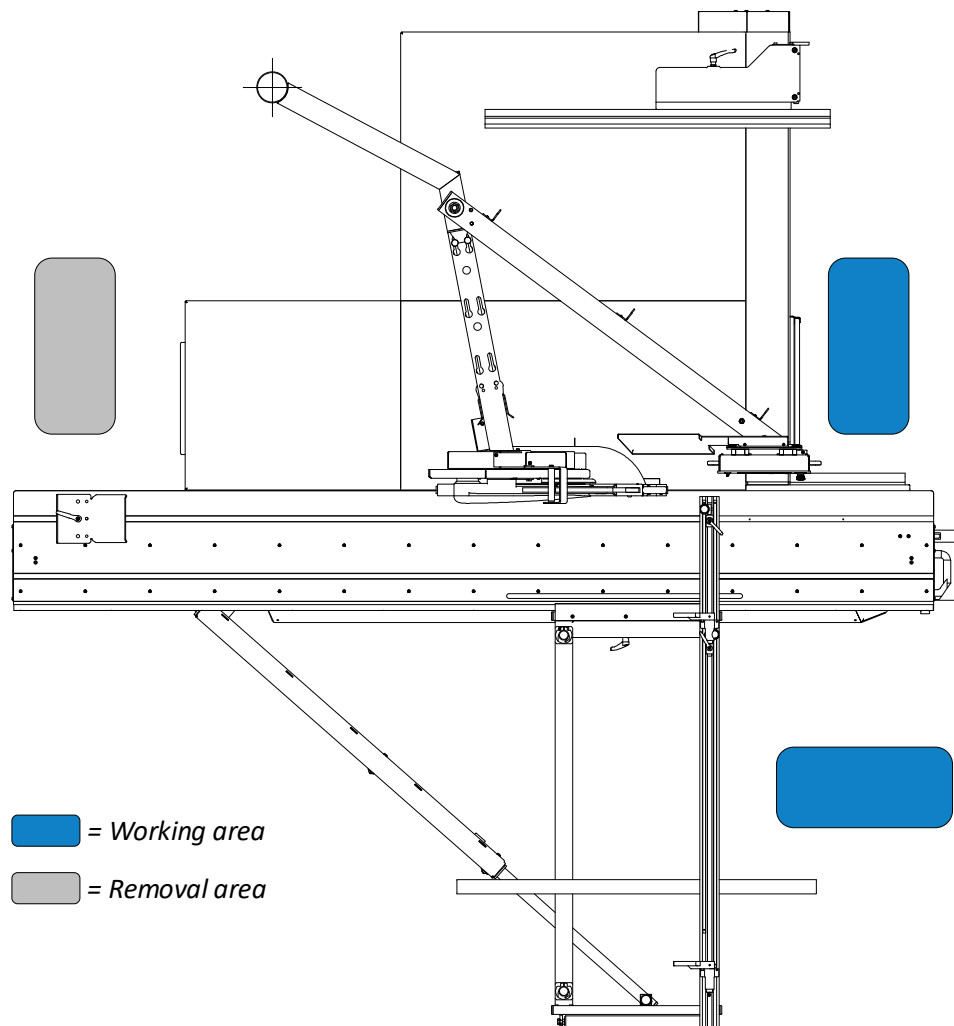


Figure 7: Working areas

7.2 Dimensions (Front View)

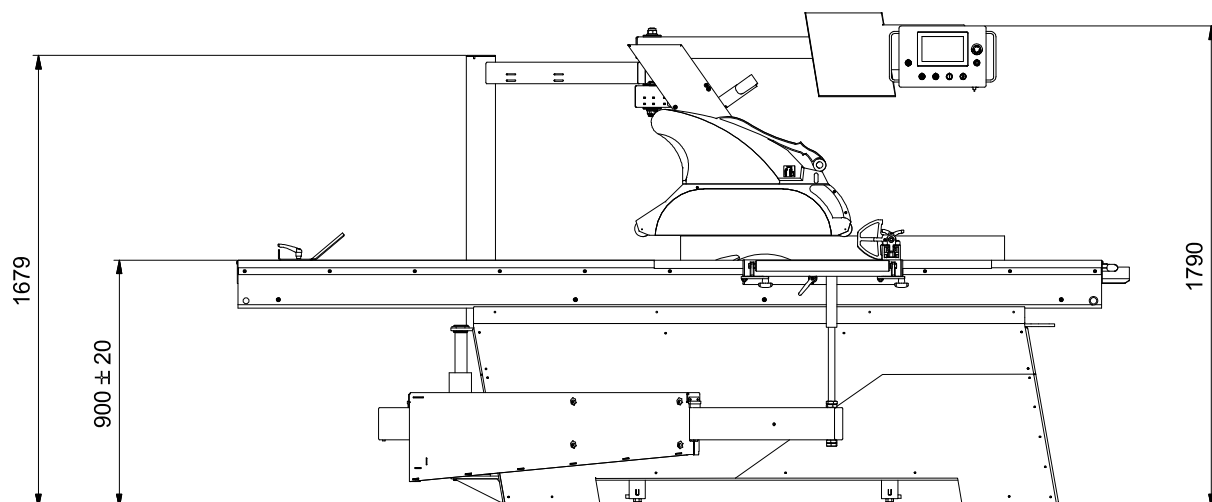


Figure 8: Dimensions (front view)

7.3 Dimensions (Top View)

Sliding table

	Table length /	Cutting length
Option	2000 mm /	2000 mm
Option	2600 mm /	2600 mm
Standard	3200 mm /	3200 mm
Option	3800 mm /	3800 mm

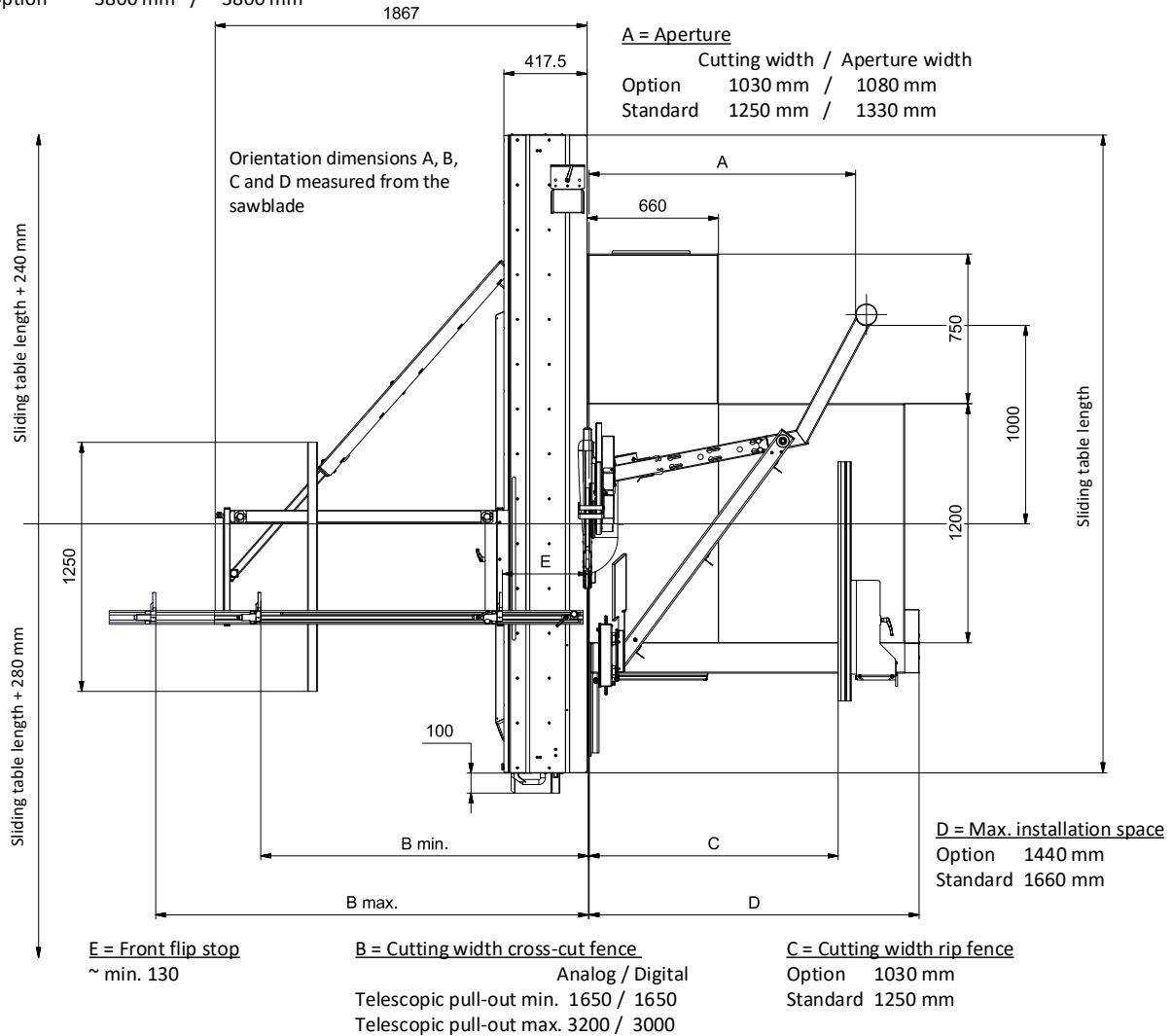


Figure 9: Dimensions (top view)

8 Installation and Connection

8.1 Check Delivery Conditions

Check the consignment for completeness and possible transport damage. In case of transport damage, please keep the packaging and inform the shipping company and the manufacturer immediately! Later complaints cannot be accepted.

8.2 Transport to the Installation Site

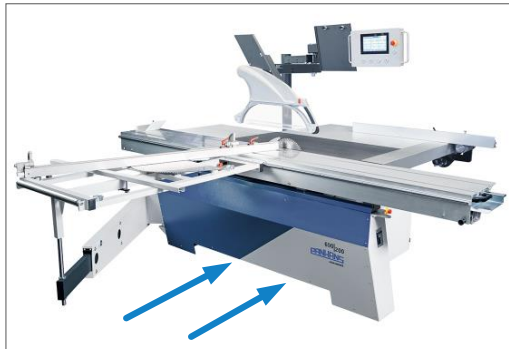


Figure 10: Machine transport

- The machine is delivered on a transport pallet and is bolted to the bottom of the pallet.
- The slide table is secured with a transport lock.
- The centre of gravity of the machine is approximately in the middle of the transport pallet.
- If the machine is transported by forklift truck, the pallet must be raised in the area of the centre of gravity.
- Move between the feet with a lift truck, lift the machine only a few centimetres and move it to the installation site.

For transport by forklift pick up the machine as shown above, fork length minimum 1.20 m.

	Caution: Risk of damaging the front plate, longer fork length is advantageous!
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	With the cross slide attached, the centre of gravity shifts towards the cross slide!
--	---

	Pay attention to the danger of tipping over when transporting by forklift truck!
--	---

	Be aware of possible crushing hazards when placing the machine (from the pallet to the floor) by means of a forklift truck or similar. Pay particular attention to your hands and feet and wear safety shoes and protective gloves as a precaution.
--	--

	Danger to life when using a forklift truck! Keep a sufficient distance from the forklift truck and watch its speed. Vehicles with combustion engines also produce toxic exhaust gases. Wear a breathing mask if necessary.
--	---

- Move the pallet to the desired location (using a forklift truck, overhead crane, etc.).
- Loosen the 4 bolts on the feet of the machine.
- Lift the machine off the pallet and move it to the desired location.
- Remove the transport locks on the slide table.
- The bare parts of the machine are greased to protect them from corrosion. Carefully degrease these parts protected against rust with petroleum or benzine.

	Fire hazard! Do not smoke and do not light an open fire.
--	---

	Do not use nitro thinner for cleaning. Painted surfaces of the machine can be damaged.
--	---

- A foundation is not required. The floor must have a load-bearing capacity corresponding to the weight of the machine. The weight of the machine is approx. 1150 kg, depending on the equipment more.

- Level unevenness of the floor by means of the stand adjusting screws (see next section ⇒ 8.3).



8.3 Levelling with a Spirit Level

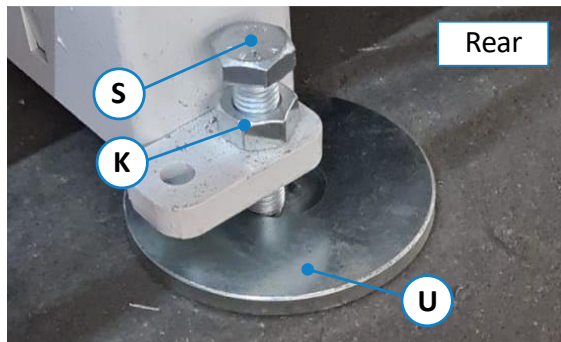
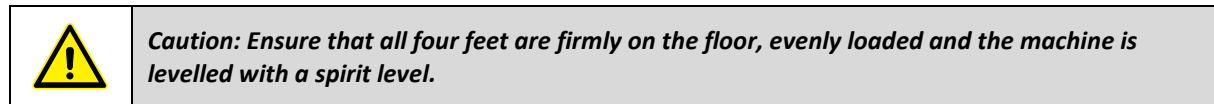


Figure 11: Levelling screws at the rear (normal case)

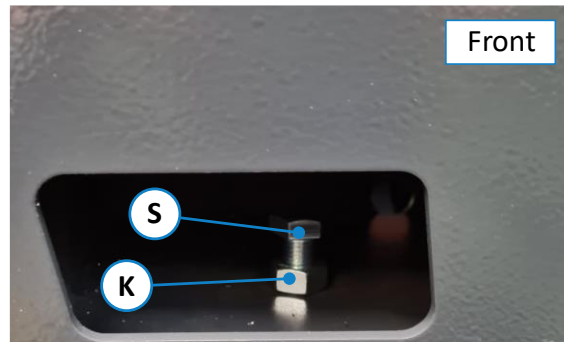
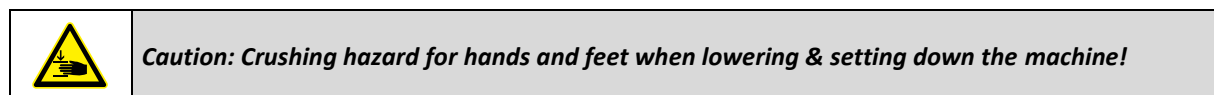


Figure 12: Front levelling screws (exceptional case)

When setting up the machine, it must be properly aligned with a machine spirit level (0.1 mm/ 1 m). For this purpose, the machine has two adjustable feet with corresponding set screws (S) on the rear side (⇒ Figure 11) and two round plates (U) as a base. In the **normal case**, the front of the machine stands flush on the two pedestals. Level here only in **exceptional cases** (very uneven floors).

8.3.1 Procedure in the Normal Case

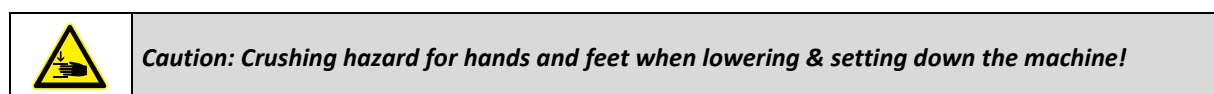
1. Before setting the machine down, lower it only close enough to the ground so that the two plate feet (U) shown in ⇒ Figure 11 can be placed centred under the screws (S).



2. Now lower the machine completely until it is centred on the plate feet with both screws (S).
3. To align with the spirit level, it is usually sufficient to adjust only the rear screws (S).
4. An open-end spanner SW22 is required for adjustment. First loosen the lock nuts (K) and then adjust the height with the set screws (S) until the machine is evenly levelled.

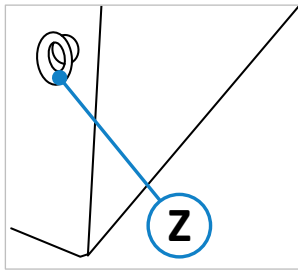
8.3.2 Procedure in the Exceptional Case

1. If levelling cannot be achieved with the two rear feet, it must be assumed that the installation site has a very uneven surface.
2. Only in this exceptional case are the front adjusting screws (see ⇒ Figure 12) necessary for levelling. However, these are only accessible after the front cover plate is removed.
3. Before adjusting, raise the machine on the front side so far that the two round plates (U) can also be placed here centred under the adjusting screws (S).



4. Then loosen the four lock nuts (K) shown in ⇒ Figure 12 and ⇒ Figure 11 and adjust the height on all four screws (S) until the machine is evenly level.

8.4 Lashing on a Transport Vehicle



For transporting the palletised machine on a transport vehicle, a lashing point (Z) is attached to each of the four sides of the machine.



A separate lashing strap must be used for each lashing point (Z). All 4 lashing straps must be individually tensioned on the loading area!

The responsibility for safe loading is borne by the respective shipper!

Figure 13: Lashing points (4 x)

Please note the following when lashing in the transport vehicle:

- The loading area of the transport vehicle must always be clean and dry.
- The lashing straps used must be suitable for the total weight of the machine (approx. 1150 kg net).
- Fastening on the loading area is done by lashing down: This means that the transport pallet is secured by frictional locking. The load is pressed so firmly onto the loading surface that it can no longer slip. The clamping tool should have a high STF value at the frictional connection, e.g. long-lever ratchets.
- In addition, anti-slip mats should be used to provide even more safety.
- The ideal lashing angle (α) for tie-down lashing is 83° to and 90°. Therefore, the lashing straps should pull downwards approx. vertically. As the angle decreases, the pretensioning force of the lashing is reduced.
- Observe the permissible total weight of the transport vehicle.
- Ensure that the permissible axle loads of the transport vehicle are observed. The load must be distributed evenly on all axles of the vehicle.

8.5 Temporary Storage

If the machine is not put into operation immediately after delivery, it must be stored carefully in a protected place.

- Carefully cover the entire machine so that neither dust nor moisture can penetrate.
- The bare, non-surface-treated parts (e.g. the cast iron tabletop) are provided with a preservative. This must be checked regularly for effectiveness and renewed if necessary.

8.6 Connecting the Extraction Unit

The air velocity must be checked before initial commissioning and after significant changes. The extraction system must be checked daily for obvious defects after initial commissioning and monthly for effectiveness.

The machine must be connected to an effective extraction system on-site. The upper extraction nozzle on the extraction hood has a diameter of 80 mm. The diameter of the lower extraction nozzle on the machine stand is 120 mm.



When the machine is switched on, the extraction system must start automatically.

Two signal transmitter lines for automatic switching of the extraction unit can be connected to the terminals "03" and "04" of the contactor "K2".

Installation only by a qualified electrician!

The air speed must be set in such a way that, with the extraction line connected and the tools stationary, an average air speed of

- 20 m/s (1450 m³/h) with dry chips,
- 28 m/s (2050 m³/h) with moist chips (moisture 18 % or more)

is achieved at the extraction nozzles.

Existing negative pressure at 20 m/s: Total connection 140 mm \varnothing / approx. 1200 Pa



When flexible suction hoses are used, they must be flame-retardant.

All parts of the extraction system, including hoses, must be included in the earthing measure.

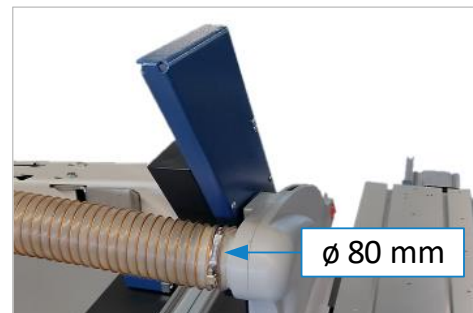


Figure 14: Upper suction nozzle diameter

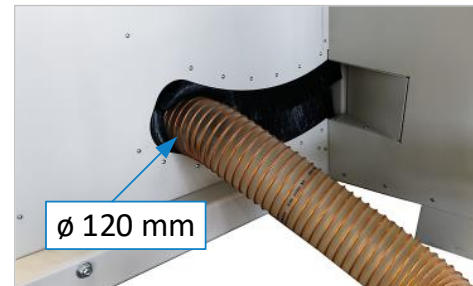


Figure 15: Lower suction nozzle diameter

8.7 Electrical Connection



The electrical connection must be carried out by an authorised electrician!

The electrical circuit diagrams are located in the control cabinet.

Please observe the specified nominal voltage 400 VAC / 50 Hz (3 phases / N / PE)!



Connection to the mains (3 phases) is made at the terminal strip in the terminal box. The 3 phases are to be connected to the terminals “L1”, “L2”, and “L3”. The protective earth wire (yellow/green) must be connected to the terminal marked “PE”.

With optional machine socket, the neutral conductor must be connected to the terminal marked “N” (please note: “N” is loaded!).

Then close the cable gland so that it is dust-tight again.

Observe the rotational direction of the saw blade!



If the rotational direction of the saw blade is wrong, two outer conductors must be interchanged.



**Correct direction of rotation of the saw blade:
Clockwise (when viewed from the front).**

Figure 16: Electrical connection

8.7.1 Back-up Fuses (On-site)

The regulations of the local electric power company apply!

Motor Power	5.5 kW	7.5 kW
400 Volt	25 A	35 A slow



The fault loop impedance and the suitability of the overcurrent protection device must be checked at the installation site of the machine.

Supply cable: Cu, 5-wire.

The cross-section must be determined on site by a qualified electrician!

9 Components & Controls

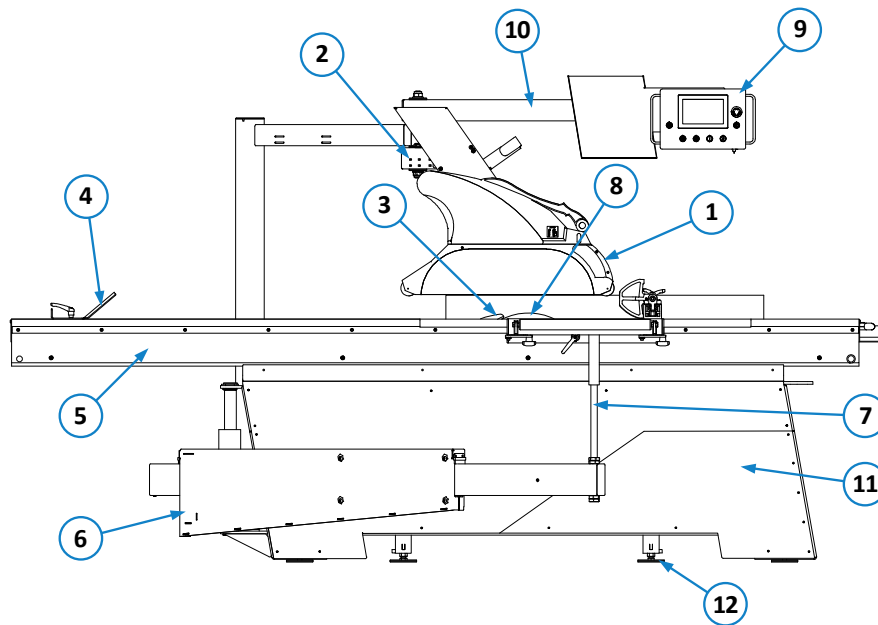


Figure 17: Components & controls - front view

No.	Description	No.	Description
1	Saw blade guard with suction	7	Support bolt (support bracket)
2	Swivel arm for saw blade guard	8	Saw blade
3	Riving knife	9	Control panel with template holder
4	Sliding shoe	10	Swivel arm for control panel
5	Sliding table	11	Machine body
6	Telescopic swivel arm	12	Adjustable foot

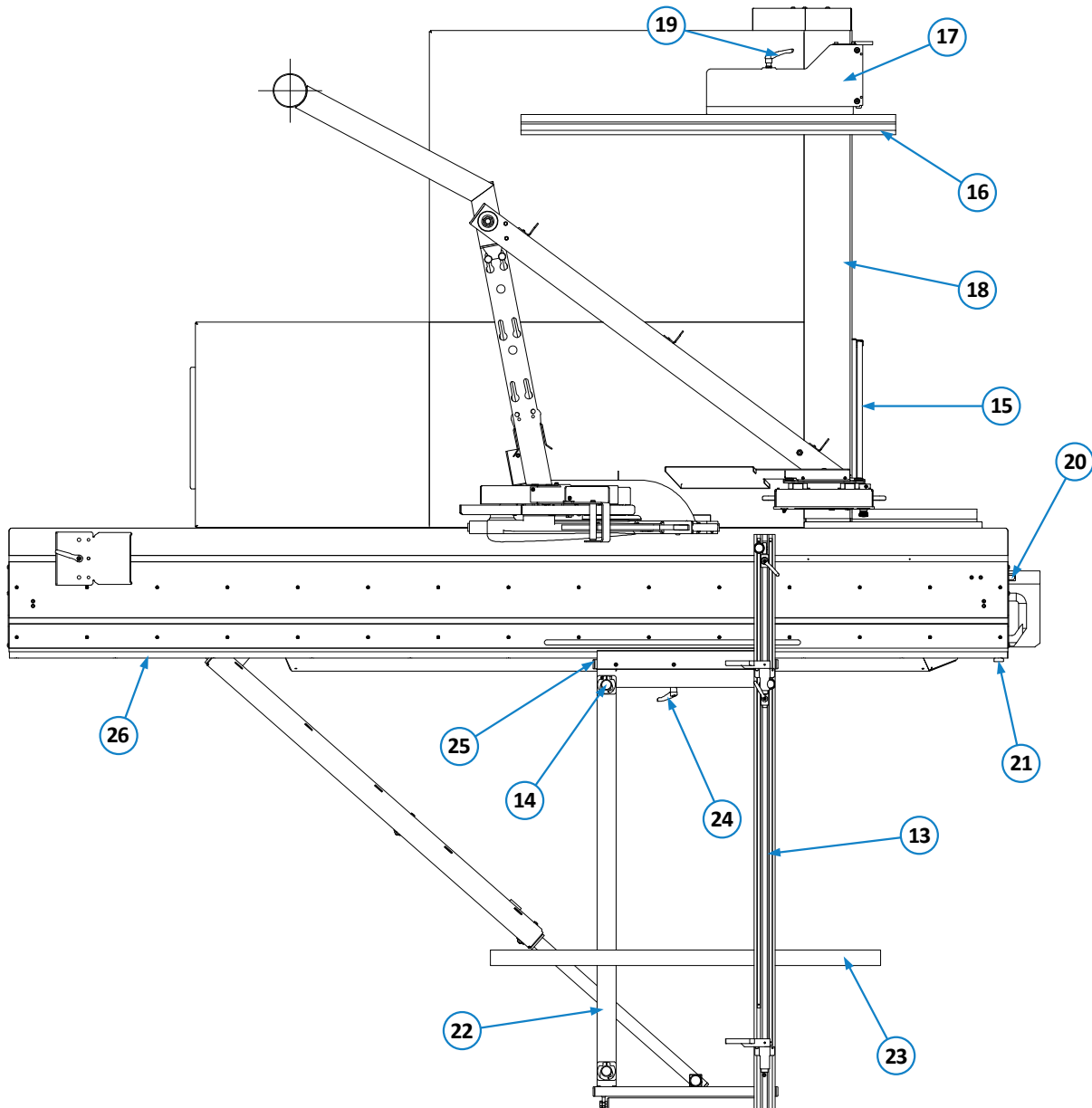


Figure 18: Components & controls - top view

No.	Description	No.	Description
13	Cross-cut fence	20	Safety catch for saw blade change
14	Fixing point for cross-cut fence (4 x)	21	Remote locking for slide table
15	Control cabinet with main switch and E-Stop	22	Cross slide
16	Aluminium profile rail for rip fence	23	Cross slide support bar
17	Rip fence	24	Cross slide clamping lever
18	Guide for motorised rip fence	25	Cross slide hook-in bar
19	Clamping lever for profile rail	26	Cross slide guide

10 Mounting and Usage

10.1 Slide Table

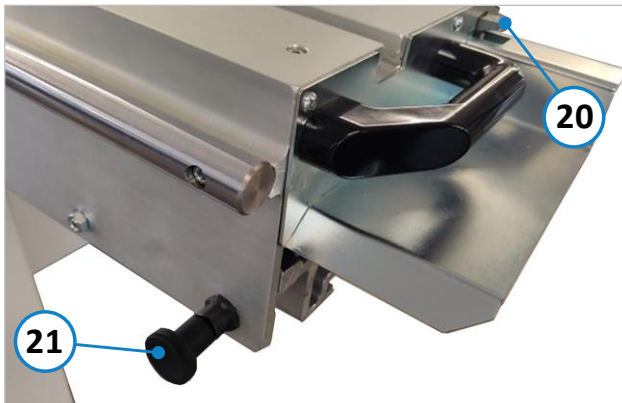




Figure 19: Slide table controls

When the sliding table saw is delivered, the slide table is already fitted ready for operation.

- Loosen (pull out) the remote locking device (21).
- Move the slide table to the desired position.
- Close (press in) the remote locking device (21). You may have to move the slide table slightly forwards or backwards so that the lock engages correctly.

The safety catch (20) is used to move the slide table out of the saw blade area (beyond the stop) during a saw blade change (for more information see chapter ⇨ 19.1).

	<p>If the machine is not used for a longer period of time, the slide table should be moved to a middle position. This prevents the rollers from being pressed in.</p>
---	--

	<p>The slide table must not be locked during a cutting operation.</p>
---	--

10.2 Rip Fence

The motorised rip fence is used to feed the workpiece from the rear of the machine (to the right of the saw blade). The rip fence is already fitted when the sliding table saw is delivered. Only the aluminium profile rail (16) still has to be inserted.

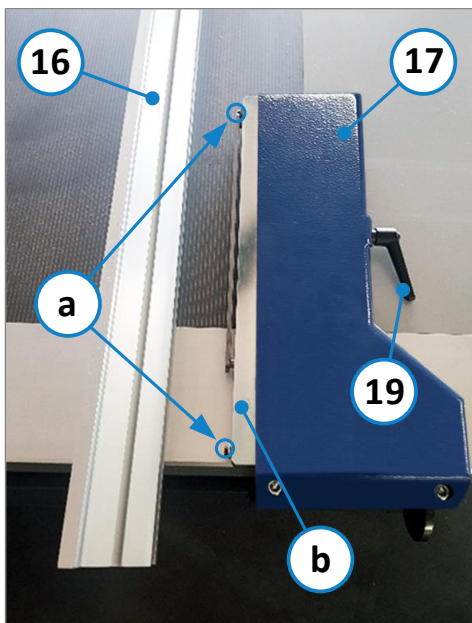
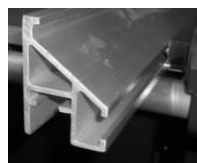


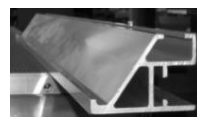
Figure 20: Fitting the rip fence

Set the aluminium profile rail for normal cuts:



- Push the aluminium profile rail (16) as far as it will go onto the two fixing bolts (a) of the holding block (b). The cross-section must look as shown in the photo on the left.
- Fix the aluminium profile rail by means of the clamping lever (19). The rip fence is now ready for use.

Set aluminium profile rail for inclined saw blade:



- Push the aluminium profile rail (16) onto the holding block (b) rotated by 90°. The cross-section must look as shown in the photo on the left.
- Fix the aluminium profile rail by means of the clamping lever (19).



Warning! Danger of crushing between profile rail (16) and holding block (b).

The operation of the rip fence is described in detail in chapter ⇨ 14. **Important:** For the operation of the rip fence, please also observe the hazard warnings in the sections ⇨ 5.5.3, ⇨ 5.5.4 and ⇨ 5.5.5.

10.3 Mounting the Cross Slide

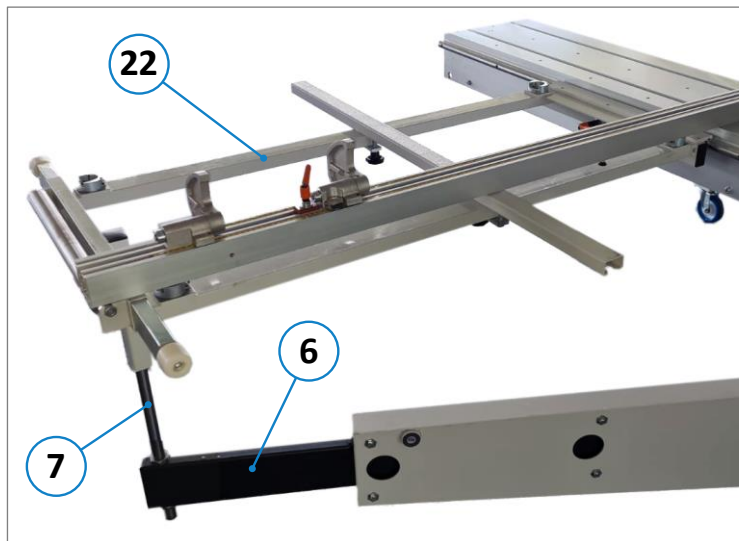


Figure 21: Cross slide mounting

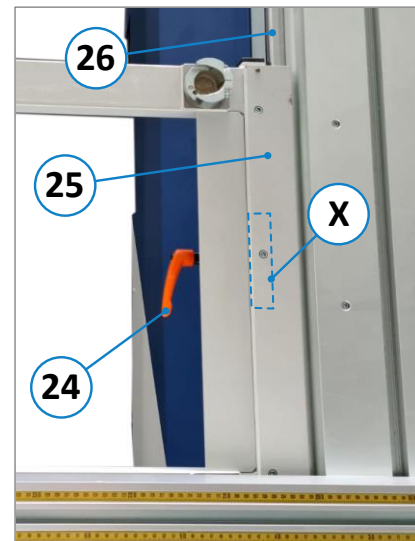


Figure 22: Cross slide clamping

- Pull the slide table into the rearmost position and bring the swivel arm (6) into position.
- Lift the cross slide (22) with 2 persons and place it on the support (7) for the cross slide.
- Loosen the clamping rail (X) - in Figure concealed under the hook-in bar (25) - by means of the clamping lever (24).
- Insert the clamping rail (X) into the cross slide guide (26) on the slide table.
- Fix the cross slide (22) by means of the clamping lever (24).



Warning! Danger of crushing when mounting the cross slide (clamping rail / cross slide).

10.3.1 Moving the Cross Slide



Figure 23: Moving the cross slide

The procedure for moving the cross slide (22) is as follows:

- Loosen the clamping lever (24).
- Move the cross slide (22) to the desired position.
- Fix the clamping lever (24).

10.4 Swivelling Saw Blade Guard

Working position:

- In the working position above the saw blade (middle position) both levers (1) and (2) must be closed

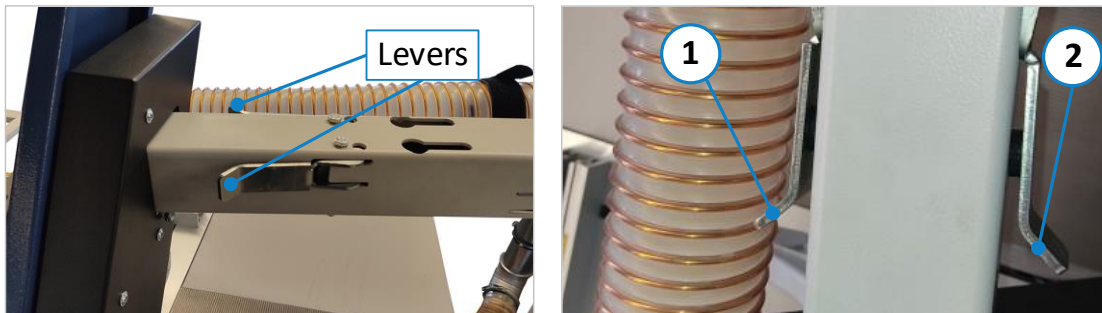


Figure 24: Swivel arm for saw blade guard

Swivel away to the right or left:

- Open the left lever (1) to swivel the guard to the right.
- Open the right lever (2) to swivel the guard to the left.

Swivel back into the working position:

- The guard automatically locks into the centre position (= working position) when swivelled back.
Important: Nevertheless, make sure that both levers (1) and (2) are closed before starting work.

10.5 Change Saw Blade Guard

The sliding table saw is delivered with the blade guard already fitted. However, it may be necessary to exchange the blade guard.:

- If the mounted guard is damaged or defective.
- A special (wider) guard must be used for mitre cuts.



Figure 25: Fitting the saw blade guard

Fitting the saw blade guard:

1. Push the guard (1) to the uppermost position.
2. Set the lock (2) to the "Open" position so that the protective hood disengages.
3. Pull out the guard (1) and lay it down¹.
4. Insert the other guard until it engages and set the lock (2) back to the "Lock" position.

After use, always place the push stick (3) in the holder on the guard unit.




The wider saw blade guard must always be fitted when working with a tilted saw blade.

¹ The guard that is not needed can be stored in the storage tray at the rear (under the tabletop, to the left of the column).

11 Commissioning

Please observe the accident prevention regulations!

	<p>Before switching on, check that</p> <ul style="list-style-type: none"> • there are no loose parts on the tabletop and that all tools have been removed, • the riving knife is correctly adjusted and the sawdust flap is closed, • the slide table is in working position, • the saw blade guard is properly fitted, • the V-belt is properly tightened, • the extraction system is connected and in working order, • the correct speed is displayed, • no persons are in a danger zone of the machine.
---	---

11.1 Control Elements

The following controls are available on the control panel of the 690|200 sliding table saw:

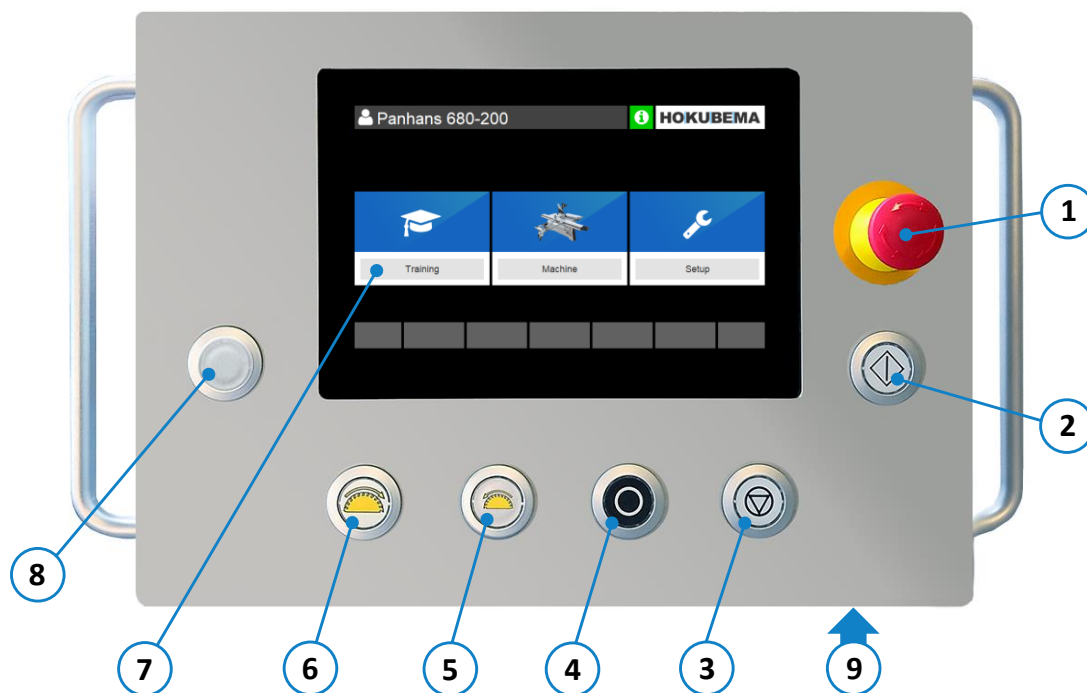


Figure 26: Control elements

No.	Description	No.	Description
1	Emergency Stop	6	Switch on main saw (lights up when main saw is running)
2	Start positioning (flashes, until the target has been reached)	7	Touchscreen for operation
3	Cancel positioning (flashes during positioning)	8	Preparation for on/off switch of the laser indicator (option)
4	Switch off main saw and scoring saw	9	USB port for software updates (on the underside of the control panel)
5	Switch on scoring saw (lights up when scoring saw is running)		

11.2 Switching ON

- Turn the main switch (right on the control cabinet) to position "I".
- Press the push-button "Switch on main saw" (6) and wait until full speed is reached.
- Start cutting operation.

11.3 Switching OFF

- To switch off, press push-button (4) → The machine is slowed down.
- Turn the main switch (right on the control cabinet) to position "0".

11.4 Safety Equipment

The machine is equipped with the following safety systems:

11.4.1 Saw Blade Guard with Extraction

The swivelling guard has a lowerable protective hood with interchangeable insert (for wide and narrow) and a suction port. The guard thus ensures both effective extraction of chips and sawdust and an effective saw blade protection.

11.4.2 Safety Switches

The sawdust flap is equipped with a safety switch. This has the effect that the power supply to the main motor is switched off when the sawdust flap is opened. The same applies to the slide table. This has a safety switch that switches off the power supply to the main motor as soon as the slide table is above the centre of the machine. Furthermore, the maintenance cover at the rear of the machine is equipped with a safety switch.

11.4.3 Emergency Stop Switches

The sliding table saw is equipped with two emergency stop switches (one each on the control panel and on the right of the workpiece feed side on the control cabinet).

The emergency stop switches must always be freely accessible and must not be obstructed by wood or other objects.



The function of the two emergency stop switches must be checked daily before starting work.

Restart after emergency stop:

1. Check that there is no longer any danger (determine the reason for triggering the emergency stop) and that there are no persons in a danger zone.
2. Unlock the emergency stop switch.
3. Restart the machine.

11.4.4 Pinch protection bar for the rip fence

The electric motor-driven adjustable rip fence is equipped with a safety device in the form of a pinch protection bar. This prevents people and objects from being crushed or jammed between the fence and the slide table by abruptly switching off the positioning.



In order to permanently guarantee the safety function, the pinch protection bar must be re-placed immediately if it is damaged.

12 Operating the Cross-Cut Fence

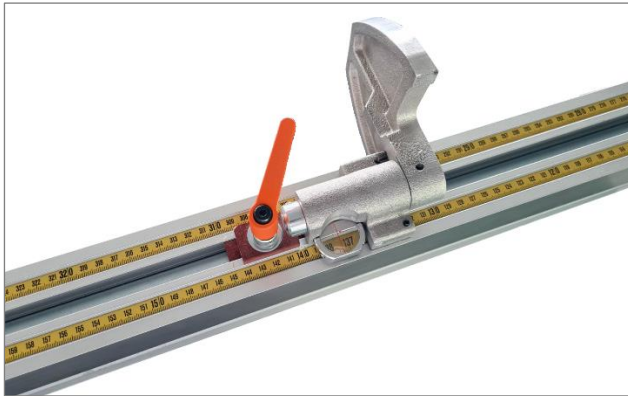


Figure 27: Flip stop with measuring scale and magnifying glass

The proven and easy-to-operate cross-cut fence of the 690|100 sliding table saw is equipped with two flip stops and allows cutting lengths of up to 3200 mm.

The cutting length can be set via a scale with magnifying glass and the flip stop can be fixed in the desired position with a clamping lever. The cutting length is adjusted as follows:

- Flip stop (A): 0 - 1885 mm
- Flip stop (B): 1885 - 3200 mm

12.1 Setting Lengths > 1885 mm

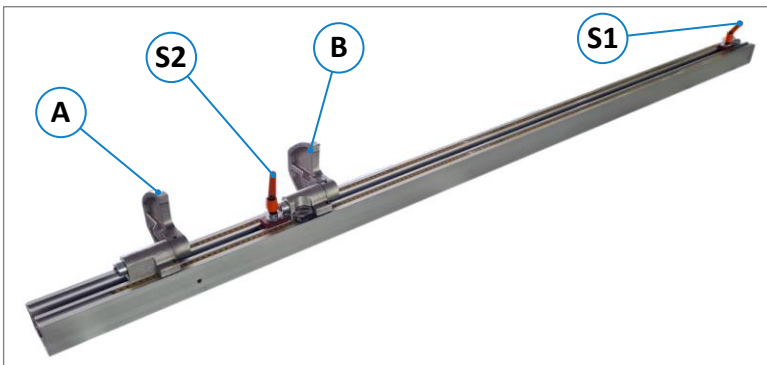


Figure 28: Cross-cut fence operating elements

- Loosen the flip stop (A) with (S1), adjust to 1885 mm with magnifying glass and clamp with (S1) again.
- Loosen the flip stop (B) with (S2), adjust the desired cutting dimension and clamp with (S2) again.

12.2 Readjusting the Fence Rulers

If the cutting dimensions no longer correspond to the set length, the measuring scales for the cross-cut fence can be readjusted. For this purpose, the rulers can be moved back to the exact position manually after loosening the fixing screws (F) on the bottom side.

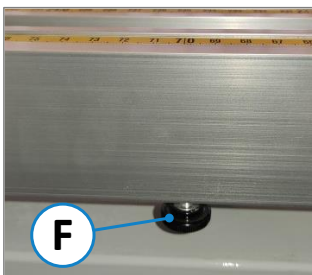


Figure 29: Fixing screw

Procedure:

- Set the corresponding flip stop to any position.
- Move a workpiece to the flip stop and make a test cut on a test workpiece.
- Then measure the cut workpiece and note the dimension.
- Align the rulers with the stop so that the measured dimension exactly matches the scale of the rulers.
- Then tighten the two fixing screws (F) again.

12.3 Cross-Cut Fence Accessories and Options

- For angle and mitre cuts, the cross-cut fence can also be combined with the optionally available "SuperGehrfix I" (see ⇒ 20.4) and "SuperGehrfix II" (see ⇒ 20.5) mitre fences.
- As an option to the standard cross-cut fence, the Tele-Digit (see section ⇒ 20.1) is also available with variant with two wireless digital indicators and two battery-operated operating measuring systems.
- These and other options can be found under "Options and Accessories" in section ⇒ 23.2.

13 Operating the 7" Touchscreen Control

13.1 Start Screen

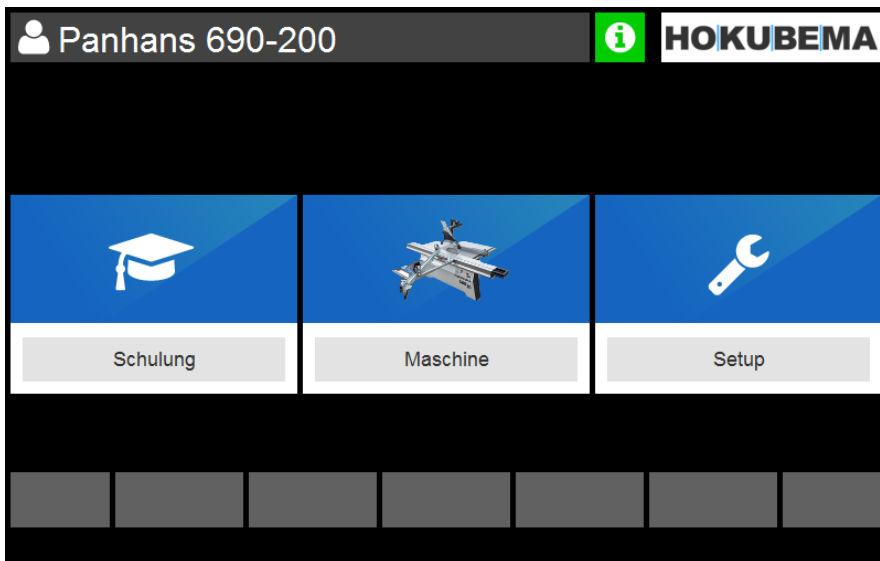



Figure 30: Start screen

- To be able to operate the machine, press the **“Machine”** button.
- The **“Setup”** menu is password-protected and not relevant for the operator.
- The button **“Training”** is used for the annual instruction.

13.2 Status Window

To open the status window, press the icon  on the touchscreen.

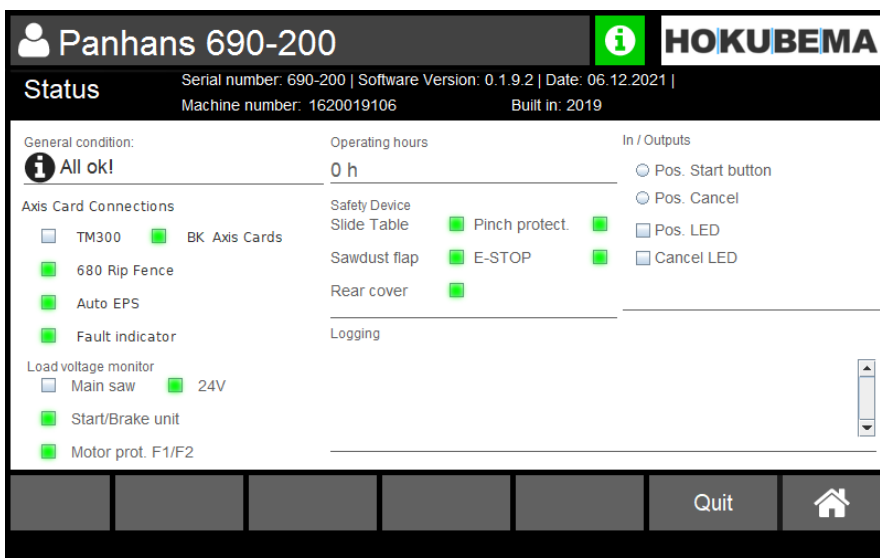


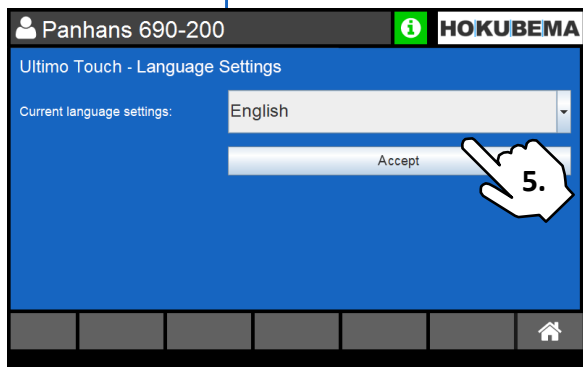
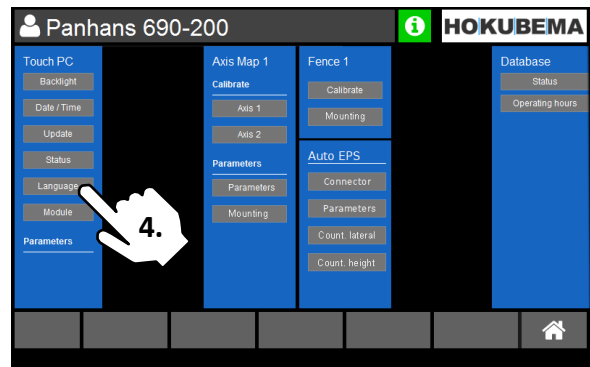
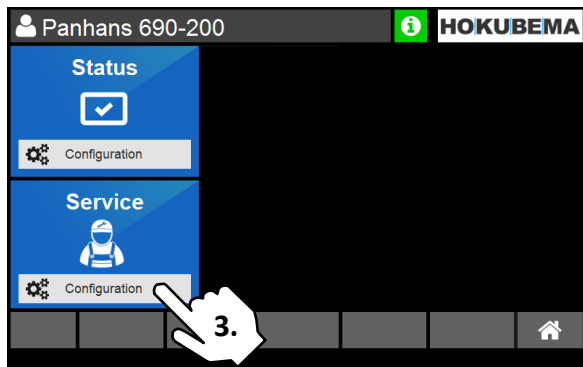
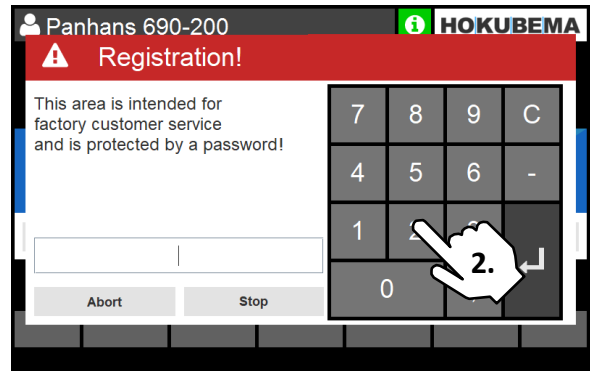
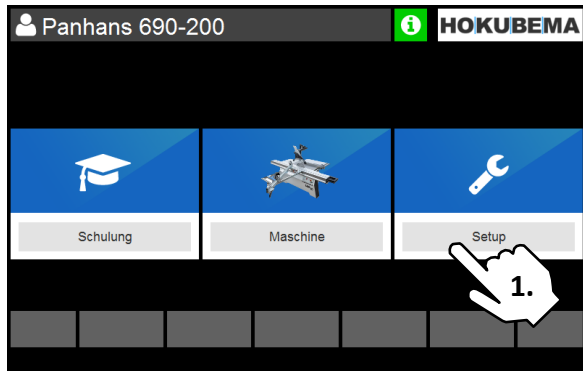


Figure 31: Status window

- The button  deletes all errors that are no longer present in the error memory.
- The button  takes you back to the last window.

13.3 Set Language



1. Press button **“Setup”** in the start window. Then enter password *********.
Please contact the HOKUBEMA service hotline to get the password (phone number 0049 7571 755 – 0).
2. Now press the **“Service”** button.
3. Press the button **“Language”** in the service menu.
4. Select your language and confirm with **“Accept”**.


 **The new language is only adopted after the setup menu has been exited.**

Figure 32: Set Language

13.4 Set Date and Time

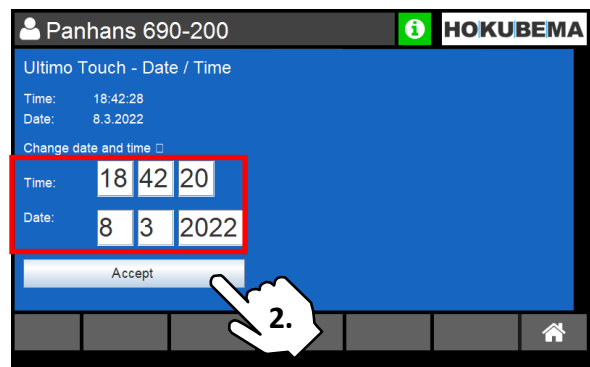
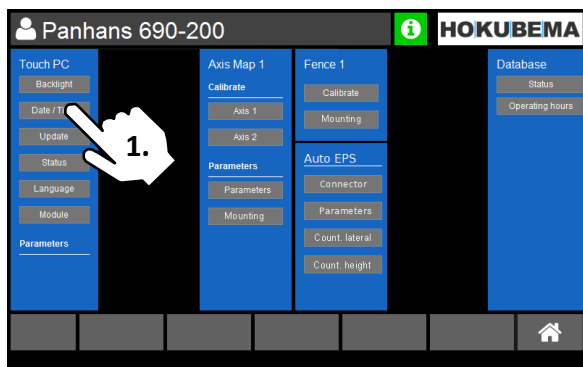


Figure 33: Set date and time

4. Press the button **“Date/Time”** in the service menu.
5. Enter the date and time and confirm with **“Accept”**.

14 Operating the Rip Fence



Important: For the operation of the rip fence, please also observe the hazard warnings in the sections ⇒ 5.5.3, ⇒ 5.5.4 and ⇒ 5.5.5.

14.1 Rip Fence Positioning

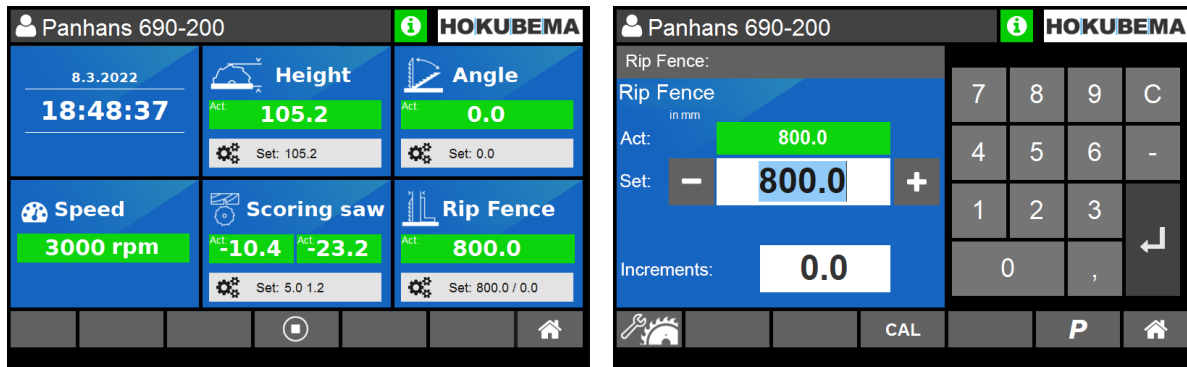



Figure 34: Rip fence positioning

1. Press the button “Machine” in the start window.
2. Then select the “Rip Fence” menu field.
3. Enter the desired target value via the keyboard.
4. Confirm with .
5. The rip fence positions itself automatically after pressing the positioning button (2) (see ⇒ Figure 26).




If the ACTUAL value is highlighted in red after positioning, press the positioning key (2) again.







Warning! Danger of crushing between workpiece / aluminium profile rail and the slide table.



In the safety area, the rip fence can only be moved with the positioning button (2) permanently pressed down. This is indicated by the hand symbol  in the display.

The rip fence can also be moved in manual inching mode. To do this, proceed as follows:

1. Enter the desired value into the field “Increments”.
2. To activate the inching mode, select  or .
- The selected symbol is then highlighted in red  resp. .
3. Press the positioning button (2) for one increment per step.
4. To exit the manual inching mode, press the active (red) icon. The button turns grey again.

14.2 Folding away the rip fence

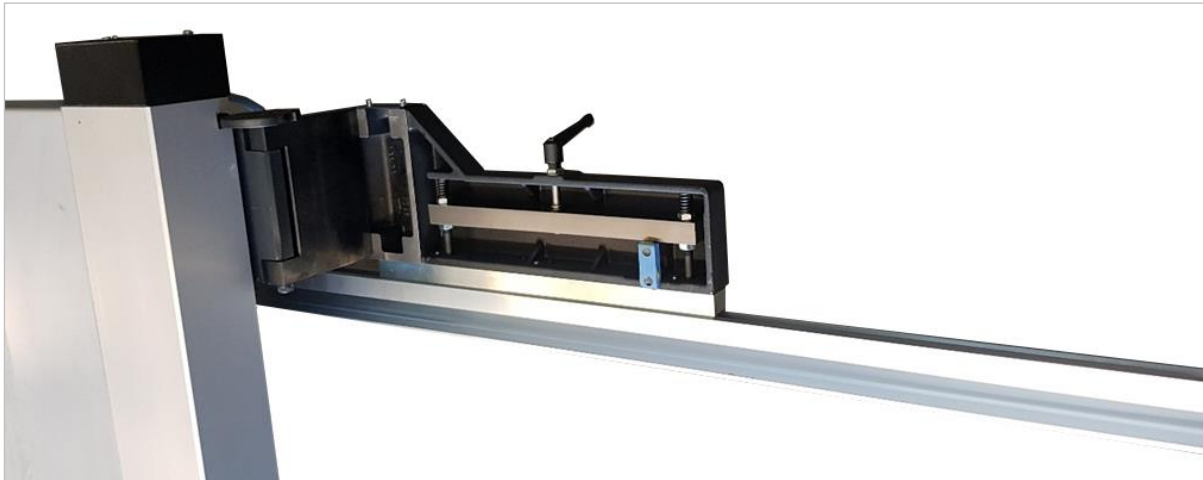






Figure 35: Rip fence in folded away position

1. To be able to fold away the rip fence, select the symbol **P** (see ⇒ Figure 34).
2. Confirm with .
3. Then press the positioning button (2)
→ The rip fence moves automatically to the parking position.
There you can fold away the rip fence.

	Warning! Danger of crushing between rip fence and table top when folding back.
	If the rip fence is folded away, no positioning is possible. An error message appears in the touchscreen (see section ⇒ 21.1).

14.3 Calibrating the Rip Fence

1. To calibrate the rip fence, select the button **CAL** (see ⇒ Figure 34).
2. Follow the instructions on the touchscreen (see ⇒ Figures below).
3. When the positioning button (2) flashes, press the button.
4. The rip fence calibrates automatically.
5. Exit the window by pressing the button .

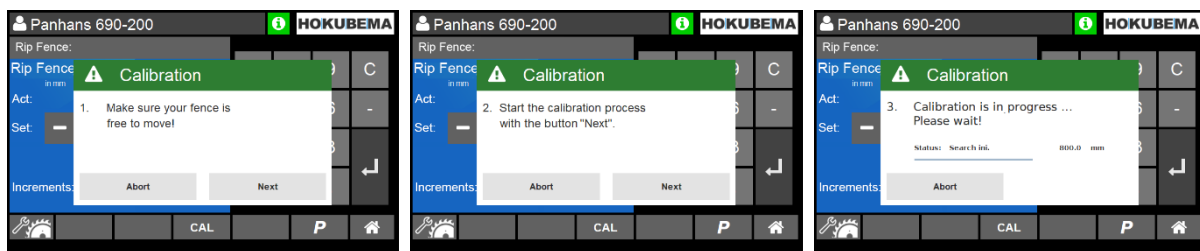



Figure 36: Calibrating the rip fence

14.4 Changing the Rip Fence Offset Value

 **If the actual dimension deviates from the specified setpoint (after the rip fence has been calibrated as described in section ⇒ 14.3), you have the option of storing an offset value in the control unit for correction.**

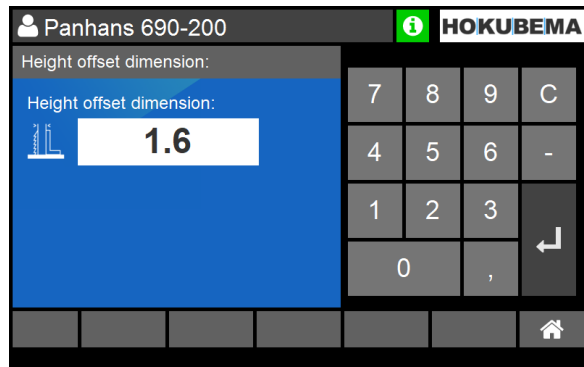





Figure 37: Offset value

1. To enter an offset value press the button  (see ⇒ Figure 34 on the right).
2. Enter the measured deviation.
3. Confirm with .
4. Start the calibration again.
5. Press  to exit the window.

14.5 Pinch Protection on the Rip Fence

The motorised rip fence is equipped with a safety device in the form of a pinch protection bar. This prevents people and objects from being crushed or jammed between the fence and the slide table.




Figure 38: Anti-crush bar

If a person or an object is between the rip fence and the slide table during positioning in the direction of the slide table/saw blade, the safety function is triggered by mechanical contact with the rubberised bar. The automatic positioning is stopped abruptly.

- ➔ After stopping, the fence automatically moves back a little so that the jamming can be removed.
- ➔ The fence can then be positioned in the direction of the slide table/saw blade again.

Please note: A brief jamming of hard objects in the crushing area can also cause damage to the pinch protection bar despite the safety stop.

 **In order to permanently guarantee the safety function, the pinch protection bar must be replaced immediately if it is damaged.**

15 Operating the Scoring Saw

15.1 Positioning the Scoring Saw

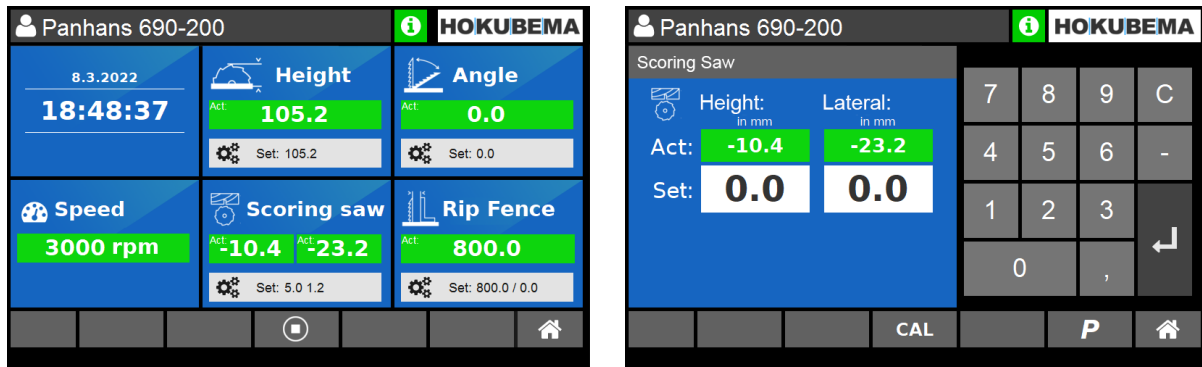




Figure 39: Positioning the scoring saw

1. Press the button “**Machine**” in the start window.
2. Then select the “**Scoring saw**” menu field.
3. First start the main saw with by pressing switch (6) ⇒ Figure 26.
4. Then start the scoring saw by pressing the switch (5) ⇒ Figure 26.
5. The unit automatically moves to the last stored position.

Changing values while the machine is running:

6. Enter the values and confirm with .
7. Press the positioning button (2).
8. Automatic positioning is performed.
9. Press  to exit the window.

When the scoring saw is switched off (4), it automatically moves to the waiting position (below table level).

15.2 Parking the Scoring Saw

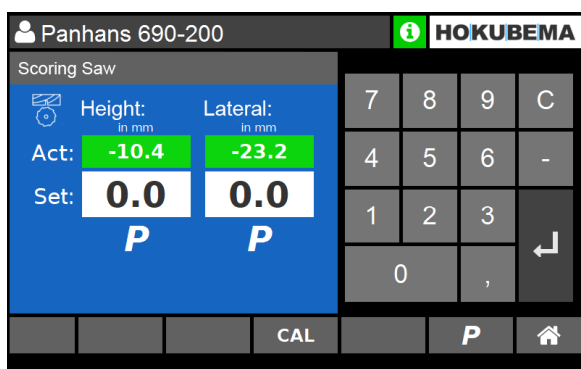
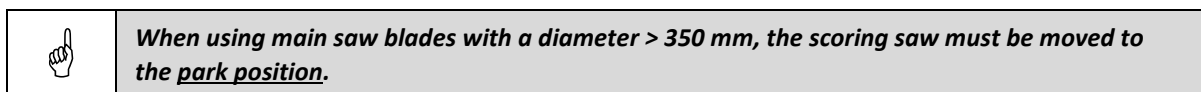




Figure 40: Parking the scoring saw

To park the scoring saw, proceed as follows:

1. Press button .
2. When the positioning button (2) flashes, press it.
3. The score saw moves to the parking position.
4. When the parking position is reached, the display shows **P** under the value windows.
5. Press  to exit the window.

15.3 Calibrating the Scoring Saw

6. To calibrate the scoring saw, press the button **CAL**.
7. Follow the instructions on the touchscreen (refer to the following ⇒ Figures).
8. When the positioning button (**2**) flashes, press it.
9. The scoring saw is automatically calibrated.
10. Press **Home** to exit the window.

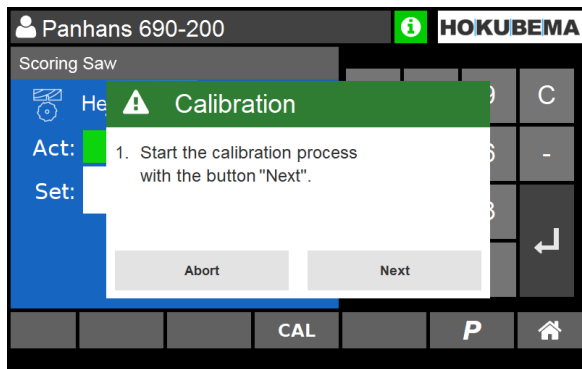
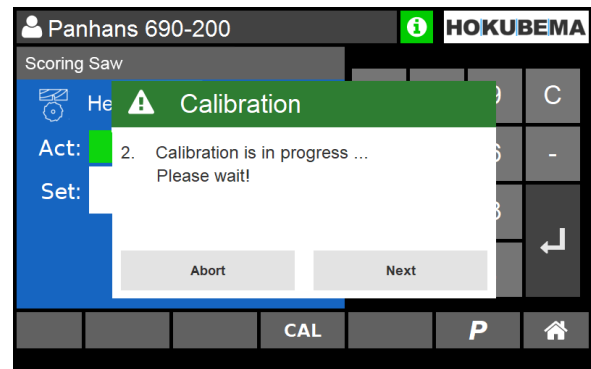


Figure 41: Calibrating the scoring saw



16 Discard Entry

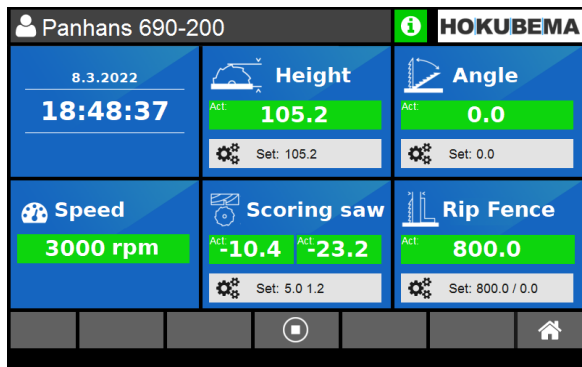


Figure 42: Discard entry

- To discard an entry that has been made, press the button **Discard**.
- You can now enter a new value.

17 Speed Setting

The speed is adjusted by manually shifting the V-belt.



Switch off the machine before setting the speed (belt change) and secure the main switch with a padlock against unauthorised start-up during the setting process!

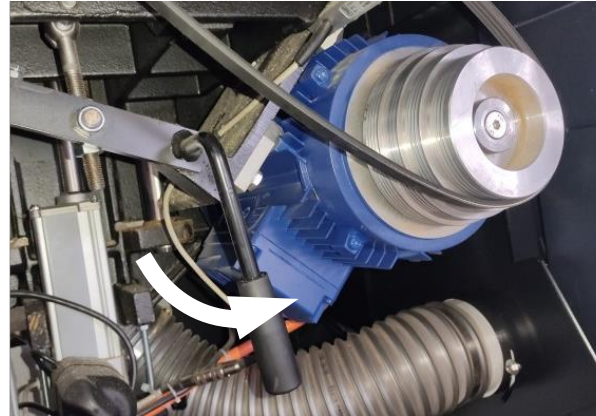


Figure 43: Speed setting - loosen V-belt

- Tilt the sawing unit to 15 degrees position.
- Turn the main switch to position "0".
- Open the rear maintenance door.
- Swivel the adjusting lever (H) to the right
→ The V-belt is loosened.
- Now shift the V-belt to the desired speed according to ⇔ Figure 44. **Rule of thumb:** Always change from "large" to "small" first.
- When shifting, always ensure that the V-belt is again correctly positioned between the speed fork. Otherwise no correct speed indication can be given.
- Swivel the adjusting lever (H) to the left
→ The belt is tightened again.

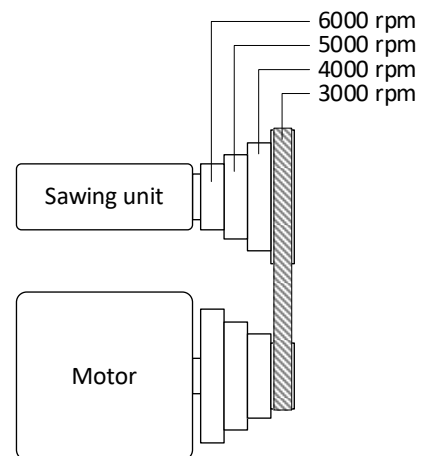


Figure 44: Speed scheme

The speed is sensed by means of a fork light barrier!

18 Saw Blade Adjustment

The height and tilt adjustment of the saw blade is motorised using the corresponding setting areas in the “Machine” menu. The positions are visualised on the touchscreen.

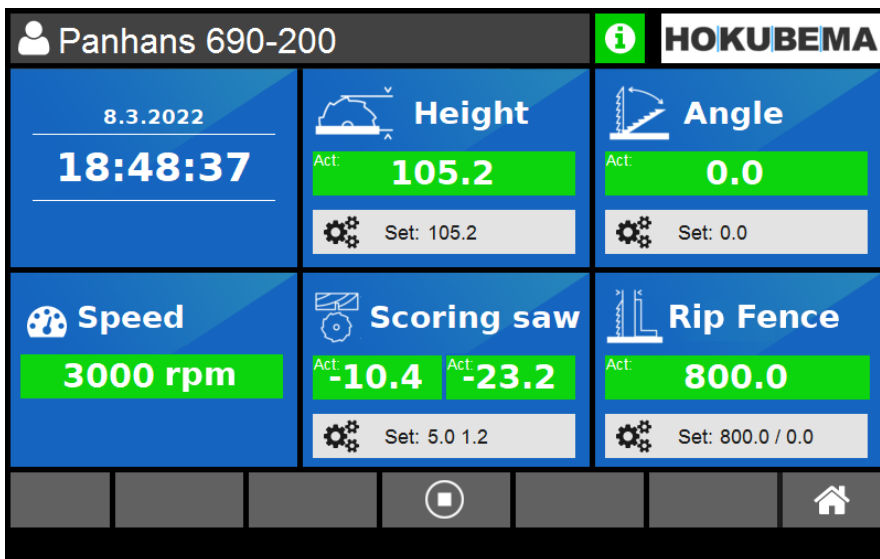


Figure 45: Machine setting areas

18.1 Saw Blade Height

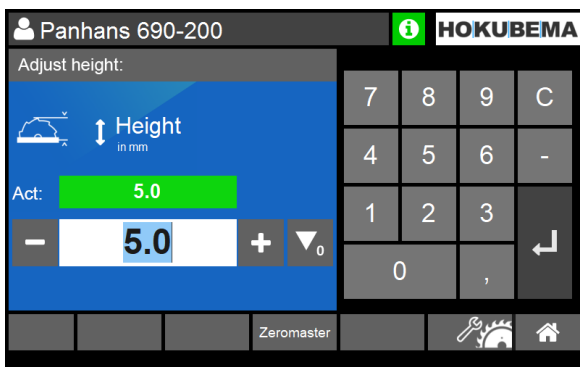







Figure 46: Adjust height

1. Press symbol “Height”(see ⇒ Figure 45).
2. Enter the desired target position in mm (see ⇒ Figure 46).
3. Confirm with .
4. Start the process with the positioning button (2).

Manual Inching

1. To activate the inching mode, select  or  .
The selected symbol is then highlighted in red  resp. .
2. Press the positioning button (2) for 0.1 mm per step.
3. To exit the manual inching mode, press the active (red) icon. The button turns grey again.

18.2 Tilting the Saw Blade (Angular Adjustment)

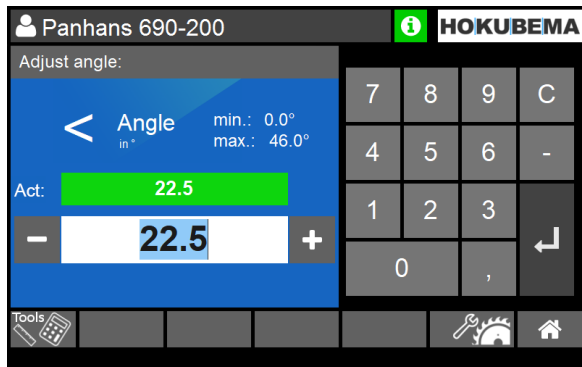





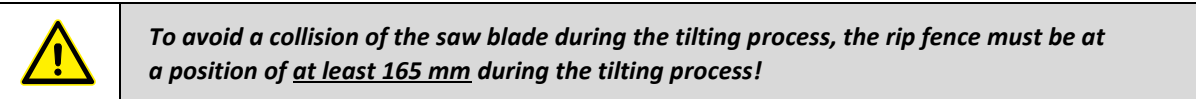


Figure 47: Adjust angle


1. Press symbol "Angle" (see ⇒ Figure 45)
2. Enter the desired angle in ° (see ⇒ Figure 47).
3. Confirm with .
4. Start the process with the positioning button (2).

Manual Inching

5. To activate the inching mode, select  or  .
The selected symbol is then highlighted in red  resp.  .
6. Press the positioning button (2) for 0.1° per step.
7. To exit the manual inching mode, press the active (red) icon. The button turns grey again.



18.2.1 Angle Compensation Tool for Mitre Cuts

This tool automatically calculates the dimension to be set at the cross-cut fence for angle cuts. To activate the tool, please select the button .

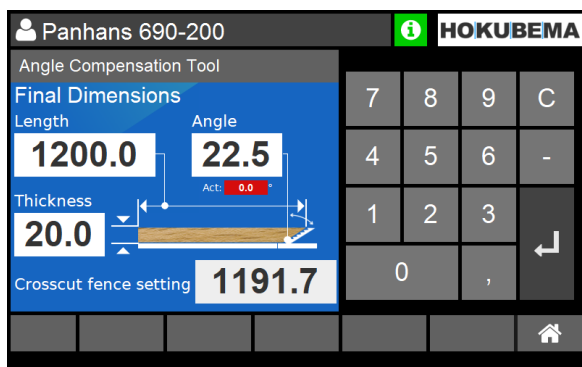




Figure 48: Angle compensation tool

Procedure: To calculate the position for the cross-cut fence, simply enter the length to be cut, the desired angle and the workpiece thickness in the corresponding fields and confirm each with .

The dimension to be set for the cross-cut fence appears in mm in the "Rip Fence Setting" field.




Then press the button  to return to the angle window (see ⇒ Figure 47)

→ The entered target angle has already been adopted.

18.3 Calibrate Saw Blade Height and Angle

By re-sharpening the saw blades or inserting other resp. new saw blades, it is necessary to calibrate the control unit to the respective saw blade.

18.3.1 Calibrate Angle

1. Move the saw blade to the uppermost position via value input.
2. Turn off the main switch and lock it. Check that the saw blade is square with a 90° angle stop (Figure 49). Use the table top as reference surface.
3. Turn on the main switch and correct the possible angular gap by means of value input or manual inching mode until the angular gap has completely disappeared (= 90,0°).
4. In the “**Angle**” window, select the button  (⇒ Figure 47) and enter the value 0.00. Confirm with .
5. Then save the value with .
6. The procedure is completed.

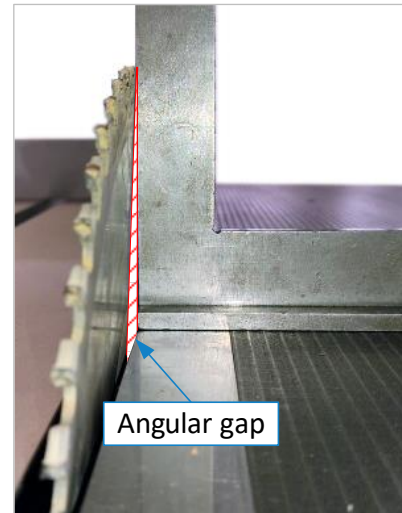


Figure 49: Angular gap

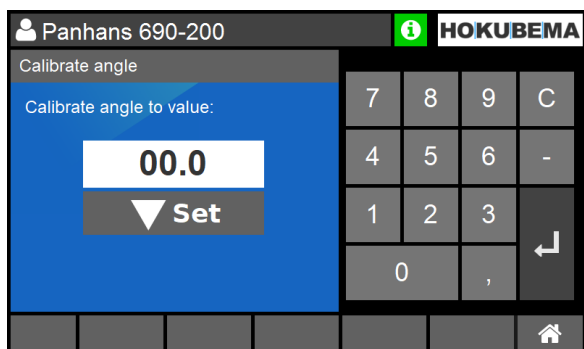


Figure 50: Calibrate angle

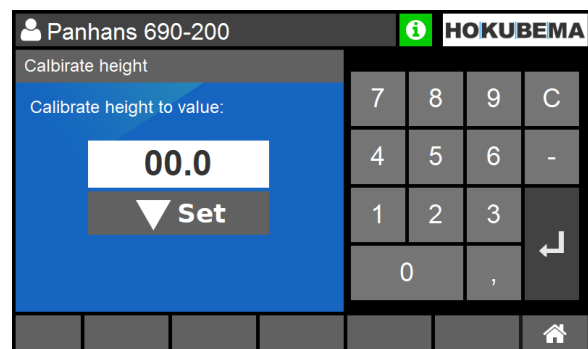





Figure 51: Calibrate height

18.3.2 Calibrate Height

First turn off the main switch on the control cabinet and lock it with a padlock. Turn the stationary saw blade by hand so that one saw tooth is exactly in the centre of the axis and its cutting surface is at a 90° angle to the table top of the machine (see ⇒ Figure 53 on the next page).

1. Position the saw blade angle to 0° via the value input.
2. Move the saw blade height to the position 50.0 mm by using the value input or manual inching (section ⇒ 18.1) in combination with a suitable measuring device (e.g. depth caliper).
3. In the “**Height**” window, select the button  (⇒ Figure 45) and enter the value 50.00. Then confirm this value with .
4. Then save the value with .
5. The procedure is completed.

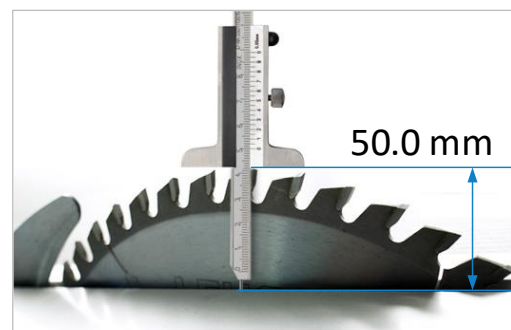


Figure 52: Set saw blade height to 50.0 mm.

18.4 Calibration with Calibration Device

With the optional calibration device, the cutting height of the saw blade can be automatically and precisely calibrated to 50.0 mm via the "Zeromaster function" of the positioning control. The procedure is as follows:

18.4.1 Preparation

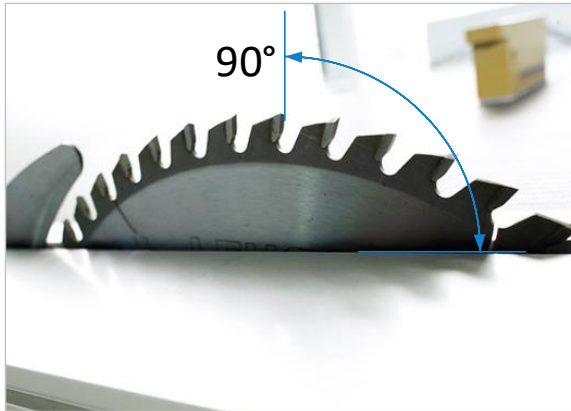


Figure 53: Prepare saw blade position

- **Important:** Before calibrating, the angular axis of the saw blade must be positioned to exactly 0.0° (for procedure see section ⇨ 18.2).
- Then switch off the main switch on the control cabinet and lock it with a padlock.
- Turn the stationary saw blade by hand so that one saw tooth is exactly at the top in the centre of the axis and its cutting surface is at a 90° angle to the table top of the machine (⇨ Figure 53).
- **Important:** Carefully clean the machine table of dirt, chips and parts lying around.
- Now unlock the main switch and switch it on.

	<p>Cutting hazard! Wear protective gloves when turning the saw blade manually.</p>
--	---

18.4.2 Calibration Procedure

After the saw blade angle has been positioned at 0.0°, select the "Height" button in the machine overview.

Now press the "Zeromaster" button in the bottom line of the screen and follow the instructions.

1. Lower the saw blade under the table until the limit switch is triggered → Confirm with "Next".

2. Place the Zeromaster calibrator (as shown in the figure on the right) and align it to the centre of the saw blade.



→ Confirm with "Next".

3. Now start the calibration process by pressing the positioning button. The saw blade moves upwards until it touches the Zeromaster → The control unit automatically calibrates the height.




4. After successful calibration, the message "Calibration completed" appears. The saw blade height is now calibrated to 50.0 mm.

→ Finally, press the button "Finished".

Note: If the calibration does not trigger and the saw blade continues to move upwards after reaching the calibrator, clean the metal surface of the Zeromaster with a cloth or brush.

Figure 54: Calibration with calibrator

19 Changing the Saw Blade

	<p>Work at the saw blades must always be carried out with extreme care. There is an increased risk of injury due to the very sharp cutting edges! Protective gloves must be worn when changing saw blades!</p>
---	---

19.1 Remove Saw Blade

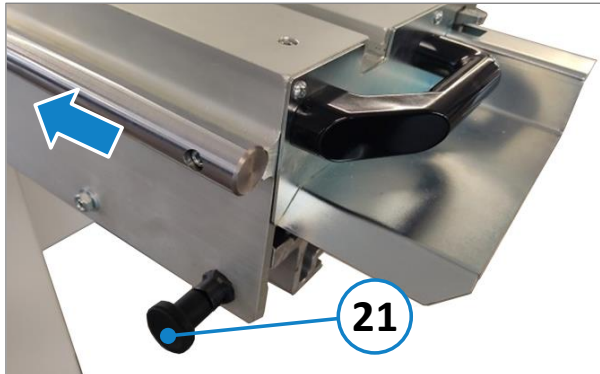


Figure 55: Remote locking on the slide table

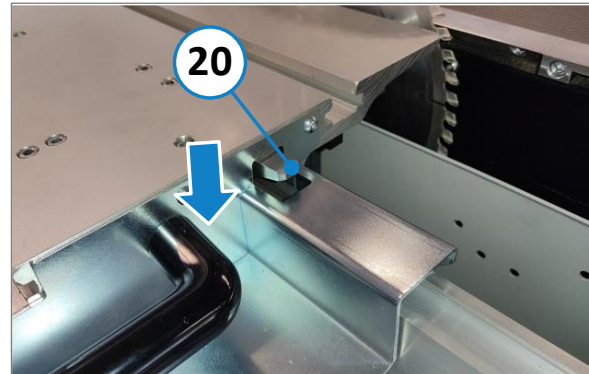



Figure 56: Safety catch on the slide table

- Turn the main switch on (position “I”).
- Set the sawing unit height to the uppermost position and the angle to 0°.
- Pull the remote locking (21) to unlock the slide table.
- Push the slide table to the left until the stop. By pressing the safety catch (20), see also section ⇨ 10.1, the slide table can be moved out over the stop for changing the saw blade.

	<p>The saw blade must not be tilted when the sawdust flap is open !</p>
---	--

- Fold sawdust flap (S) forwards.
- Turn the saw blade shaft (W) by hand until the grub screw of the tensioning screw is up.
- Loosen grub screw with an SW 4 pin spanner.
- Now unscrew the clamping screw by hand (**left-hand thread!**) and remove together with the flange.

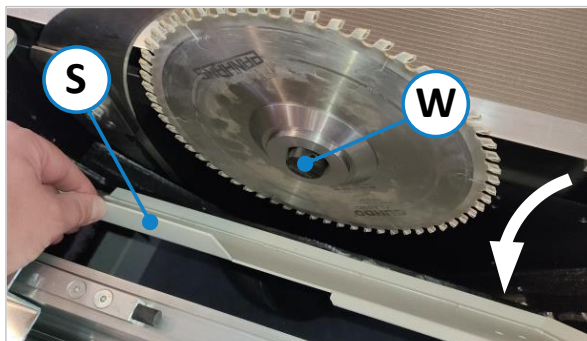


Figure 57: Fold sawdust flap forwards

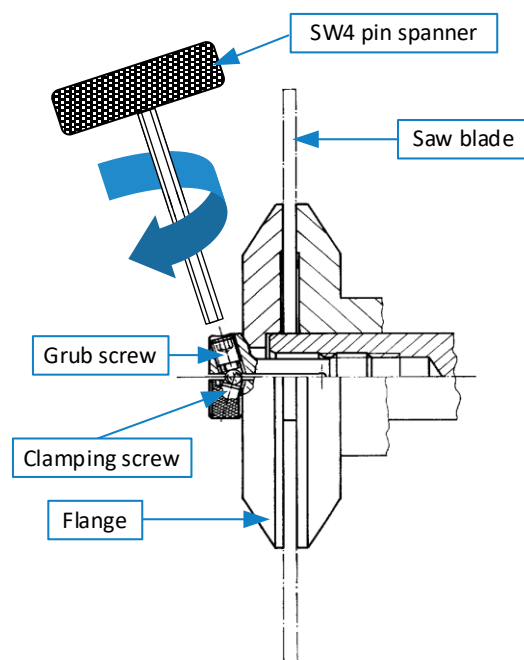


Figure 58: Saw blade flange

19.2 Insert Main Saw Blade

- Clean flange and saw blade.
- Insert the new saw blade and mount the flange (**observe the direction of rotation!**)
- Screw in the clamping screw by hand as far as it will go (**left-hand thread!**).
- Tighten the grub screw of the clamping screw with a torque of 12 Nm.
- Close sawdust flap again.

19.3 Riving Knife Setting

The correct adjustment of the riving knife is of great importance for safety. The gap between the riving knife and the saw blade must be between 3 and 8 mm.

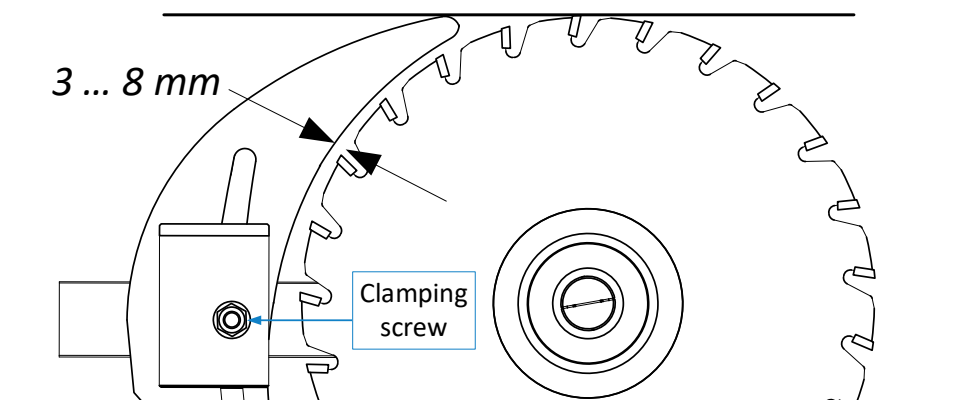
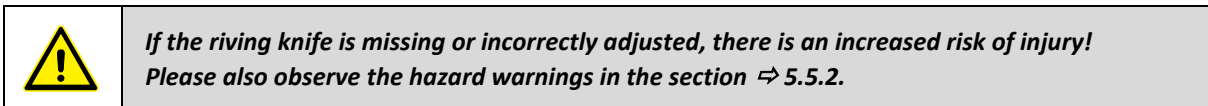


Figure 59: Riving knife setting (symbolic representation)

1. Loosen the clamping screw on the riving knife holder
2. Push the riving knife to the desired position
3. Tighten the clamping screw to fix the riving knife in place

The riving knife is adjusted in height by sliding it in its slot. The gap to the saw blade is adjusted by moving the entire holder on the rail.

The riving knife supplied with the machine is suitable for saw blades with diameters of 250 - 450 mm.

The diameters indicated correspond to the permissible diameter of the carbide saw blades.

20 Optional Components

20.1 Tele-Digit Cross-Cut Fence



Figure 60: Tele-Digit cross-cut fence

The Tele-Digit is an optional cross-cut fence for PANHANS sliding table saws, which is used instead of the standard cross-cut fence. A separate measuring system is integrated for each of the two flip stops. This allows two separate settings of both flip stops. The stop positions are visualised via a wireless digital display. Dust-insensitive magnetic measuring systems with non-contact scanning are used to determine the position.

20.1.1 Features

- Two non-contact, dust-insensitive magnetic measuring systems for separate position measurement for each flip stop
- Wireless digital indicator (0.1 mm) with battery operation
- Cutting lengths up to 3000 mm possible

20.1.2 Installation

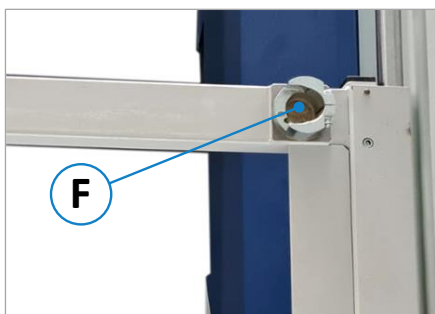


Figure 61: Fixing points on the cross slide

The Tele-Digit unit is fixed for 90° cuts completely without tools via the fixing points (F) of the cross slide at the desired position (left or right on the cross slide).

For angle and mitre cuts in combination with the optional mitre fences Super Gehrfix I or II, the Tele-Digit cross-cut fence is fixed in the center of the cross slide. For more information on the Super Gehrfix I and II, refer to the operating manual of your machine.

20.1.3 Tele-Digit Components

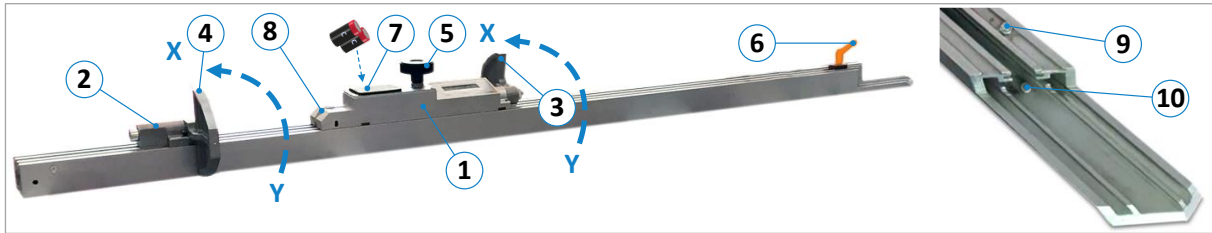


Figure 62: Tele-Digit components

No.	Description	No.	Description
1	Slider	6	Clamping lever "Pull-out"
2	Pull-out	7	Cover for battery compartment
3	Flip stop "Slider" >	8	Fine adjustment wheel
4	Flip stop "Pull-out" <	9	End stop screw "Slider" <
5	Clamping screw "Slider"	10	End stop screw "Pull-out" >

20.1.4 Digital Indicator

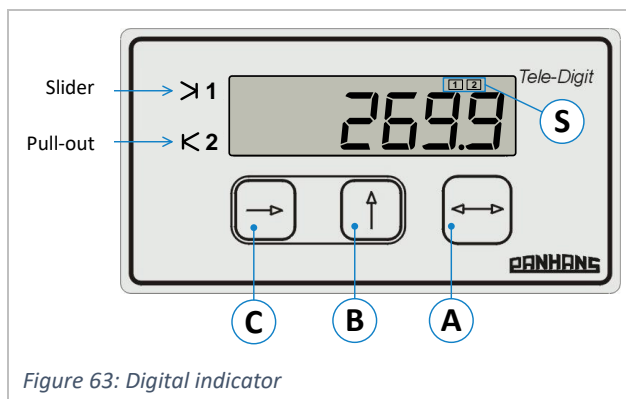


Figure 63: Digital indicator

Pos.	Description
A	Switchover Slider or Pull-out
B	Function key (depending on mode)
C	Function key (depending on mode)
S	Symbols Slider 1 / Pull-out 2 active

20.1.5 Length Measurement Switching

Switching between the two length measurements 1 (slider) and 2 (pull-out) is done with button A.

→ The currently active length measurement is shown in the top line of the LCD display.

20.1.6 Calibrate Tele-Digit

- Move the pull-out (3) all the way to the right against the end stop screw (10) and clamp it with lever (6).
- Move slider (1) all the way to the right against end stop screw (9) and clamp with clamping screw (5).
- Open battery compartment (7) and remove one of the batteries (power supply off).
- Now reinsert the battery (power supply back on).
→ The system now automatically calibrates itself and the stored reference dimensions appear again.
- The calibration procedure is completed.

For checking purposes, you can now perform test cuts for both flip stops at any position and check the cut dimensions for consistency. If there are any dimensional deviations, the reference values for the flip stop positions must be redefined (procedure see chapter ⇨ 20.1.8).

20.1.7 Battery Change

The indicator is powered by two 1.5 V size C batteries.



Fire, explosion and burn hazard! Never recharge batteries or expose them to temperatures above 85° C. Please dispose of the used batteries properly.

- Move the pull-out (3) all the way to the right against the end stop screw (10) and clamp it with lever (6).
- Move slider (1) all the way to the right against end stop screw (9) and clamp with clamping screw (5).
- The display now shows the stored reference dimensions for the end stop positions of both flip stops. Slider/pull-out switchover is performed with button A → Make a note of these two values.



The slider and the pull-out must not be moved during the battery change. Otherwise the dimensions will change and both flip stops will have to be recalibrated!

- Open the battery compartment (7) shown in ⇒ Figure 62 and replace the two batteries.
 - After the battery change, the unit automatically switches back on.
 - The indicator calibrates itself to the stored reference dimensions for the end stop positions.
 - The stored reference dimensions for the two end stop positions appear again.
- If the end stop positions deviate from the values before the battery was changed, the unit must be recalibrated (procedure see following chapter ⇒ see chapter ⇒ 20.1.8).

20.1.8 Set & Change Reference Dimensions

The reference dimensions are usually determined at the end stop positions (9) and (10) at the factory and are stored in the unit. To redefine or change them, proceed as follows:

- Move slider (1) all the way to the right against end stop screw (9) and clamp with clamping screw (5).
- Move the pull-out (2) all the way to the right against the end stop screw (10) and clamp it with lever (6).

20.1.8.1 Set Reference Dimension for Slider

- Move flip stop (3) to position X for slider (1) (see ⇒ Figure 62)
- Measure the distance between the saw blade and the flip stop (2) to the nearest 0.1 mm.

Enter measured dimension:

- Select the “slider” with button A (see ⇒ Figure 63):
 - The symbol (S) for the active slider (1) appears in the top line of the display.
- Press buttons C + B simultaneously
 - “oFS” for “offset” appears
- Press button C once
 - The stored reference dimension appears and the currently changeable digit flashes.

Note: If a minus sign is flashing here, then first switch to + with button B, so that the minus sign is hidden (+ is not shown in the display).

- Select the digit to be changed with button C → The 2nd digit of the display flashes.
- Now set the desired numerical value by pressing button B.
- Select the next digit with button C and set the value again with button B, and so on → until the measured dimension is completely entered.
- Then press button C repeatedly until the display exits the calibration mode
 - The message “-Sto-” appears briefly for confirmation.

20.1.8.2 Set Reference Dimension for Pull-Out

- Move flip stop (4) for pull-out (2) to position X
- Measure the distance between the saw blade and the flip stop (4) to the nearest 0.1 mm.

Enter measured dimension:


- Select the “pull-out” with button A (see ⇨ Figure 63):
The symbol (S) for the active pull-out (2) appears in the top line of the display.
- Enter the measured dimension as described in section ⇨ 20.1.8.1.

When the measured reference dimensions are set, perform test cuts and check the cut dimensions again. Repeat the calibration procedure in case of dimensional deviations.

20.1.9 Sleep-Mode

If the Tele-Digit is not needed for a longer period of time (e.g. over the weekend), the digital indicator can be set to sleep mode to save the batteries.

- To do this, clamp both flip stops and press the B + A buttons simultaneously for approx. 3 seconds.
→ The display briefly shows “OFF” and then switches off.
- To switch the display on again, press button A.

	<p>Please note that both flip stops are in clamped state. If one of the flip stops is moved during the sleep-mode, the current position will be lost and the system must be recalibrated (chapter ⇨ 20.1.6).</p>
---	---

20.1.10 Fix Error Message “FULL”

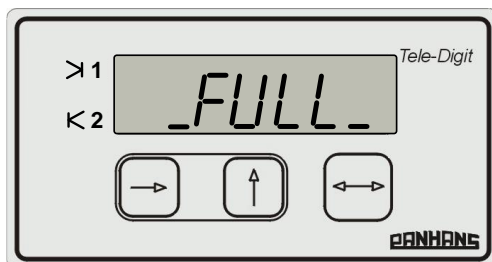


Figure 64: Error message FULL

If the error message “_FULL_” appears in the display, it can be remedied as follows:

- Clamp both flip stops so that they cannot be moved.
- Open the battery compartment (7) and remove one of the batteries (power supply off).
- Press buttons C + B + A simultaneously and reinsert battery (power supply back on).
- The display must show “SET-UP”.
- Press the left button C for 11 times → The error message should now be cleared.

20.2 Rip Fence left to the Saw Blade

For cutting long, narrow parts such as cupboard doors, the machine can be equipped with a “rip fence to the left of the saw blade”.

Structure and operation:

- Move the cross-cut fence to the desired length (max. 800 mm) and fix it in the rearmost position of the cross slide and slide table.
- Place the rip fence on the slide table and insert it into the intended fastening groove (A) and guide rail (B).
- Move the rip fence into position and clamp it using the toggle clamp lever (C).

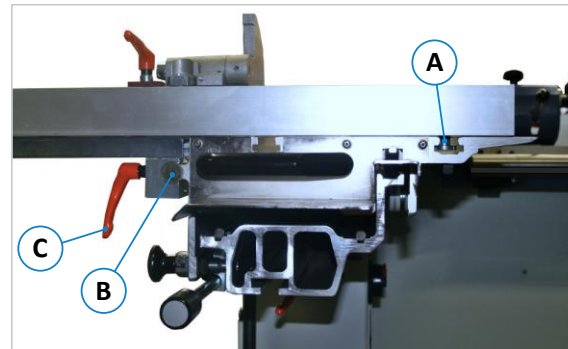


Figure 65: Rip fence mounted to the left of the saw blade

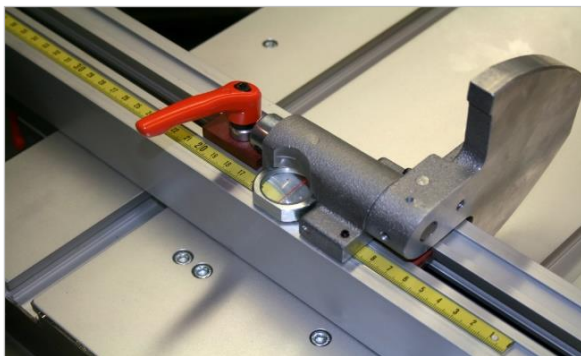


Figure 66: Flip stop (left to the saw blade)

- Move the flip stop on the rip fence to the dimension previously set on the cross-cut fence (⇒ Figure 66).
- Fix the stop plate by means of the toggle clamp lever.

Dismounting takes place in reverse order.

20.3 Double-sided Mitre Fences DSG-A and DSG-D

With the double-sided mitre fences DSG-A and DSG-D, all tasks can be carried out quickly and variably when making mitre cuts on narrow and short workpieces. Incorrect mitres can be quickly and easily calculated and precisely set using the additional angle factor scale. Both types have length compensation for preferred angles 5/10/15/22.5/30/45/60/67.5° and are suitable for cutting to lengths up to 1375 mm.



Figure 67: DSG-A (analogue)




Figure 68: DSG-D (with digital indicator)

- **DSG-A** (Linear and angular measure = analogue) → Art. No. 4379
For operation and settings, see separate operating manual ☞ [BA_ST_DSG-A_EN](#)
- **DSG-D** (Linear measure = analogue, angular measure = digital) → Art. No. 4380
For operation and settings, see separate operating manual ☞ [BA_ST_DSG-D_EN](#)

20.4 Cross-Cut & Mitre Fence Super Gehrfix I

The combined mitre and cross-cut fence Super Gehrfix I is suitable for angle cuts from 45° to 135°. Whole degrees and intermediate degrees are available for the angles 67.5/78.75/101.25/112.5°. Automatic length compensation takes place via a stainless steel grid curve.

	<p>To use the Super Gehrfix I it is mandatory to use a saw blade with a thickness of 3.2 mm.</p>
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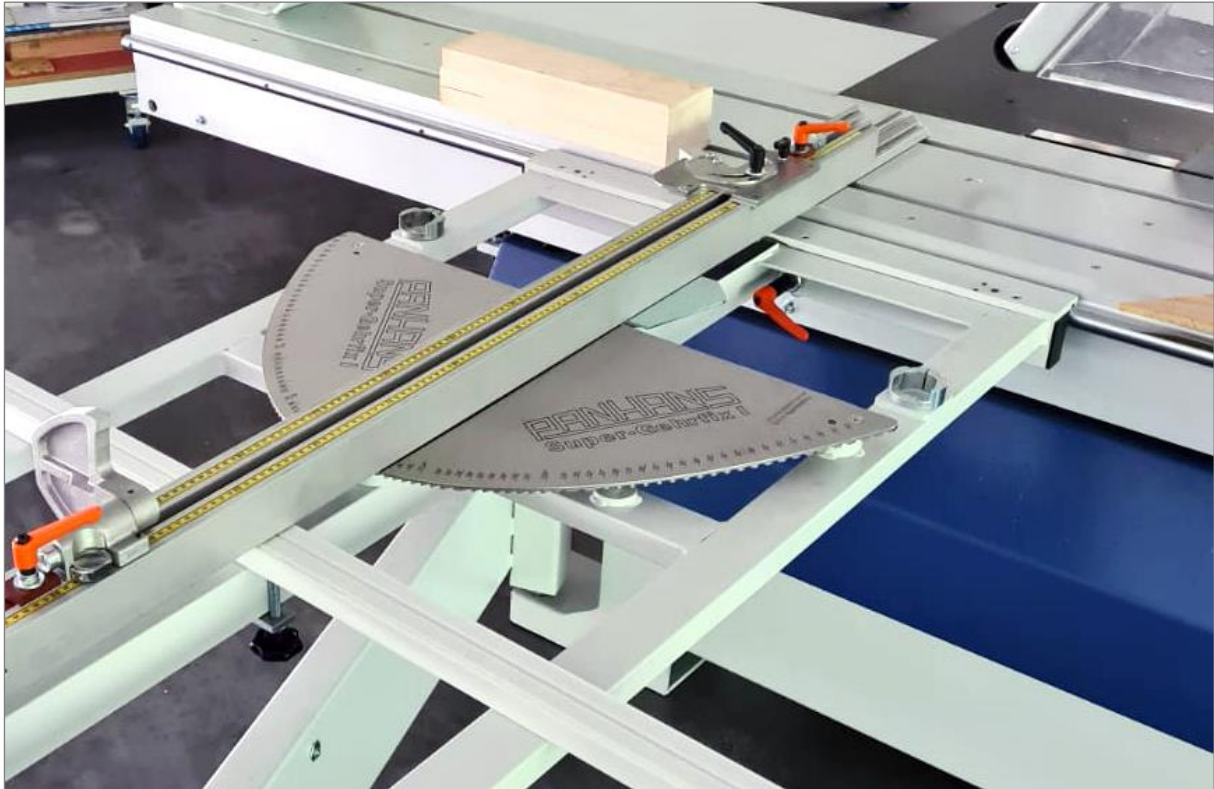


Figure 69: Super Gehrfix I

20.4.1 Features

- Allows infinite adjustment of the mitre angle
- Whole degrees and intermediate degrees adjustable
- Fixing points for 90° angles at the front and rear of the cross slide
- Automatic length compensation via grid curve
- Can be combined with the standard cross-cut fence or the optional Tele-Digit
- Art. No.: 4315

20.4.2 Super Gehrfix I Operation

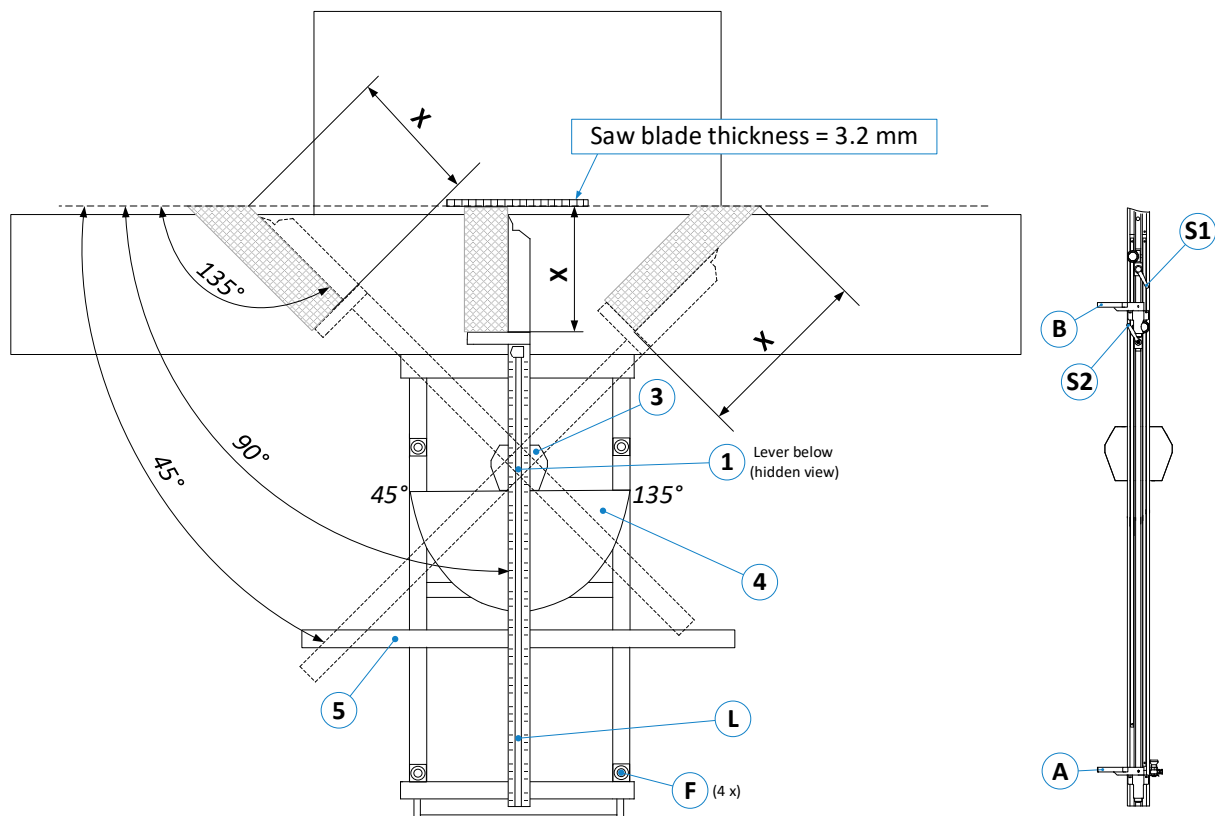


Figure 70: Super Gehrfix I overview

20.4.3 Attach Cross-Cut Fence

The crosscut fence is mechanically connected to the Super Gehrfix I via the locating pin (2), which is located in the slotted hole for the length compensation.

The procedure is very simple:

- Loosen clamping lever (1) and push the locating bolt (2) in the direction of the stop plate (P) as shown in ⇒ Figure 70 and ⇒ Figure 71.
- Now place the cross-cut fence (L) on the cross slide so that the locating pin (2) can be inserted into the receptacle (X) on the underside of the stop plate (3).
- Then tighten the clamping lever (1) again.

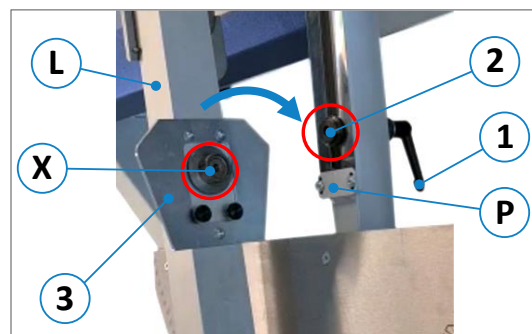


Figure 71: Attach cross-cut fence

20.4.4 Set Length > 1885 mm

- Loosen flip stop (A) with (S1), set to 1885 mm using magnifying glass and clamp with (S1).
- Loosen flip stop (B) with (S2), move to the desired position and clamp with (S2).

20.4.5 Set Angle to 90 Degrees

For 90° cuts, the cross-cut fence (L) can be used in different positions:

- Via the fixing points (F) on the left or right of the cross slide. To do this, simply release clamping lever (1) lift off the cross-cut fence (L) completely and insert it into the desired fixing points (F).
- Via the grid scale of the Super Gehrfix I (procedure see section ⇒ ⇒ 20.4.6).

20.4.6 Setting Degrees & Intermediate Degrees



For mitre cuts, the cross-cut fence (L) must always rest on the support rail (5) .

- Loosen the clamping lever (1).
- Then turn the cross-cut fence (L) and approach the desired angular dimension on the grid scale via the slotted hole for length compensation → Let it engage at the corresponding angular position.
- Tighten the clamping lever (1) again.

20.5 Cross-Cut & Mitre Fence Super Gehrfix II

The combined cross-cut fence and mitre fence "Super Gehrfix II" enables precise angular cuts from 45° to 135° without changing the dimension set on the cross-cut fence. The angle is set via a digital indicator and the automatic length compensation via a grid curve made of stainless steel.



To use the Super Gehrfix I it is mandatory to use a saw blade with a thickness of 3.2 mm.

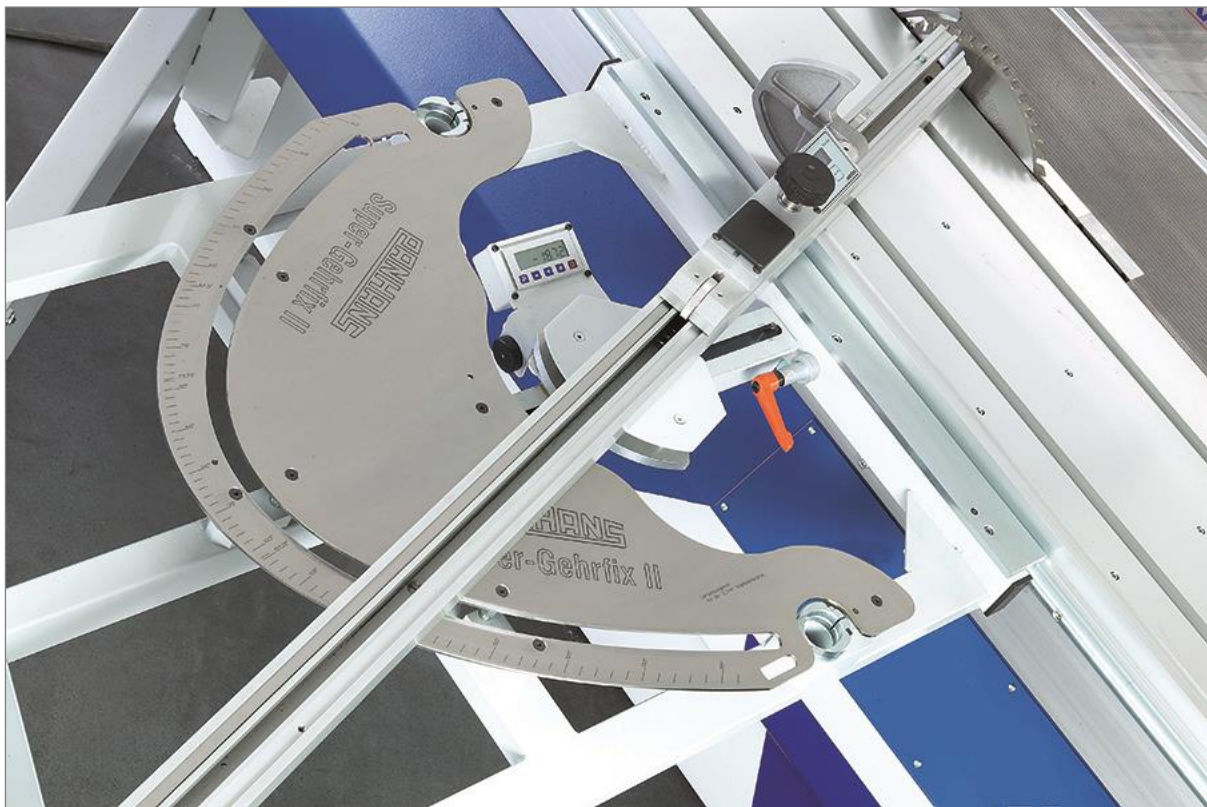


Figure 72: Super Gehrfix II

20.5.1 Features

- Allows infinite adjustment of the mitre angle
- Battery-operated digital indicator included
- Infinitely adjustable and readable to 0.1
- Fixing points for 90° angles at the front and rear of the cross slide
- Automatic length compensation via grid curve
- Setting accuracy: 1/100°
- Can be combined with the standard cross-cut fence or the optional Tele-Digit
- Art. No.: 4303

20.5.2 Components & Overview

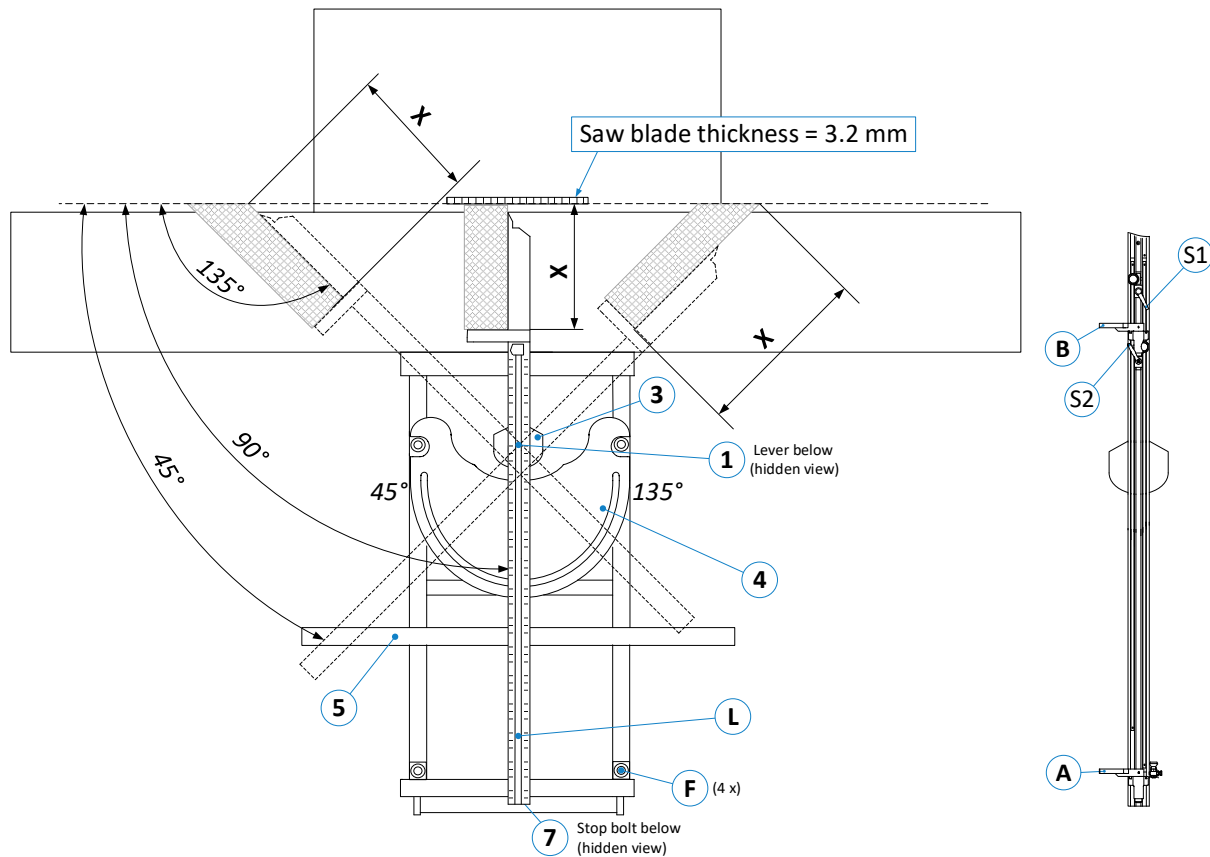



Figure 73: Super Gehrfix I overview

20.5.3 Calibrate Super Gehrfix II

To calibrate the Super Gehrfix II, it must first be positioned at 90° using the stop bolt (7) as shown in the illustration above. Then press the button  on the digital display to complete the calibration procedure.

➔ After successful calibration, the value 0.00° appears in the digital display.

20.5.4 Attach Cross-Cut Fence

- Tighten the clamping lever (1) on the cross-cut fence (L) to fix the fixture.

20.5.5 Set Length > 1885 mm

- Loosen flip stop (A) with (S1), set to 1885 mm using magnifying glass and clamp with (S1).
- Loosen flip stop (B) with (S2), move to the desired position and clamp with (S2).

20.5.6 Set Angle to 90 Degrees

For 90° cuts, the cross-cut fence (L) can be used in different positions:

- Via the fixing points (F) on the left or right of the cross slide. To do this, simply release clamping lever (1) lift off the cross-cut fence (L) completely and insert it into the desired fixing points (F).
- In the center of the cross slide, using the stop bolt (7) for calibration (procedure see section ⇨ 20.5.5).


20.5.7 Setting Degrees & Intermediate Degrees



For mitre cuts, the cross-cut fence (L) must always rest on the support rail (5) .

- Loosen the clamping lever (1).
- Then turn the cross-cut fence (L) and set to the desired angle via the digital display.
- Tighten the clamping lever (1) again.

20.5.8 Changing Parameters of the Digital Indicator

- Press button **P** until parameter “**AUFL**” appears.
- Press button **↑** to scroll through the parameters until the parameter to be changed appears.
- Using the arrow keys, enter the parameters according to the parameter table (see below) and confirm by pressing button **+**.
- Press **P** a total of 15 times until the parameters have been exited.
-  **Switch the unit off and on again so that the changes are applied!**

Display	Designation / Value Range	Basic Setting	PANHANS Setting
AuFL	Resolution (mm, In = Inch) 1, 0.1, 0.05, In 0.01, In 0.001, FrEI, 1/16in, 1/32in, 1/64in	0.1	FrEI
FAc	Multiplicator (only with resolution “FrEI”) 0.0000 ... 9.99999	0.00000	Standard 0.57160
dP	Decimal places (only with resolution “FrEI”) 0 ... 0.000	0.00	0.00
rEF	Reference value -99999 ... (+)99999	00000.0	
oFS	Offsetwert -99999 ... (+)99999	00000.0	
ZAEhL	Counting direction UP, DOWN	UP	
Auto	Switch-off type OFF, ON	OFF	OFF
PEriod	Switch-off time (in hours) (only with switch-off type = ON) 0.2, 0.5, 1.0, 2.0, 4.0, 8.0	0.2	
ISP	Actual value memory ON, OFF	OFF	OFF
4_off	Switch off delay ON, OFF	OFF	OFF
F_ABS	Enable reset function ON, OFF	ON	ON
F_REL	Enable incremental mode ON, OFF	OFF	OFF
F_REF	Enable change of reference value ON, OFF	OFF	OFF
F_OFS	Enable change of offset value ON, OFF	OFF	OFF
SPR	Language (D = German / E = English)	D	D

More details about the unit on <https://www.siko-global.com/en-de/service-downloads/download-products?A=detail&id=1440>

20.6 Auxiliary Mitre Fence for Super Gehrfix

The auxiliary mitre fence is an additional fence to the existing cross-cut fence.

The unit can be combined with the cross-cut and mitre fences "Super Gehrfix I" (⇒ 20.4) and "Super Gehrfix II" (⇒ 20.5). It allows easy adjustment of the length when producing acute and obtuse angles.

The device is used to stop and cut mitres to length without damage and has an adjustable angle and a fixed offset of 100 mm to the flip stop.



Figure 74: Auxiliary mitre fence

By using this auxiliary fence, the length dimension of a workpiece cut at an angle is already automatically correct (exactly as if it would be cut straight at the standard right-angled flip stop).

20.6.1 Operating the Auxiliary Mitre Fence

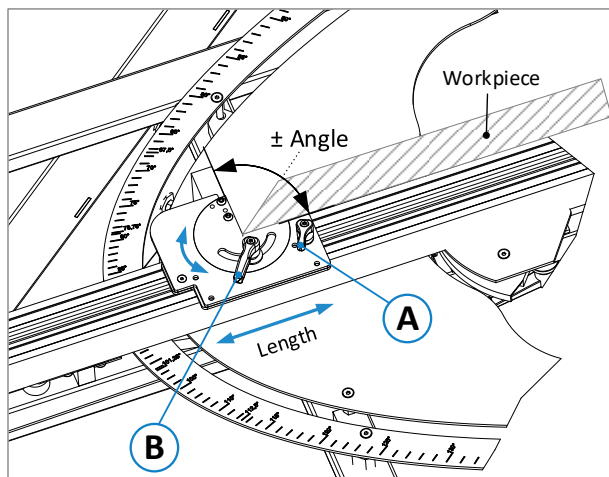


Figure 75: Operating the auxiliary mitre fence

The auxiliary fence has two clamping levers:

1. Clamping lever (A) is used to fix the fence in the groove along the guide unit.
2. After loosening clamping lever (B), the device can be rotated to adjust the desired angle of the workpiece.

20.7 Standard Mitre Fence

The optionally available standard mitre fence is fixed to the slide table by a clamping lever and can be swivelled on both sides. It has a degree scale from 45° to 60° in the slide table groove and is equipped with an extendable cross-cut fence up to 2000 mm and a flip stop.

Functionality:

With the additional angle scale in the groove of the slide table, the angle degrees to be set can be read off.

- To do this, loosen the clamping lever in the slotted hole of the angle plate and move the stop to the desired position. Then tighten the lever again and release the cut.
- The other clamping lever is used to set the cross-cut flip stop.

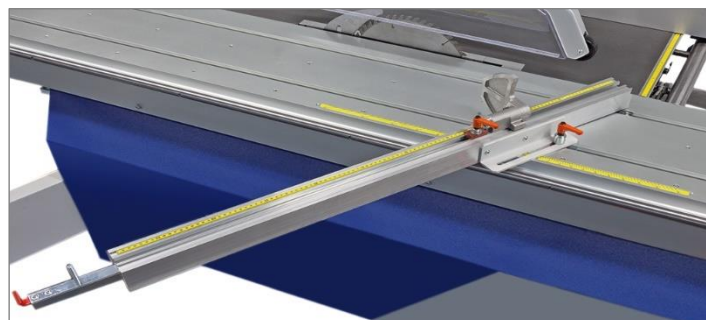



Figure 76: Standard mitre fence

20.8 Power Feeder 76

The circular saw power feeder 76 (Art. No. 2078) is the ideal addition to your sliding table saw. It ensures additional safety and ergonomic working when cutting battens, planks, window scantlings and other workpieces made of solid wood. It is simply pushed onto the rip fence holding block (1) via the guide rail instead of the standard rip fence rail and fixed via the clamping lever.

	To prevent an interruption of the emergency stop chain, this option is only available in combination with the option "Machine Socket" (Art. No. 4211, see ⇨ 23.5).
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For power supply, the machine plug is simply plugged into the optional machine socket.

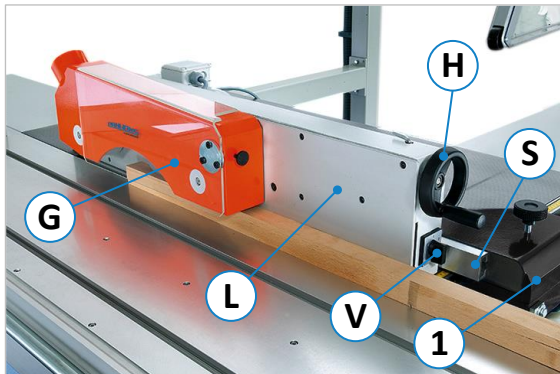


Figure 77: Power feeder 76

Pos.	Description
1	Rip fence holding block
S	Rail for mounting
H	Handwheel for height adjustment
V	Rotary switch ON / OFF / FEED RATE (0 = OFF 1 = 13 m/min 2 = 26 m / min)
L	Stop plate for cutting width adjustment
G	Housing with rollers and protective cover

Features:

- With adjustable pick-up profile, 3 rollers and 2 feed rates
- Quick adjustment of the workpiece height via handwheel
- With suction port for dust-free working
- With rail for mounting height of 18 - 40 mm
- Integrated electrical magnet system to prevent tipping
- Tool-free quick assembly/disassembly on the rip fence instead of the conventional standard aluminium profile
- Optimum view of the workpiece due to transparent, swivelling protective cover
- Ergonomic work when cutting battens
- Power supply 400 V / 50 Hz (including machine plug)

Technical Specifications:

Driving rollers	3 pieces
Rollers ø	110 mm
Front roller thickness	50 mm
Centre roller thickness	20 mm
Rear roller thickness	50 mm
Axle distance	200 mm
Feed rates	13 + 26 m/min
Dive motor	0,14 kW
Workpiece height	min. 80 mm
Workpiece length	min. 200 mm
Cutting width	min. 25 mm
Suction nozzle ø	80 mm
Net weight	approx. 30 kg

20.8.1 Mounting the Power Feeder



Figure 78: Mounting the power feeder

1. Release the lever (2) and pull out the standard stop rail (4).
2. Push the power feeder onto the rail (S).
3. Pull back to above the mm scale and clamp with lever (2).
4. The cutting width (min. 25 mm) is set automatically via the touchscreen control unit. Workpieces < 25 mm cannot be machined as they are too narrow for the centre roller.
5. Set the height of the feeder to the thickness of the workpiece and lower it approx. 3 mm to apply pressure.

20.9 Adjustable Scoring Saw Blade “QuickStep”



Figure 79: Quickstep setting mechanism for scoring saw blade

Technical Specifications of the scoring saw blade

Art. No. 4550	
Speed range:	8000 - 12100 rpm
Saw blade:	Ø 125 mm
Setting range:	2.8 – 3.8 mm
Raster:	0,05 mm
Flange:	Ø 70 mm
Drilling:	Ø 22 mm



When not in use, the outer scoring saw blade may have play. During operation it is tensioned by centrifugal force.

20.9.1 Setting the scoring width

Pull the knurled screw (R) of the clamping flange forward (V) and turn it.

↺ **Counterclockwise** → Cutting width increases

↻ **Clockwise** → Cutting width decreases

An adjustment of the knurled screw by one raster (= one mark “M”) corresponds to an adjustment of the scoring width by 0.05 mm.

Example: The dimension 3.10 mm is to be set.

1. Measure cutting width (with test cut)
2. Measured dimension = 3.00 mm
3. Pull the knurled screw (R) of the mechanism forwards (V), turn it to the left by 2 markings (M) and let it engage.
4. Check the cutting width (with test cut)

20.9.2 Changing the Scoring Saw Blade



Work at the saw blades must always be carried out with extreme care. There is an increased risk of injury due to the very sharp cutting edges! Protective gloves must be worn when changing saw blades!

Removal:

- Dismantle the clamping screw and remove the scoring saw setting mechanism.
- Pull the knurled screw (R) of the clamping flange forwards (V) and turn it several revolutions (approx. 5) to the left until the front saw blade can be turned freely.
- Engage the knurled screw and unscrew the front flange.
- Remove the screws on the inside (4 each) with a 2.5 mm pin spanner and take out the saw blade.

Installing:

- Clean all parts thoroughly.
- Insert the saw blades into the bolts on the flanges, observing the direction of rotation (**D**), see ⇒ Figure 79.
- Screw in and tighten the screws (4 per flange).
- Screw the flanges together until the saw blades touch; for the (approx. 5) last turns pull the knurled screw forward.
- The saw teeth must be behind each other and in the direction of rotation (**D**). The knurled screw (**R**) must be correctly engaged.
- Place the setting mechanism onto the motor shaft, screw in the clamping screw and tighten it by hand. To do this, use the QuickStep quick-release screw (see the following Figure).

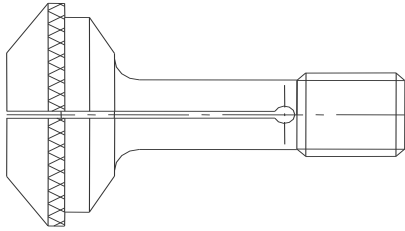


Figure 80: Quickstep quick-release screw

- Tighten the grub screw of the clamping screw with a torque of 12 Nm.
- Close the sawdust flap.
- Determine blade thickness by test cuts and readjust if necessary.

20.10 Manual Scoring Unit 1750



Work at the saw blades must always be carried out with extreme care. There is an increased risk of injury due to the very sharp cutting edges! Protective gloves must be worn when changing saw blades!

- Switch off the main switch and secure it with a padlock to prevent it from being switched on again unexpectedly.
- Move the slide table to the left as far as it will go. By pressing the safety catch (see ⇒ Figure 56), the slide table can be moved beyond the stop for changing the saw blade.
- Open sawdust flap.
- Turn the saw shaft by hand until the grub screw of the clamping screw is at the top.
- Loosen the grub screw with an SW 4 pin spanner.
- Unscrew the clamping screw by hand (right-hand thread) and remove it together with the flange.

Insert scoring saw blade:

- Clean the flange and saw blade.
- Insert new scoring saw blade and observe the direction of rotation!
- Put on the clamping screw with flange and tighten it by hand.
- Tighten the grub screw of the clamping screw with a torque of 12 Nm.
- Close sawdust flap.

We generally recommend the use of two-piece scoring saw blades, which are brought to the required blade thickness by placing spacers between them. The kerf of the scoring saw blade should be approx. 0.1 mm wider than that of the main saw blade, i.e. 0.05 mm to each side.

Caution: Only \varnothing 125 mm scoring saw blades may be used.

Important: If a saw blade with a diameter > 350 mm is used, the scoring saw blade must be removed and the **safety catch** at the sawdust flap must be swivelled to the right.

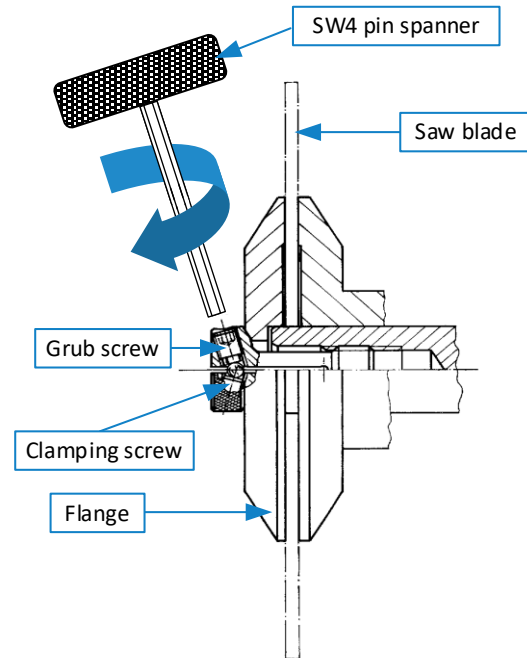


Figure 81: Saw blade flange of the scoring saw

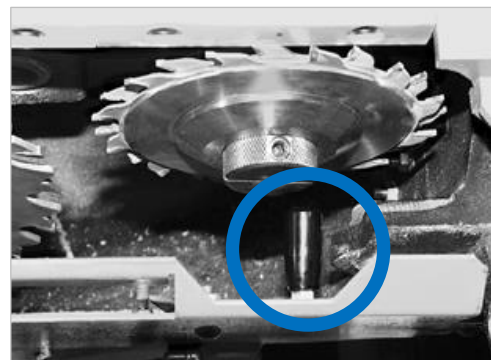


Figure 82: Safety catch of the sawdust flap

The scoring saw blade is adjusted using the two front located setting wheels (see section ⇒ 20.10.1).

20.10.1 Adjusting the manual scoring saw

On machines with manual scoring unit 1750 (option), the scoring saw is adjusted using the setting wheels shown in the figure. These are located on the front of the machine.

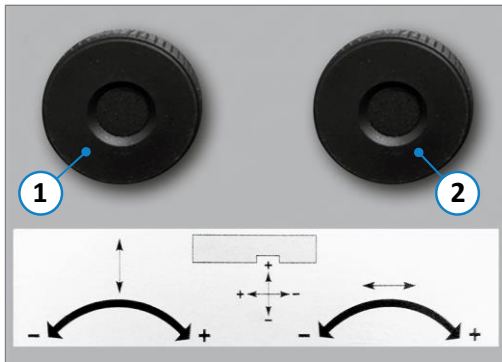


Figure 83: Setting wheels for scoring saw

- **Height adjustment:**
Adjust the desired height using the setting wheel (1)
- **Lateral adjustment:**
Adjust the desired position using the setting wheel (2)

20.11 Spraying System

For certain applications (e.g. when processing aluminium profiles or composite materials with aluminium content), the machine can be equipped with a spraying system (minimum quantity cooling lubrication). This can be ordered under Art. No. 4324.

20.11.1 Special features when using a spraying system

	<p>When working with the spraying system, it is essential to wear oil-resistant gloves, closed, tight-fitting clothing and protective goggles.</p>
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If the machine is operated with a spraying system, special care must be taken to ensure adequate extraction. Under certain conditions, harmful substances can be generated in the spray mist.

	<p>There is a health hazard for the lungs and respiratory tract due to the spray mist. Therefore wear a suitable respiratory mask.</p>
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The [manufacturer's operating instructions for the spraying system](#) must be observed.

Spray lubricants recommended for aluminium machining: see enclosed [sheet from the manufacturer](#).

20.12 Calibration Device



Figure 84: Calibrator "Zeromaster"

With the optionally available calibrator, the cutting height can be automatically calibrated to 50.0 mm via the "Zeromaster function" of the positioning control. This is especially helpful when using different saw blade diameters.

Even with re-sharpened saw blades, the exact saw protrusion resp. cutting height is always guaranteed after the saw blade change.

The detailed procedure for calibrating with the calibration device is described in section [⇨ 18.4](#).

Note for retrofitting: The signal line of the calibration sensor is permanently connected to the required evaluation electronics in the control cabinet. If an existing machine is to be retrofitted, the system must be installed on site by our service technicians.

20.13 Laser Cut-Position Indicator

As an additional positioning aid for the workpiece, the sliding table saw can be equipped with a laser cut-position indicator (Art. No. 4322).

This is particularly useful for visually indicating the kerf on scribe marks or for trim cuts, e.g. for board material with a forest edge.

The laser is mounted on the guard of the machine (see figure on the right) and is activated by means of a switch on the control panel.

The laser class is 2.



Figure 85: Laser cut-position indicator

20.14 Trimming with Laser Beam

To trim the workpiece as loss-free as possible, simply push it to the right until the edge to be trimmed is completely behind the laser beam. Then release the cut.

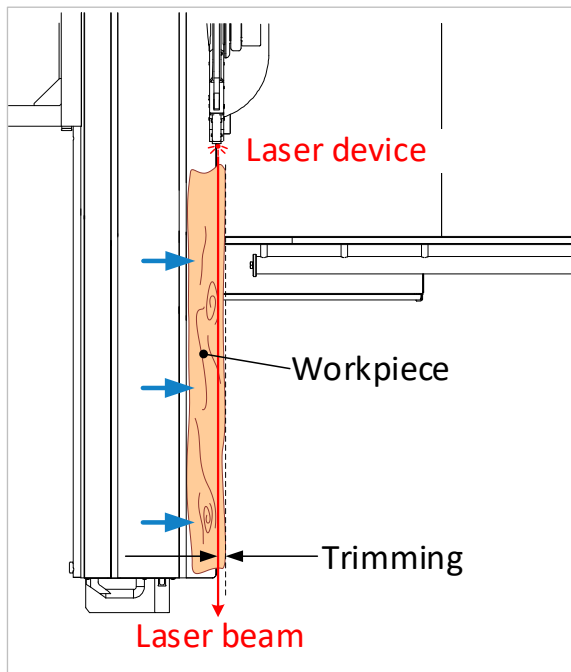


Figure 86: Trimming with laser beam

20.15 Special Requirements for Use

The laser device must be adjusted in such a way that it is not possible to look directly into the laser beam. It should also be noted that the laser beam can be reflected from reflective surfaces (e.g. the machine table or other blank parts).



Warning: Looking directly into the laser beam causes serious eye injuries!



The operating instructions of the laser manufacturer must be observed.

20.16 Swivel-Away Device for the Cross Slide

For some operations it may be necessary to remove the cross slide. For this purpose, the optional swivel-away device available under Art. No. 4770 is a useful aid.

20.16.1 Attaching the swivel arm to the cross slide

- Lock slide table (**W**) in middle position.
- Set the cross-cut fence (**L**) on the left-hand side to 90°.
- Move the movable support widening (**5**) all the way to the left.

For the next steps, stand on the left side to the end of the slide table.

- Pull the swivel arm (**1**) under the cross slide (**Q**).
- Insert swivel arm support bolt (**2**) into the holding plate (**4**) of the cross slide (**Q**). Then clamp with the clamping lever (**3**).

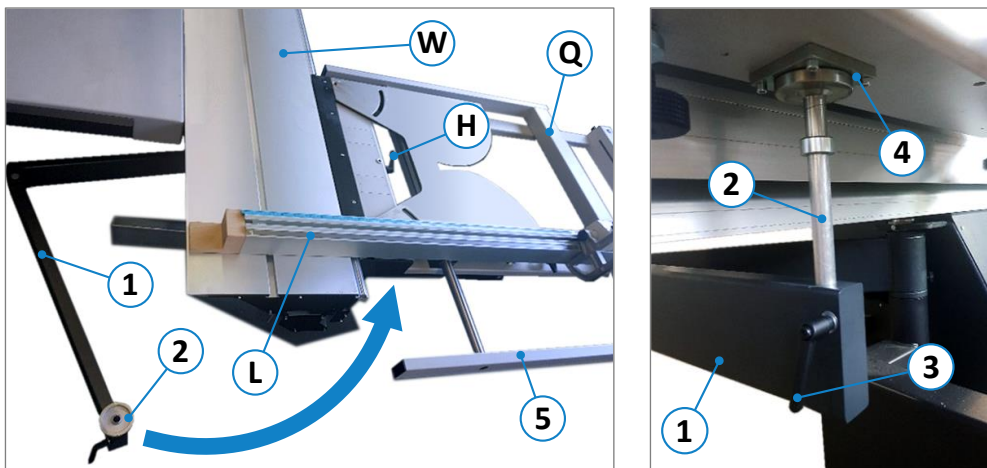


Figure 87: Position and mount swivel arm

- Loosen the clamping lever (**H**) and pull the cross slide (**Q**) forwards
→ The cross slide is now only supported by the swivel away arm (**1**) and the telescopic swivel arm (**S**).
- Turn the cross slide (**Q**) by 90° to the right. Then swivel it backward to bring it into its final parking position behind the slide table (see ⇒ Figure 88 and ⇒ Figure 89).

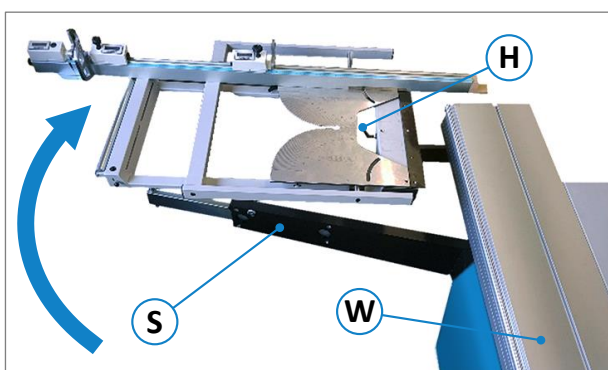


Figure 88: Swivel away cross slide

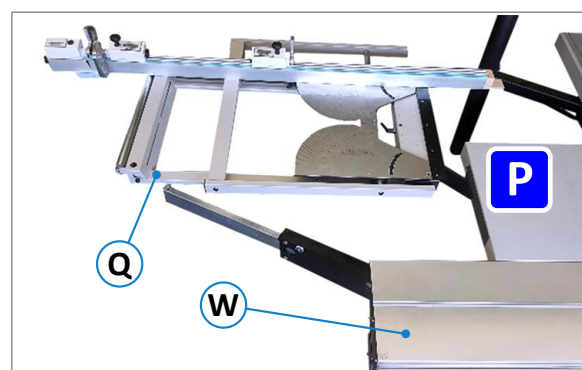


Figure 89: Final parking position

20.16.2 Reattaching the Cross Slide


- The cross slide is attached in the reverse order.
- If the swivel-away device is not used, it should be folded up at the machine stand.

21 Troubleshooting

Proceed systematically when searching for the cause of a malfunction. If you are unable to find the fault or to remedy the malfunction, contact our customer service department (phone number: 0049 7571 / 755 - 0).

Before you call us, please follow these steps:

- Make a note of the type, machine number and year of production (see nameplate).
- Keep this operating manual (and any circuit diagrams) to hand.
- Describe the fault to us in detail so that a competent remedy can be found.

Various faults are signalled by an alternating red/yellow flashing control panel and a corresponding message window is shown in the touchscreen (see also section ⇒ 21.1). For further information, select the  symbol on the touchscreen and/or observe the fault indicator A3 in the control cabinet. In the event of a fault, follow the instructions on the screen.

Fault	Possible Cause	Remedy
Machine does not start	No voltage	→ Check power supply
	Control fuse defective	→ Check fuse & replace if necessary (see circuit diagram)
	Overload protection tripped	→ Check F1 (see wiring diagram)
	Main switch defective	→ Replace main switch
	Drive motor defective	→ Replace motor
	V-belt breakage	→ Replace V-belt
	Machine stand door not closed	→ Close door
	Sawdust flap not closed	→ Close sawdust flap
	Slide table was moved to the left over mechanical stop	→ Move slide table to the right
Speed indicator shows nothing	Power supply unit G1 defective	→ Replace power supply unit
	Touchscreen unit defective	→ Contact customer service
Speed indicator shows "Error"	Fork light barrier defective	→ Replace fork light barrier
	Belt does not run in the speed fork	→ Refer to section ⇒ 21.2
	V-belt of the main saw torn	→ Replace V-belt
Sawing unit does not tilt out	Fork light barrier dirty	→ Clean fork light barrier
	Tilting segments resinous	→ Clean and lubricate with oil → Check fuse F4
Height adjustment runs sluggishly	Insufficiently lubricated	→ Lubricate
Height adjustment does not run	Fuse F4 has tripped	→ Check fuse F4
Swivel arm runs unsteadily	Rollers dirty	→ Clean rollers
Touchscreen shows nothing	Fuse F5 or F3 has tripped	→ Check fuses F3 and F5
	Power supply G1 defective	→ Replace power supply unit
Touchscreen is blurred, no entry possible	Malfunction or defective	→ Restart or contact customer service if necessary
Rip fence does not position	Fuse F4 has tripped	→ Check fuse F4
	Contamination	→ Grease and clean spindle guide
	Rip fence folded down	→ Fold back into working position
	Pinch protection bar has tripped	→ Release jamming manually and replace bar if damaged
Scoring unit does not start	Main saw does not run	→ Check fuse F2 → Start main saw
Scoring unit does not calibrate	Emergency stop actuated	→ Check / unlock emergency stop
	Main saw is still running	→ Switch off main saw
	Riving knife is adjusted	→ Check riving knife setting

21.1 Fault Messages on the Touchscreen

The touchscreen control reports various malfunctions in different ways:

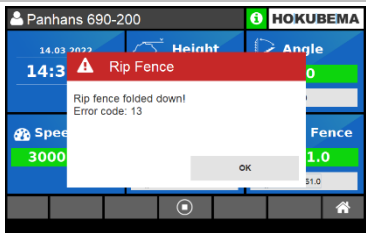
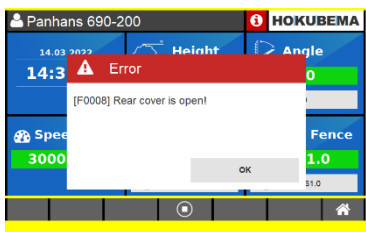
1. General Malfunctions and Warnings:

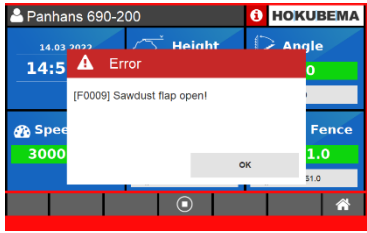

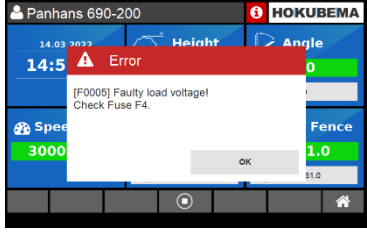
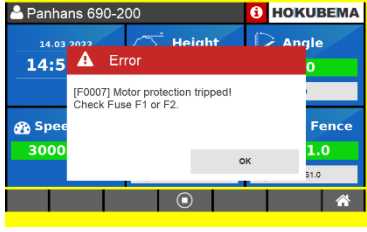
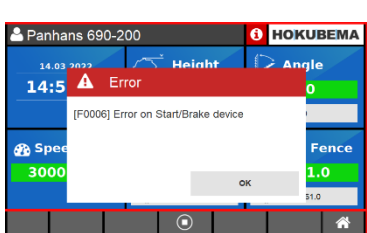
The screen frame of the control remains black and a pop-up window appears with the error message.

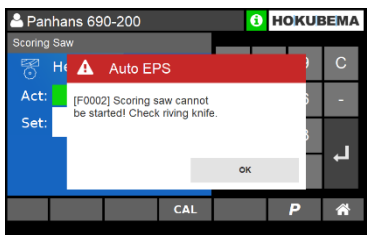
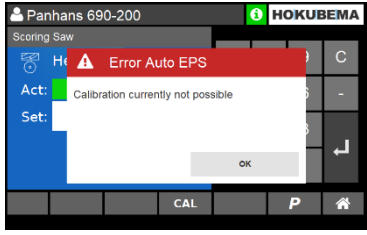
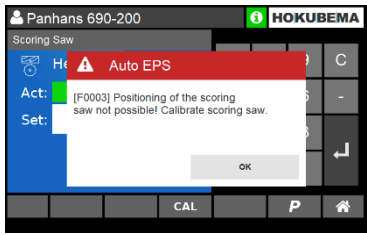

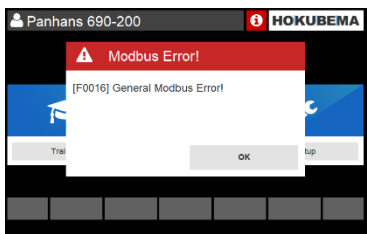
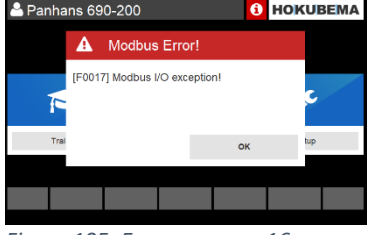
2. Safety-relevant Malfunctions and Warnings:

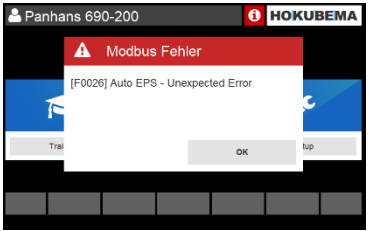
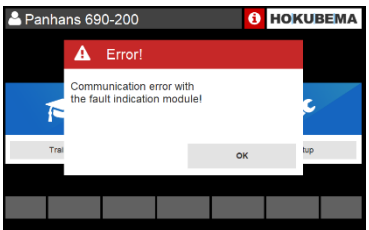
The screen frame of the control flashes alternately red / yellow and a pop-up window appears with the respective error message. In the event of such an error, the safety chain is interrupted → All sawing units and positioning processes are stopped and locked. In order to continue working on the machine, the malfunction must first be remedied.

The following table shows the possible error messages, as well as their cause and remedy:

 <p>Figure 90: Error message 1</p>	<p>Message: Rip fence folded down!</p> <p>Cause:</p> <ul style="list-style-type: none"> Positioning of the rip fence is not possible as it is folded down. Toggle switch S13 jammed. <p>Remedy:</p> <ul style="list-style-type: none"> Move rip fence back into working position. Check toggle switch S13 and loosen resp. remedy jam.
 <p>Figure 91: Error message 2</p>	<p>Message: Rear cover is open!</p> <p>Cause: The rear cover of the machine stand is still open or not properly closed.</p> <p>Remedy: Close rear cover.</p>
 <p>Figure 92: Error message 3</p>	<p>Message: Positioning error!</p> <p>Cause:</p> <ul style="list-style-type: none"> Lag error when positioning the rip fence. The rip fence is jammed. Spindle guide of the rip fence too sluggish. <p>Remedy:</p> <ul style="list-style-type: none"> Remove blockade. Clean spindle guide. Ensure smooth running.
 <p>Figure 93: Error message 4</p>	<p>Message: Slide table limit switch!</p> <p>Cause: Slide table has moved all the way to the back.</p> <p>Remedy: Move the slide table into working position.</p>


 <p>Figure 94: Error message 5</p>	<p>Message: Sawdust flap open!</p>	<p>Cause: Sawdust flap is open or has opened by itself due to wood chips.</p> <p>Remedy: Close sawdust flap.</p>
 <p>Figure 95: Error message 6</p>	<p>Message: Emergency stop button active!</p>	<p>Cause: An emergency stop switch was actuated.</p> <p>Remedy: Check emergency stop on machine stand and control panel and unlock if necessary.</p>
 <p>Figure 96: Error message 7</p>	<p>Message: Faulty load voltage! Check Fuse F4!</p>	<p>Cause:</p> <ul style="list-style-type: none"> • Fuse F4 has tripped. • Axes jammed. <p>Remedy:</p> <ul style="list-style-type: none"> • Reset fuse F4. • Remove blockade and check guides if necessary.
 <p>Figure 97: Error message 8</p>	<p>Message: Motor protection tripped! Check Fuse F1 or F2.</p>	<p>Cause:</p> <ul style="list-style-type: none"> • Motor protection switch F1 or F2 has tripped. • Main motor or scoring saw motor overloaded. • Power supply unit G1 defective. <p>Remedy:</p> <ul style="list-style-type: none"> • Check fuses F1 / F2 and reset if necessary. • Check main resp. scoring saw motor. • Check power supply G1.
 <p>Figure 98: Error message 9</p>	<p>Message: Motor protection "machine socket" tripped!</p>	<p>Cause:</p> <ul style="list-style-type: none"> • Circuit breaker F6 has tripped. • Machine socket has been overloaded. • External connected device defective. <p>Remedy:</p> <ul style="list-style-type: none"> • Check connected unit. • Check circuit breaker F6 and reset if necessary.
 <p>Figure 99: Error message 10</p>	<p>Message: Error on Start/Brake device!</p>	<p>Cause:</p> <ul style="list-style-type: none"> • Start / brake unit Q3 went into fault status. • Main motor overheated. • Circuit breaker F1 or F2 have tripped. • Unexpected fault in unit Q3. <p>Remedy:</p> <ul style="list-style-type: none"> • Check fuses F1 / F2 and reset if necessary. • Allow main motor to cool down. • Check unit Q1. <p>Error is only cleared after restarting the machine!</p>

 <p>Figure 100: Error message 11</p>	<p>Message: Scoring saw cannot be started! Check riving knife.</p>	<p>Cause: Riving knife switch S1 actuated.</p> <p>Remedy:</p> <ul style="list-style-type: none"> • Adjust the riving knife correctly. • Use a smaller saw blade and readjust the riving knife.
 <p>Figure 101: Error message 12</p>	<p>Message: Calibration currently not possible!</p>	<p>Cause: An attempt was made to calibrate with the saw blade running.</p> <p>Remedy: Stop the main saw and wait until the saw blade has come to a standstill, then start the calibration procedure again.</p>
 <p>Figure 102: Error message 13</p>	<p>Message: Positioning of the scoring saw not possible! Calibrate scoring saw.</p>	<p>Cause:</p> <ul style="list-style-type: none"> • Incorrect calibration value of the axis controller. • Calibration procedure was not carried out properly last time. • New axis controller A2 installed and not yet calibrated. <p>Remedy: Perform calibration procedure (again).</p>
 <p>Figure 103: Error message 14</p>	<p>Message: "Error" with yellow background in the speed window.</p>	<p>Cause:</p> <ul style="list-style-type: none"> • Position of the V-belt cannot be determined. • Speed fork B7 defective. • Main saw V-belt broken. <p>Remedy:</p> <ul style="list-style-type: none"> • Check V-belt position. • Check speed fork B7 and replace if necessary. • Fit new V-belt.
 <p>Figure 104: Error message 15</p>	<p>Message: General Modbus Error!</p>	<p>Cause: Communication to the controller boards was disturbed or the data could not be processed.</p> <p>Remedy:</p> <ul style="list-style-type: none"> • Check bus cable in the control cabinet. • Check network switch A5. • Check bus devices (LEDs on network sockets of the units).
 <p>Figure 105: Error message 16</p>	<p>Message: Modbus I/O exception!</p>	<p>Cause: A bus participant transmits faulty values.</p> <p>Remedy: Restart machine.</p>

 <p>Figure 106: Error message 17</p>	<table border="1"> <tr> <td>Message:</td> <td>Auto EPS - Unexpected Error</td> </tr> <tr> <td>Cause:</td> <td>Communication with controller board A2 disturbed.</td> </tr> <tr> <td>Remedy:</td> <td>Check controller board A2 and replace if necessary.</td> </tr> </table>	Message:	Auto EPS - Unexpected Error	Cause:	Communication with controller board A2 disturbed.	Remedy:	Check controller board A2 and replace if necessary.
Message:	Auto EPS - Unexpected Error						
Cause:	Communication with controller board A2 disturbed.						
Remedy:	Check controller board A2 and replace if necessary.						
 <p>Figure 107: Error message 18</p>	<table border="1"> <tr> <td>Message:</td> <td>Communication error with the fault indication module!</td> </tr> <tr> <td>Cause:</td> <td>Communication with monitoring PLC "A3" is disturbed.</td> </tr> <tr> <td>Remedy:</td> <td>Check PLC module "A3" and replace if necessary.</td> </tr> </table>	Message:	Communication error with the fault indication module!	Cause:	Communication with monitoring PLC "A3" is disturbed.	Remedy:	Check PLC module "A3" and replace if necessary.
Message:	Communication error with the fault indication module!						
Cause:	Communication with monitoring PLC "A3" is disturbed.						
Remedy:	Check PLC module "A3" and replace if necessary.						

If you are unable to correct a fault using our instructions, or if the fault occurs repeatedly after you have corrected it, please call our customer service department on 0049 7571 / 755 - 0.

21.2 Retightening / Changing the V-belt

	<p>Before starting work, the main switch must be switched off and secured with a padlock against being switched on again unexpectedly.</p>
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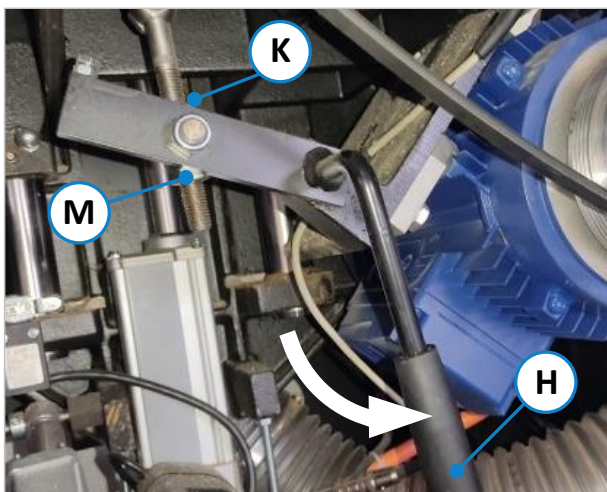


Figure 108: V-belt tightness

Procedure:

- First flip the lever (**H**) to release the tension of the V-belt.
- Then loosen the lock nut (**K**)
- Turn nut (**M**) slightly downwards
- Tighten lock nut (**K**) again and flip lever (**H**) again to tighten the belt

The belt is correctly tensioned when it can be pushed through approx. 10 mm between the belt pulleys at a lateral pressure of approx. 2 kg.

V-belts used:

Machine with manual V-belt shifting
5.5/7.5 kW / PK x 1000

22 Maintenance and Inspection

Before any maintenance and inspection work is carried out, chapter ⇒ **5 Safety** must be read carefully and observed!

Operational malfunctions caused by insufficient or improper maintenance can result in very high repair costs and long machine downtimes. Regular maintenance is therefore essential.

Due to the different operating conditions, it is not possible to determine in advance how often a wear check, inspection or maintenance is required. Inspection intervals are to be determined appropriately according to the respective operating conditions.

- Clean the machine daily.
- Check all sliding or rolling parts weekly for smooth running and lubricate with a thin-bodied oil if necessary.
- Remove and replace damaged parts. Never work with damaged parts!!
- Damaged guards, saw blades, clamping flanges, clamping nuts and riving knives must be replaced immediately. Never work with damaged parts!
- Clean the guideways of the sliding table monthly.
- Inspect electrical equipment/components weekly for externally visible damage and have them repaired by a qualified electrician if necessary.
- Check the extraction unit for full function daily before starting work.
- The extraction unit must be checked for obvious defects before initial commissioning, daily and monthly to ensure its effectiveness.
- The air velocity to the extraction system must be checked before the initial commissioning and after significant modification.
- Our specialists are at your disposal with further advice.
- Do not use the machine until these conditions are met.

22.1 Lubrication Guide

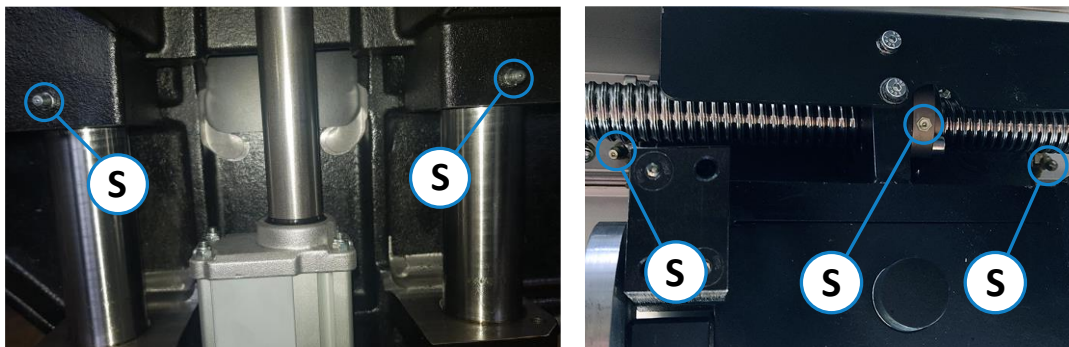


Figure 109: Lubrication points on the height adjustment and rip fence spindle

- Check all sliding or rolling parts weekly for smooth running and, if necessary, lubricate with a thin-bodied oil.
- Apply a few drops of oil to the threads of clamping and adjustment levers weekly.
- Lightly grease the support bolt of the cross slide every month between the bolt and the cross slide.
- Lubricate the two lubrication points (S) on the height adjustment of the sawing unit with 2 shots of grease every month.
- The three lubrication points (S) on the rip fence spindle are also lubricated monthly with 2 grease shots.

23 Options and Accessories

23.1 Sawing Units

Article	Description	Art. No.
THREE-PHASE MOTOR WITH 7.5 KW (10 HP)	More powerful main saw motor, instead of the standard 5.5 kW motor.	4319
VARIABLE SAW BLADE SPEED CONTROL	For the main saw blade, adjustable from 2000 - 6000 rpm, incl. 7.5 kW motor. Operation via touchscreen control on the control panel.	4811
SCORING UNIT AUTO EPS 0.55 KW (0.75 HP)	Automatic lateral and height positioning via touchscreen and memory function. When the scoring saw is switched on, the unit automatically moves to the set position values; when switched off, the unit automatically moves under the table to a lateral parking position. Thus larger saw blades than Ø 350 mm can also be used without having to remove the scoring saw blades.	4598
SCORING UNIT 1750 0.55 KW (0.75 HP)	With manual height and lateral adjustment via externally mounted handwheels with "APA" saw blade quick clamping system.	4079
SCORING SYSTEM QUICK-STEP	For manual scoring width adjustment without tools. From 2.8 to 3.8 mm through raster adjustment by 0.05 mm / single step, incl. 1 set of saw blades 125 x 2.8 - 3.8 x 50 mm Z = 12+12 for system Auto-EPS & 1750.	4550
SPARE CARBIDE SCORING SAW BLADE	125 x 2.8 - 3.8 x 50 mm. Z = 12+12 (set = 2 pieces) for the Quick-Step scoring system (see Art. No. 4550)	4551

23.2 Optional Fence Systems

Article	Description	Art. No.
TELE-DIGIT CROSS-CUT FENCE	With central digital wireless indicator (accuracy 0.1 mm) for both flip stops (up to 3000 mm), instead of standard cross-cut fence.	4167
RIP FENCE LEFT TO THE SAW BLADE	For cutting long, narrow parts, easily adjustable via dimension scale and sliding flip stop with magnifying glass up to 800 mm cutting width.	4488
SUPER GEHRFIX I	Combined mitre / cross-cut fence with automatic length compensation; for angle cuts from 45° to 135° with V2a grid curve, graduation and intermediate degrees for 67.5°/78.75°/101.25°/112.5°; the standard cross-cut fence can be fixed to it (unit cannot be retrofitted).	4315
SUPER GEHRFIX II	Combined mitre and cross-cut fence, length adjustable via scale, for angle cuts from 45° to 135° with stepless angular adjustment via digital indicator (0.01°), with automatic length compensation; the standard cross-cut fence serves as cross-cut fence (unit cannot be retrofitted).	4303
AUXILIARY MITRE FENCE FOR SUPER GEHRFIX I + II	For damage-free cutting to length of mitres or hexagons that have already been cut to size on one side. Serves as an additional fence on the cross-cut fence. With adjustable angle for the pre-cut mitres and a fixed offset dimension of 100 mm.	4173
STANDARD CROSS-CUT FENCE	Swivelling on both sides, 45° - 60° with extendable flip stop up to 2000 mm length.	4592

Article	Description	Art. No.
DOUBLE-SIDED MITRE FENCE DSG A	For angle cuts 0° - 90° on the double slide table, length and angle measurement adjustable via scale; for cutting lengths up to 1375 mm, with length compensation for preferred angles 5°, 10°, 15°, 22.5°, 30°, 45°, 60°, 67.5°, incl. splinter block, wall bracket and an additional factor scale for easy calculation of wrong mitres for different workpiece widths.	4379
DOUBLE-SIDED MITRE FENCE DSG D	For angle cuts 0° - 90° on the double slide table, length measurement adjustable via scale, angle measure digitally adjustable; for cutting lengths up to 1375 mm, with length compensation for preferred angles 5°, 10°, 15°, 22.5°, 30°, 45°, 60°, 67.5°, incl. splinter block, wall bracket and an additional factor scale for easy calculation of wrong mitres for different workpiece widths.	4380

23.3 Slide Table and additional Supports

Article	Description	Art. No.
REMOTE LOCKING OF THE SLIDE TABLE	For blocking the top slide table at a grid spacing of 70 mm.	4483.1
CUTTING LENGTH OF SLIDE TABLE 2000 MM	Instead of the 3200 mm standard cutting length.	4584
CUTTING LENGTH OF SLIDE TABLE 2600 MM	Instead of the 3200 mm standard cutting length.	4586
CUTTING LENGTH OF SLIDE TABLE 3800 MM	Instead of the 3200 mm standard cutting length.	4405

23.4 Support Systems

Article	Description	Art. No.
ADDITIONAL SUPPORT FOR LARGE PLATES	Can be hooked on the slide table, length 500 mm.	4321
SWIVEL TABLE SUPPORT WITH PLASTIC ROLLER	Adjustable as table extension in the infeed or outfeed area, attached to the aluminium double slide table.	4768
SWIVEL-AWAY DEVICE FOR THE CROSS SLIDE	Quick ergonomic sliding into the parking position.	4770
ADDITIONAL CORNER TABLE	750 X 940 mm for optional cutting width of 1250 mm; as additional table support next to the standard table extension.	4775
EXTENDABLE SUPPORT ROLLER ON CROSS SLIDE	Extension length 610 mm.	4499

23.5 Special Accessories


Article	Description	Art. No.
LASER INDICATOR	Laser indicator for the cutting kerf, mounted on the guard.	4322
MACHINE SOCKET	For connecting external additional components (e.g. power feeder).	4211
SPRAYING SYSTEM	Minimum quantity lubrication for aluminium and plastics machining.	4324
CENTRAL LUBRICATION	For grease supply to all lubrication points of the machine via hand pump. With 400 g grease cartridge and max. 350 bar output pressure.	4860
SPECIAL VOLTAGE	220 V / 50 Hz max. 7.5 kW	4601
CIRCULAR SAW POWER FEEDER 76	For attachment to the rip fence.	2078
MACHINE ACCESS CONTROL TM 300	User database and Machine Access Control TM 300 with personalised RFID based keys, full version for authorised and instructed personnel, including master key for parameter settings and staff instructions and 5 user tags for machine operators.	4654
PERSONALISED USER KEY	Blue, for user database TM 300 (content 10 pieces).	4670
MASTER KEY	Red, for user database TM 300 (content 1 piece).	4671
CALIBRATION DEVICE (ZEROMASTER)	For automatic calibration of the cutting height to 50 mm with different saw blade diameters.	4583




Use only tools, accessories and spare parts specified by the manufacturer. The use of other tools, accessories or spare parts may cause injury to persons and damage to the machine. The manufacturer accepts no liability for any damage resulting from the use of tools, accessories or spare parts not specified by the manufacturer or from additional components supplied by third parties!

24 Disassembly and Scrapping


When dismantling and scrapping the machine, the current EU regulations or the respective regulations and laws of the country of operation, which are prescribed for proper dismantling and disposal, must be observed. The aim is to dismantle the machine and its various materials and components properly, to recycle all possible parts and to dispose of non-recyclable components in the most environmentally friendly way.

	<p>Please pay particular attention to</p> <ul style="list-style-type: none"> • <i>the dismantling of the machine in the working area</i> • <i>proper dismantling of the machine and accessories</i> • <i>a safe and proper removal of the machine</i> • <i>proper separation of all components and materials.</i>
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When dismantling and disposing the machine, the laws and regulations in force at the place of use concerning health and environmental protection must be observed.


	<p>Remove all residues of oil, grease and other lubricants and have them disposed of properly by a qualified disposal company.</p>
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When separating, disposing of or recycling the machine materials, comply with the environmental protection laws in force at the place of use regarding the disposal of industrial solid waste toxic and hazardous waste.

	<ul style="list-style-type: none"> • <i>Hoses and plastic parts as well as other components that are not made of metal must be dismantled and recycled or disposed of separately.</i> • <i>Electrical components such as cables, switches, connectors, transformers, etc. must be removed and (if possible) recycled or otherwise disposed of in a qualified manner.</i> • <i>Pneumatic and hydraulic parts such as valves, solenoid valves, pressure regulators, etc. must be removed and (if possible) recycled or otherwise disposed of in a qualified manner.</i> • <i>Dismantle the base frame and all metal parts of the machine and sort them according to material type. Metals can be melted down and recycled.</i>
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In the event of improper disposal of lubricants, the following residual risks to the environment and health exist:

	<p>Pollution of the environment by seepage into groundwater or sewage system.</p>
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	<p>Poisoning of the personnel contracted for the disposal.</p>
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Note: The disposal of lubricants considered toxic and hazardous must be carried out in accordance with the regulations and laws in force at the respective place of use. Only qualified disposal companies that have the appropriate permits for the disposal of used oil and lubricants are to be commissioned with the disposal.

EU - Declaration of Conformity

in accordance with the EU Machinery Directive 2006/42/EC Annex II A

The manufacturer,

HOKUBEMA Maschinenbau GmbH
Graf-Stauffenberg-Kaserne
Binger Str. 28 | Halle 120
DE 72488 Sigmaringen (Germany)

Phone: +49 (0) 7571 / 755 - 0
Fax: +49 (0) 7571 / 755 - 222

hereby declares that the manufactured machine

SLIDING TABLE SAW 690/200

Machine-No.:

Year of manufacture:

in the version provided complies with the following directives:

- Machinery Directive 2006/42/EG
- EMC Directive 2014/30/EU

The notified body (0392)

Fachausschuss HOLZ
- Prüf- und Zertifizierungsstelle im BG- PrüfZert -
Vollmoellerstraße 11
DE 70563 Stuttgart (Germany)

has carried out an EC type-examination for the above machine.

Mr. Andreas Ganter, Graf-Stauffenberg-Kaserne, Binger Str. 28 | Halle 120,
72488 Sigmaringen (Germany), is authorised to compile the technical documentation.

Type Examination Certificate No.: HO 151105

Sigmaringen, 08.09.2023
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Reinhold Beck
Managing Director