

TRANSLATION OF THE ORIGINAL VERSION



CE

Operating Manual

Copy Woodturning Lathe

WOODPECKER DRM 10-1200



Machine Type: **DRM 10-1200**

WOODPECKER

HOKUBEMA Maschinenbau GmbH

Graf-Stauffenberg-Kaserne, Binger Str. 28 | Halle 120

DE 72488 Sigmaringen | Tel. +49 07571 755-0

E-Mail: info@ichbinwoodpecker.de | Web: <https://www.ichbinwoodpecker.de>

Space for notes:



HOKUBEMA Maschinenbau GmbH

Graf-Stauffenberg-Kaserne
Binger Straße 28 | Halle 120
DE 72488 Sigmaringen
Tel.: +49 (0)7571-755-0
Fax: +49 (0)7571-755-222

<h2>Handover Certificate</h2>		
Machine type:		
Machine no.:		
Construction year:		
Customer address (location of the machine):		
Name:		
Street:		
Postcode/City:		
Phone:	Fax:	
E-mail:		
Warranty: 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.		
Warranty claims: 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. Important: Please read and follow the instructions in chapter ⇨ 1 " Liability and Warranty ".		
Confirmation of the buyer: <input checked="" type="checkbox"/> The machine described above was purchased by me/us. <input checked="" type="checkbox"/> Together with this handover certificate, I have received the operating manual valid for the machine (edition: _____). <input checked="" type="checkbox"/> 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:

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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

The purpose of this operating manual 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.

	<p>Die 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.</p> <ul style="list-style-type: none"> • during operation, including set-up, troubleshooting in the work process, removal of production waste and maintenance, • during maintenance (servicing, inspection, repair) • and/or during transport.
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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.

2.1 Legal Notice




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2.2 Figures















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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 combined planer and thicknesser ADH 5-410 was produced according to the current state of the art and put into operation as a complete machine. All legal and normative regulations were complied with. The machine is characterised by its solid, sturdy steel construction with chrome-plated guide elements and is suitable for professional woodturning work in any workshop, joinery or training centre.

- The machine has distance between the centres of 1200 mm and a centre height of 1100 mm.
- The maximum workpiece height (radius) that can be clamped is 215 mm.
- The machine enables woodturning of the following machining diameters:
above the guide track: Ø 450 mm | above the support unit: Ø 215 mm | when copying: Ø 215 mm.
- Detailed information can be found in the Technical Specifications (see section ⇒ 6.1).

4.1 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, wood turner, etc. and/or practice in operating woodworking lathes)
- 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

4.2 Requirements for the Operators

- The woodturning lathe 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.

4.3 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 woodturning lathe and this training must be documented.

4.4 General Safety Regulations

In general, the following safety regulations and obligations apply when handling the copy woodturning lathe:

- Read and observe this operating manual before commissioning and operating the machine.
- A copy woodturning lathe 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 copy woodturning lathe, the respective national safety regulations for employees as well as the national safety and accident prevention regulations apply.

4.5 Included Standard Accessories

- Drill chuck \varnothing 16 mm, MK2 mandrel (male taper \varnothing 16 mm)
- Mortising adapter for machining straight grooves on profiled surfaces using a hand drill or router with an adapter spigot diameter of 43 mm.
- 4 prong live centre \varnothing 20 mm for workpieces $\geq \varnothing$ 20 mm
- 4 prong live centre \varnothing 40 mm for workpieces $\geq \varnothing$ 40 mm
- Tailstock centre \varnothing 20 mm for workpieces $\geq \varnothing$ 20 mm
- Tailstock centre \varnothing 40 mm for workpieces $\geq \varnothing$ 40 mm
- Movable steady rest (range from \varnothing 10 to \varnothing 108 mm)
- Roughing out gouge 16 x 16 mm for pre-turning
- Fixed steady rest (range from \varnothing 20 to \varnothing 120 mm)
- Faceplate \varnothing 200 mm for flanged workpieces
- Chip protection cover with viewing window
- Copying chisel 16 x 16 mm
- Bung chuck \varnothing 40 mm
- Clamping tool
- Tool rest
- Ejector




Figure 1: Standard accessories (examples)


5 Safety

5.1 Basic Safety Instructions


Woodworking lathes 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>
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5.1.1 Application Area and Intended Use

	<p><i>The copy woodturning lathe DRM 10-1200 is used exclusively for turning wood and wood-like materials.</i></p> <p><i>This machine is not suitable for processing metal or wood or wood-like materials containing nails, screws, etc.</i></p> <p><i>This machine is not suitable for working on wood slices that contain shrinkage cracks. These can burst and cause serious injuries due to centrifugal force.</i></p> <p><i>The maximum workpiece diameters and lengths specified in the Technical Specifications (refer to section ⇒ 6.1) must be observed.</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.

	<p><i>Improper use can lead to danger to persons and to a defect or damage to the machine.</i></p>
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The machine is not suitable for operation outdoors or in potentially explosive area.

	<p><i>The intended use includes the wearing of a dust mask resp. if possible the connection of the machine to a sufficiently dimensioned, external suction device.</i></p>
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In addition, all operating, maintenance and servicing conditions prescribed in the operating manual must be observed.























Any other use is considered improper and is 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 indoor 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 possible tripping and slipping hazards on the floor. Prevent possible hazards by keeping the floor dry and clean and by using anti-slip floor coverings around the machine.
	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.
	Pay attention to the existing cutting hazard on the tools and turning chisels used and avoid contact with the cutting edges of the tools.
	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 and a hair net if necessary. Generally avoid jewellery, loose clothing and untied long hair.
	Danger from electric shock! There are hazards when working on the electrical system. This work must only be carried out by qualified personnel!
	Danger from electric shock! It is strictly forbidden to bypass safety devices (e.g. safety switches).
	Electrical equipment must be maintained and cleaned regularly.
	Pay attention to the danger of crushing on workpiece guides and moving machine parts.
	Make sure that no unauthorised persons are in the area of 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.
	The emergency stop buttons must always be freely accessible. Check the function of the emergency stop buttons daily before starting work.
	Fire hazard due to wood dust in connection with flying sparks and/or open fire!
	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 and a hair net if necessary. Generally avoid jewellery, loose clothing and untied long hair.

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.

	<p>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.</p>
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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).
- ⚠ Before starting work on the machine, the person responsible for its operation must have read the operating instructions, especially the chapter ⇒ 5 “Safety”. This applies in particular to personnel who only occasionally work on the machine.
- ⚠ Check that work is carried out in a safety-conscious and hazard-conscious manner and in compliance with the operating manual.
- ⚠ 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.
- ⚠ Use personal protective equipment as necessary or required by regulations.
- ⚠ Do not make any modifications, additional attachments or conversions to the machine without the manufacturer's approval! This will compromise safety and invalidate the manufacturer's warranty and any liability claim.
- ⚠ 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 and for the operation by a single person.
- Work on and with the copy woodworking lathe 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.

5.1.7 Training of Personnel

All machine operators must be adequately trained in the operation and maintenance of the machine. In particular, the training must include the following:

- General rules for the use of the machine, proper operation, correct adjustment of the machine and surface planer fence as well as the use of other accessories (e. g.).
- Proper handling of workpiece, spindle, turning tools, tool rest, support unit, tailstock, copying device and all other machine components during the machining process.
- The personnel must be informed about hazards, risks and appropriate protective measures.
- The personnel must be trained in the area of regular checks of the guards and protective devices.
- The personnel must be trained in the use of the guards and protective devices.

5.2 Safety Instructions for Specific Phases of Operation

	<i>Defects and damage to the machine are to be reported immediately after detection.</i>
	<i>Any mode of operation that compromises safety is prohibited!</i>
	<i>Sufficient lighting around the machine must be ensured!</i>

5.2.1 Normal Operation

- ⚠ **Machine condition:** Check the machine for externally visible damage and defects at least once per shift! Any changes that have occurred (including those in the operating behaviour) must be reported immediately to the responsible office or person! If necessary, stop and secure the machine immediately!
- ⚠ **Protective devices:** Take measures to ensure that the machine can only be operated in a safe and functional condition. Only operate the machine when all guards and safety-related devices such as protective covers and the emergency stop device are in place and in working order.
- ⚠ **Work area:** An obstacle-free work area around the machine is essential for safe operation. The floor should be level, well maintained and free from debris such as chips and cut-off workpieces.
- ⚠ **Lighting:** The working area should be sufficiently bright due to general or local lighting.
- ⚠ **Tools:** Only use correctly ground and functional tools that are suitable for the respective work process.
- ⚠ **Workpiece:** Before working, check the workpiece for shrinkage cracks, foreign inclusions (e.g. nails, screws, etc.) and other irregularities. Wooden discs with shrinkage cracks and workpieces with metal parts and other foreign inclusions must not be machined.
- ⚠ **Steady rest:** Use a steady rest for long, heavy workpieces to counteract vibrations. Also use the steady rest when longer workpieces have to be turned overhung at the free end.
- ⚠ **Adjustments:** When carrying out adjustment work, the machine must be disconnected from the mains by means of the main switch and secured against unauthorised reconnection by closing the main switch.
- ⚠ **Adjusting tools / spanners:** Before switching on the machine, all tools and spanners must be removed.
- ⚠ **Dust protection:** Always wear a dust mask. In addition, the machine can be equipped with a separate extraction device (available from specialist dealers for woodturning supplies).
- ⚠ **Work interruptions:** Switch off the machine even during short interruptions! Never leave the machine running unattended!
- ⚠ **Leaving the machine:** Switch off the control voltage and main switch before leaving the machine. Lock the main switch with a padlock. 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 (see chapter ⇒ 13)!
- ⚠ 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!
- ⚠ Disconnect the machine from the mains during maintenance and repair work by switching off the main switch and secure it against unauthorised reconnection by locking the main switch!
- ⚠ 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).

5.2.3 Potential hazards and safe working practices

- ⚠ Wear personal protective equipment!



(Safety goggles, safety shoes, hearing protection, dust mask)

- ⚠ Danger of being drawn in! Long hair, loose clothing, watches, jewellery, scarves etc. can be caught by the rotating movement of the spindle and/or workpiece. Always wear close-fitting clothes, take off watches, jewellery, scarves, etc. and wear a hair net or suitable headgear if necessary.
- ⚠ The machine may only be used as intended (for details see section ⇒ 5).
- ⚠ Always work with all protective devices! These must be in the right places and in perfect working order. Defective guards must be replaced immediately.
- ⚠ Do not start turning before the spindle has reached the set speed.
- ⚠ Be aware of the danger of the workpiece being thrown away if the workpiece is not clamped correctly or sufficiently. Generally check that the workpiece is clamped securely before switching on the machine.
- ⚠ After changing the chuck, always remove the spanner or clamping pin immediately.
- ⚠ Before clamping a workpiece into the chuck, between the turning centres or onto the faceplate, remove all loose knots and bark.
- ⚠ When using a faceplate, the workpiece must be fastened to it well and securely. Only use screws of adequate diameter and length for this purpose.
- ⚠ Do not re-clamp workpieces that have already been turned on a faceplate at a later time, as clean concentricity can no longer be expected due to the fact that “wood is working”.
- ⚠ Do not re-clamp workpieces already turned between two centres at a later date if the original centres have been changed or removed.
- ⚠ If you want to re-clamp a workpiece at a later time, start with the lowest speed and increase it only after a smooth concentricity has been achieved again.
- ⚠ Never reach over the rotating workpiece and place your turning tools so that you do not have to reach over the rotating workpiece to reach them.
- ⚠ If a workpiece is to be machined between two centres, make sure that the tailstock is correctly adjusted and all clamping levers (longitudinal adjustment, quill) are securely tightened.
- ⚠ For newly clamped workpieces, start with the lowest spindle speed. If a workpiece is rough turned at too high a speed (in order to round it) vibrations can occur which can dangerously eject the workpiece and/or tear the tool out of your hand.

- ⚠ Always turn the workpiece by hand first before switching on the spindle. If the workpiece comes into contact with the tool rest, it can splinter or be dangerously flung away.
- ⚠ Only use tools that are suitable for the respective operation and always make sure that the tool used does not damage the wood. Damaged wood can splinter when the spindle is running, be dangerously flung away or tear the tool out of your hand.
- ⚠ Never use blunt or damaged woodturning tools.
- ⚠ Always hold the woodturning tool firmly and securely with both hands and take special precautions if the workpiece has holes or knots in it.
- ⚠ Never adjust the tool rest while the spindle is running! Before adjusting the tool rest in vertical or horizontal position, the machine must be switched off.
- ⚠ The tool rest must be positioned as close as possible (approx. 1 to 3 mm) to the workpiece.
- ⚠ The height of the tool rest must always be adapted to the selected tool and the operation to be carried out. To do this, read and follow the instructions in section ⇨ 11.5.
- ⚠ When working with the tool rest, always make sure that the tool rests well on the tool rest before feeding it to the workpiece and starting the turning work.
- ⚠ Always position your hands so that they cannot slip onto the rotating workpiece.
- ⚠ Shift or remove the tool rest when it is not needed for an operation.
- ⚠ Refrain from any kind of machining while holding the workpiece in your hand.
- ⚠ Damaged parts of the machine or defective tools must be replaced with new ones.
- ⚠ Repairs may only be carried out by qualified personnel with the main switch locked.
- ⚠ Do not clamp and machine wooden discs with shrinkage cracks or split workpieces! The workpiece may burst due to centrifugal force and cause serious injuries..
- ⚠ When turning wooden discs, do not stand in the possible flight circle of the workpiece.
- ⚠ For spindle turning, only process wood whose fibres run parallel to the spindle axis.
- ⚠ If possible, always clamp long and narrow longitudinal timbers between two peaks.
- ⚠ Longitudinal timbers that are only clamped into the chuck on one side over a turned-on tenon must not be too long. Rule of thumb: $max. \text{workpiece length} = \text{tenon diameter} \times 4$. Otherwise use tailstock centre.
- ⚠ For faceplate turning, only use wood whose fibres run perpendicular to the spindle axis.
- ⚠ Wood to be machined crosswise is usually clamped onto the spindle via a faceplate, screw chuck or jaw chuck. With larger blanks, it makes sense to use the tailstock centre as a support.
- ⚠ Before attaching a faceplate, it must be roughly pre-machined at slow speed so that it is as round as possible. This reduces the risk of possible vibrations when turning the workpiece. The workpiece must always be properly fixed on the faceplate, otherwise it can be dangerously thrown away!
- ⚠ When working between the centres, drill centring holes with a diameter of at least 5 mm.
- ⚠ Never carry out measuring work on the workpiece while the spindle is running..
- ⚠ For workpiece & chuck change, measuring, cleaning etc. switch off and lock the main switch.
- ⚠ No unintended tools, such as drilling inserts, reamers, milling cutters, round brushes, polishing wheels, etc., may be installed into the headstock spindle.
- ⚠ After switching off the spindle, never brake the spinning workpiece by hand..
- ⚠ Finish all hand grinding work before removing the workpiece from the clamping device.
- ⚠ Note the risk of fire and explosion due to dust formation or material accumulation.
- ⚠ Only operate the spindle lock when the spindle is stationary and the main switch is locked.
- ⚠ Fire hazard! Dust collection equipment must be located outdoors or in a room that is at least fire-retardant and separate from the working room.
- ⚠ Do not clean the machine or workpiece with compressed air (use a hand brush).
- ⚠ Do not wear gloves when working with the copy woodturning lathe!
- ⚠ Generally switch off and lock the main switch after finishing work.

5.3 Construction-related Safety Devices






The machine construction already includes the following safety precautions::

- The main switch can be locked to protect the machine against unauthorised/unintentional switch-on during standstill as well as during repair and maintenance work.
- The chip guard cover with viewing window protects the eyes and face from flying chips and dust during machining.
- Above the turning spindle there is a sign indicating the correct direction of rotation.
- The turning spindle has a mechanical spindle lock for changing the chuck, which is activated via a spring lever. As long as the lever is pressed inwards, the rotation of the spindle is blocked.

5.4 Electrical Safety Devices

- The service door on the left side of the machine is equipped with an internal safety switch. This prevents the machine from being switched on when the door is open.
- The machine is equipped with an emergency stop button on the front control panel. This immediately puts the machine out of operation in case of danger.
- Undervoltage protection: In the event of a voltage interruption, the machine is brought to a standstill, where it remains even when the voltage is reconnected. To restart the spindle, it must be switched on again.
- Protection against electric shock: The housing of the machine and the drives are protected against electric shock with a neutral line.
- Dust and water protection: The control cabinet and motor are protected against contact, dust and splash water on all sides with protection class IP54.
- Short circuit protection: The machine is equipped with overload protection for the motor (thermal switch).

5.5 Hazardous Areas


Hazard	Area/Action	Risk	Avoidance
Cutting and stabbing hazard 	On the woodturning tool <ul style="list-style-type: none"> In case of contact with the tip or cutting edge of the tool 	Cuts and puncture wounds to the hands.	<ul style="list-style-type: none"> Hold the tool by the tool handle when machining. Do not touch the cutting edges and tips of the tool.
Danger of kickback and ejection 	Due to tools, workpieces, clamping keys/pins being thrown away or tools kicking back <ul style="list-style-type: none"> If the workpiece is not correctly clamped or centred. If the spanner or clamping pin has not been removed from the chuck. If the speed is too high and in the case of imbalances or vibrations Jamming/catching/digging of the tool in the workpiece Damaged and/or glued wood Wood with foreign inclusions (knots, metal parts) If the tool rest is incorrectly adjusted If the tool does not rest well on the tool rest or is not held and guided securely with both hands 	Increased risk of injury or even death due to tools getting caught in the wood, ejected or flying off workpieces and workpiece and tool parts (e.g. in case of tool breakage).	<ul style="list-style-type: none"> Clamp the wood well and centre it. Remove the clamping key/clamping pin before switching on. Wear safety goggles. Adjust the tailstock centre regularly when working. Only use tools that are properly ground and suitable for the task. Do not work on damaged wood. Only work on glued wood with increased caution. Only machine newly clamped workpieces and blanks at slow speed. Check the wood for foreign bodies. Support long workpieces with a steady res. Adjust and use the tool rest correctly (refer to section ⇨ 11.5). Hold and guide the tool firmly with both hands. Keep head and body out of the workpiece flight circle. Watches, jewellery, loose clothing and long hair are prohibited!
Danger of being drawn in 	On all rotating parts, e.g.: <ul style="list-style-type: none"> Workpiece and spindle Bung chuck and jaw chuck, faceplate and other clamping devices Between steady rest and workpiece If the tool rest distance is set too high 	Increased risk of injury or even death due to hands, fingers, clothing, jewellery and long hair being drawn in.	<ul style="list-style-type: none"> Keep your hands out of the hazardous areas. Do not lean your body over the rotating workpiece. Never wear gloves when the machine or spindle is running. Watches, jewellery, loose clothing and long hair are prohibited!
Danger of crushing 	On all moving parts as well as clamping and tensioning devices of the machine, additional components and heavy machine parts.	Mild to severe injuries, such as bruises, contusions and broken bones in the hands and fingers. In case of falling parts also on legs and feet.	<ul style="list-style-type: none"> Keep your hands out of the hazardous areas. Wear gloves for set-up and maintenance work (<u>only when the main switch is locked!</u>). Lift heavy machine parts only with two persons or a suitable lifting device. Wear safety shoes.
Electric shock hazard 	On the electrical system and all energised components.	Electric shocks with increased risk of injury and even death.	<ul style="list-style-type: none"> Avoid wetness and humidity. Repair defective parts/cables/insulation immediately (electrician!). Do not touch live components. Switch off and lock the main switch during maintenance and repair work.


6 Machine Data

6.1 Technical Specifications

Distance between centres	1200 mm
Centre height	1100 mm 215 mm above machine bed
Machining diameter	Standard: Ø 450 mm Copying: Ø 215 mm
Copying device	Copy depth max. 60 mm Copy length max. 1200 mm
Sample piece	Diameter max. 150 mm Length max. 1200 mm
Drill chuck	Ø 20 mm (Wescott)
External spindle thread	M33 x 3.5
Spindle bore	Ø 14.9 / MK2
Tailstock quill stroke	140 mm
Tailstock quill cone	MK2
Motor power	1.1 kW / 1.5 HP
Spindle speeds	500 1000 2000 2800 rpm
Protection class	IP54
Dimensions (L x W x H)	see chapter ⇨ 7
Space requirement	see section ⇨ 6.4
Net weight	approx. 400 kg
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	




WOODPECKER
 HOKUBEMA GmbH • D-72488 Sigmaringen
 Telefon/phone +49(0)7571 755-0

Kopierdrehselmaschine 

Baureihe line	
Typ type	DRM 10-1200
Maschinen-Nr. machine no.	
Baujahr year of construction	202
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 2: Name plate

6.2 Correspondence in the Case of Service

Please, in case of technical problems, contact your dealer or the manufacturer's service department. In correspondence or during a telephone call regarding the purchased machine, you should have the following data at hand:

- Manufacturer number of the machine
- Voltage and frequency
- Date of manufacture
- Detailed description of the fault
- Detailed description of the type of machining carried out
- General operating time of the machine in working hours
- In case of questions regarding the electrical system, the information on the machine's type plate is also required.

6.3 Emission Levels

6.3.1 Noise Information

The values given are emission levels and therefore do not necessarily represent safe workplace values. 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 workplace include the duration of exposure, the nature of the workspace, other noise sources, etc., e.g. the number of machines and other activities in the vicinity. The permissible workplace values can also vary from country to country.

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

6.3.2 Noise Emission Values

Explanation of noise emission	
Weighted level: Noise pressure in idle state	$L_{pFA} = 85 \text{ dB}$ Uncertainty: $K = 3 \text{ dB}$
Weighted level of noise power at the workplace	$L_{WA} = 101 \text{ dB}$ Uncertainty: $K = 3 \text{ dB}$ at error limit interval 95 %



***The workplace-related noise emission values of the machine exceed 85 dB(A)!
Therefore, suitable hearing protection must be provided to the personnel!***

6.4 Workplace Requirements

The space required for the installation site of the machine is approx. 2500 x 1800 mm. In general, provide sufficient space around the machine and also calculate the required workplace for the operating personnel as well as sufficient space for the repair and maintenance personnel.

- Choose a suitable place for the machine and consider the working areas shown in the figure.
- The chosen location must guarantee a suitable connection to the mains supply and to an external extraction system.
- Around the machine, sufficient free space must be ensured for all activities to be carried out.
- Sufficient lighting (min. 500 lux) must be ensured.
- The lighting must not dazzle and a stroboscopic effect must be avoided.
- Make sure that the floor can support the load of the machine. The machine must be levelled at the four levelling supports simultaneously with a machine spirit level.

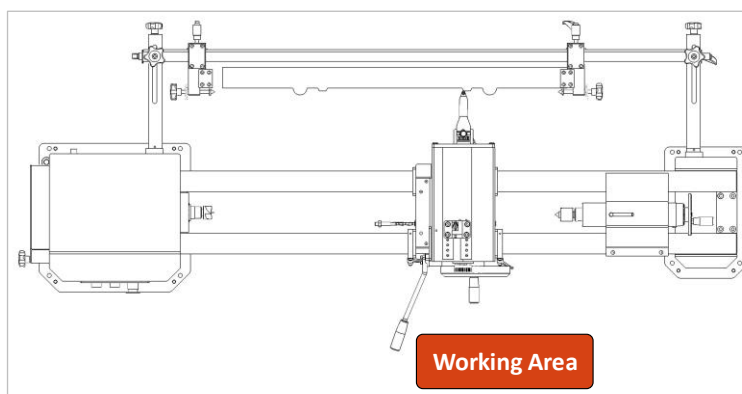


Figure 3: Working area

7 Dimensions



Figure 4: Dimensions

Subject to design and dimensional changes!

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

Lifting and transporting the machine must be carried out by qualified persons who have the required experience and equipment.



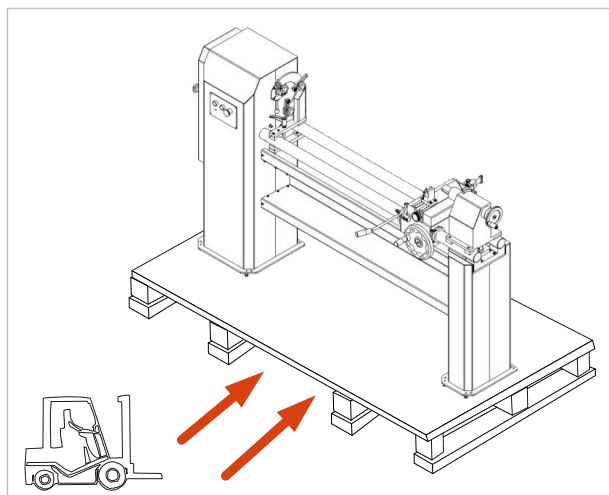
Please take great care when loading and unloading the machine. The necessary measures must be taken to avoid impacts, damage as well as injuries to persons. When transporting, also pay attention to the existing danger of tipping over!

The machine is delivered on a transport pallet and is bolted to the bottom of the pallet. The centre of gravity of the machine is approximately in the middle of the pallet. The machine may only be transported using suitable aids, e.g. a forklift truck, lift truck or indoor crane with a load capacity sufficient for the weight of the machine (net 450 kg).

8.2.1 Unloading with a Forklift Truck



Danger to life under suspended loads when transporting with a forklift truck or crane. Staying under a suspended load is prohibited! In addition, make sure that no objects fall down during transport by forklift truck / crane. Do not leave loose objects, accessories or tools on the machine.



Caution! The forks of the forklift truck must be at least 1200 mm long!

- Move the forks of the forklift truck centrally between the pallet timbers and feed the forks as shown in ⇒ Figure 5.
- Lift the pallet by a few centimetres and move the machine to the immediate vicinity of the installation site.
- Dismantle the pallet screw connections on the machine feet required for transport.

Figure 5: Unloading with a forklift truck

- Also remove all accessories that are on the pallet or that are packed separately in a box and fix all clamping levers of the movable components.
- As the machine cannot be driven under due to its design, it cannot be lifted off the pallet with a forklift truck. The machine must therefore be lifted with an indoor crane or a comparable lifting device with sufficient lifting capacity (net weight of the machine approx. 400 kg). The procedure for this is described in detail in the next section ⇒ 8.2.2.



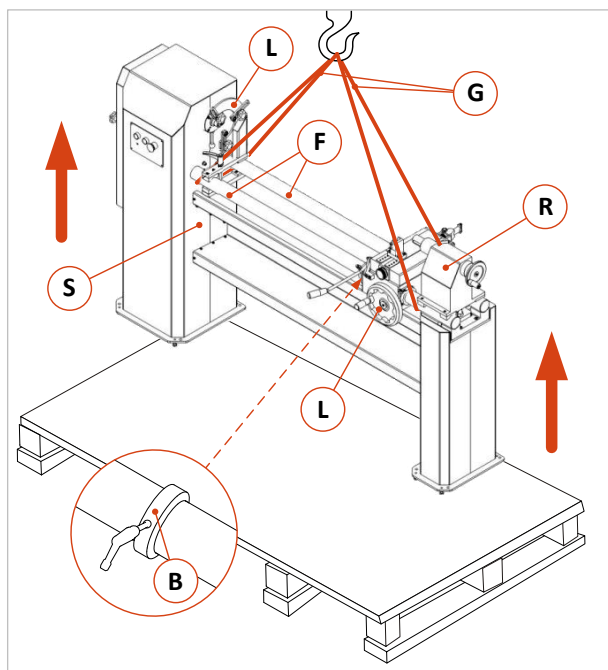
Danger to life when using a forklift truck! Keep a sufficient distance from the forklift truck and watch its speed. Vehicles with combustion engines also produce toxic exhaust gases. Wear a breathing mask if necessary.

8.2.2 Unloading and setting down with Indoor crane



Danger to life under suspended loads when transporting with a crane. Staying under a suspended load is prohibited! In addition, make sure that no objects fall down during transport by forklift truck / crane. Do not leave loose objects, accessories or tools on the machine.

After the machine has been unloaded and all fastening elements required for transport have been removed, the machine must be lifted from the pallet with an indoor crane or a comparable lifting device and parked at the place of use.



Preparation:

- Prepare two tension belts or ropes (G) with the required load capacity and in sufficient length.
- The tension belts or ropes are passed through the front and rear ends of the two guide rods (F) and hooked onto the crane hook.
- To do this, loosen the clamping lever on the tailstock (R), push the tailstock into its rearmost, right-hand position and tighten the clamping lever firmly.
- Place the longitudinal support (L) also to the rear so that a lashing strap or rope can be passed between the longitudinal support and the tailstock. Then push the set collar (B) directly onto the longitudinal support and fix it in this position.
- Then push the set collar (B) directly against the longitudinal support and clamp it with the lever.

Figure 6: Lifting with the indoor crane

- The left lashing strap or rope must be passed through as close as possible to the machine column (S). To secure the belt or rope against slipping, push the fixed steady rest (L) forward towards the machine column (so that the second lashing strap fits through). Then tighten the clamping lever of the steady rest (L) well.
- Now pass the left lashing strap or rope between the machine column and the steady rest and hook it onto the crane hook.

Lifting and setting down:

- Adjust the lashing straps or ropes well. If necessary, move the crane a little to ensure vertical and stable lifting. Lift the machine horizontally and avoid tilting it!



Before lifting, make sure that all clamping levers and the set collar for the longitudinal support are well tightened to prevent the lashing straps or ropes from slipping.




- The lifting of the machine must be done slowly, gently, without bumping and rocking.
- Lift the machine approx. 50 cm and fit the 4 levelling supports incl. nuts and lock nuts to the machine feet.
- Then park the machine with the crane at the final place of use.
- Afterwards the machine must be levelled (see section ⇒ 8.3).



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

8.3 Machine Installation

Remove the preservative that was applied at the factory to protect the parts against corrosion without painting. This can be done with commercially available solvents. Please do not use nitro solvents or similar solvents and never use water to remove the preservative!

	<p><i>Dispose of the packaging material in an environmentally friendly way!</i></p>
	<p><i>Do not use nitro thinner for cleaning. Painted surfaces of the machine can be damaged.</i></p>
	<p><i>Fire hazard! Do not smoke and do not light an open fire.</i></p>

- Due to the solid machine construction, no special foundation is required to ensure good levelling and vibration-free operation of the machine.
- After the 4 levelling supports including nuts and lock nuts have been mounted, the machine can be levelled.
- To effectively compensate for uneven floors, place a machine spirit level 0.1 mm / 1 m across the two guide rods (F) shown in ⇒ Figure 6 at the front and rear ends.
- Level the machine using the nuts of the 4 levelling supports until a stable and level stand is achieved on all sides. Then lock all four supports with the lock nuts.
- We also recommend bolting the machine to the workshop floor. To do this, use the holes provided in the machine columns.

	<p><i>It is essential that the machine is level! Check with spirit level!</i></p>
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8.4 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 are provided with a preservative. This must be checked regularly for effectiveness and renewed if necessary.

8.5 Lashing on a Transport Vehicle

For transport in a transport vehicle, the machine must be bolted to a transport pallet (as on delivery), lashed upright on the vehicle loading surface and properly secured.

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

- Bolt the machine to the pallet via the holes in the machine feet.
- Prepare the machine for lashing as described in section ⇒ 8.2.2 “Preparation”.
- The lashing straps are passed through at the same points as for “lifting and setting down” and then lashed to the floor of the transport vehicle.




At least two lashing straps must be used, each of which must be individually tensioned on the loading area of the transport vehicle! The palletised machine must be additionally secured against slipping and tipping over in the vehicle.

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 (net weight approx. 400 kg).
- For transport, loose assemblies, accessories or tools must be removed from the machine. These can, for example, be individually packed in cardboard boxes and separately lashed to a free area of the pallet (e.g. with another lashing strap).
- For all components remaining on the machine, make sure that the clamping levers and clamping handles are well tightened so that the parts are secured during transport and cannot slip out of place.
- 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.
- When tensioning the lashing straps, make sure that no parts of the machine can be crushed or damaged.
- 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.

8.6 Electrical Connection


	<p><i>The connection must be carried out by an authorised electrician!</i></p>
---	---

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

- The supply cable is inserted through the cable gland at the bottom of the main switch housing.
- The connection to the mains (3 phases) is made at the main switch in the main switch housing. The 3 phases are to be connected to the terminals “L1”, “L2” and “L3”.
- The protective earth wire (yellow/green) is to be connected to the terminal marked “PE”.
- Check the functionality of the neutral connection and the earthing with a suitable device.
- Observe the correct direction of rotation of the spindle!
→ This must rotate counterclockwise ↺
- The direction of rotation is also marked with a sign above the spindle (see ⇨ Figure 8).




Figure 7: Main switch housing

	<p><i>If the spindle rotation direction is incorrect, the phases “L1” and “L2” must be interchanged.</i></p>
---	---

- After the connections has been made, close the cable gland again so that it is dust-tight.

Only if the connection is carried out by an authorised electrician can a guarantee be given for the motor. In the event of a complaint, the electrician must confirm in writing that he has connected the machine in accordance with the regulations.

	<p><i>The fault loop impedance and the suitability of the overcurrent protection device must be checked at the installation site of the machine.</i></p>
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8.6.1 Supply Cable

Use a Cu, 5-core cable. The wire cross section must be determined on site by a qualified electrician!

The electrical cabling and the connection must be performed by a specialist according to the applicable local EVU, VDE, and EN provision. Recommended cable type: H07RN (WDE0282), whereby additional measures must be taken to protect against mechanical damage.

8.6.2 External Fuse Protection

The machine must be protected against short-circuit and overload from the external side with a back-up fuse. The value of the fuse depends on the cable cross-section and the current consumption.

The value of the external fuse must be determined on site by a qualified electrician!

8.7 External Extraction System

It is recommended to retrofit the machine with an external extraction system, which can be purchased in specialised shops for woodturning supplies and wood craftsmen. The capacity of the extraction system must be at least 1800 m³/h at a speed of 25 to 30 m/s.

9 Machine Overview

9.1 Main Components

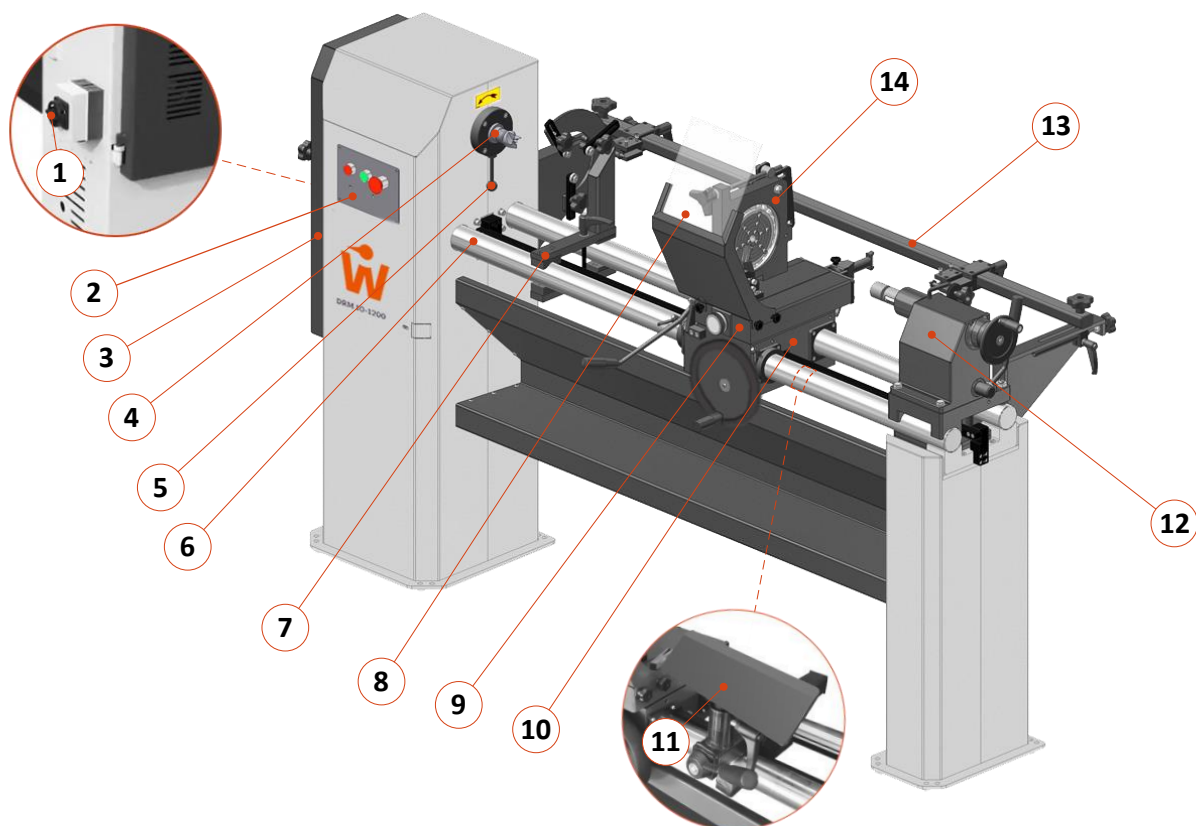


Figure 8: Machine overview - main components

No.	Description	No.	Description
1	Main switch (on rear, hidden view)	8	Chip protection cover with viewing window
2	Control panel with spindle start/stop and E-stop	9	Transverse support
3	Service door (to motor and drive belt)	10	Longitudinal support
4	Spindle	11	Tool rest
5	Manual spindle lock	12	Tailstock
6	Guide rod	13	Copying device
7	Steady rest (fix)	14	Steady rest (movable)

10 General Working Instructions

10.1 Tools and Tool Rest

- Only use sharpened tools in perfect condition to achieve optimum results and minimise the risk of injury.
- Always use only tools that are suitable for the respective operation.
- When machining manually with the tool rest, it must be set correctly (see section ⇒ 11.5).
Always hold the woodturning tool well and securely with both hands during processing.
- Turn the workpiece by hand before switching it on to ensure that it does not touch the edge of the tool rest.
If the workpiece comes into contact with the tool rest while the spindle is running, it can burst and be ejected dangerously.



Increased risk of injury when the spindle is running due to ejection of the workpiece on contact with the tool rest!

10.2 Material Selection

- Only use good quality wood for turning that does not contain knots or cracks. The use of defective wood poses hazards to persons and to the machine, as it tends to splinter. The material to be processed must not contain any metal parts (nails, screws, etc.).
- Glued workpieces should only be processed by qualified persons who have sufficient experience in the field of “woodturning”. Such wood must be glued carefully and without weak points. Otherwise it can burst due to the high centrifugal forces and cause serious injuries. Inexperienced woodturners should first start with solid material in order to acquire the necessary basic knowledge.

10.3 Workpiece Preparation

Before a workpiece can be processed on the woodturning lathe, it must be prepared according to its shape and condition.

- Wood to be machined lengthwise should be pre-cut to a square shape before working on the lathe.
- Wood to be machined crosswise should be pre-cut as round as possible (e.g. with a jigsaw or bandsaw).

10.4 Workpiece Centring

Precise workpiece centring is of elementary importance when working on a woodturning lathe. This is the only way to ensure clean concentricity while avoiding imbalances and vibrations.

- Determine the exact centre of the workpiece with a suitable measuring device, e.g. centring angle or by diagonal marking or scribing. Mark this clearly visible.
- Use a centre punch to hammer an approx. 2 mm deep grain into the wood at this position.



Increased risk of injury due to ejection of not exactly centred workpieces!

- In addition, follow the instructions in the section ⇒ 11.10 “Tailstock Operation”.

10.5 Sequence for newly clamped Workpieces

- If a new workpiece is being machined, start at the lowest speed to roughly pre-machine it.
- As soon as the workpiece has the later basic shape and a uniform and vibration-free concentricity is ensured, you can increase the rotational speed.



Increased risk of injury due to ejection of the workpiece at too high speeds!

11 Operating the Machine

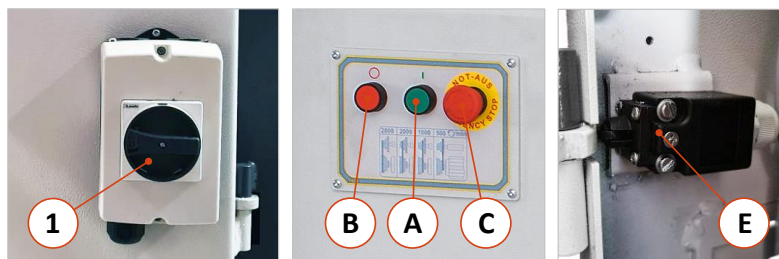
Before commissioning, carefully read and observe the operating manual and the safety instructions ⇒ 5.

	<p>Before switching on, check that</p> <ul style="list-style-type: none"> • there are no loose parts in the working area and all tools have been removed, • all spanners / clamping pins have been removed from the spindle, • the guards are fitted in accordance with regulations, • the direction of rotation of the spindle is correct, • the drive belt is perfectly tensioned • and no persons are present in a danger zone of the machine.
--	--

11.1 Switching the Machine ON and OFF

11.1.1 Control and Safety Switches

- The main switch (see left photo) is located on the back of the left machine column.
- The control panel (see middle photo) is located on the left front of the machine.



- 1 Main switch
- A “Spindle ON” push-button
- B “Spindle OFF” push-button
- C E-stop button (snap-in)
- E Internal safety switch
(prevents dangerous switching on of the spindle when the service door is open)

Figure 9: Main switch, control panel and internal safety switch

11.1.2 Switching the Machine ON

	<p>Increased risk of injury! Before switching on the machine, make sure that there is no spanner or clamping pin left in the chuck of the spindle.</p>
--	---

- Before starting the spindle drive, turn the main switch (1) to position “I” and, if necessary, make sure that the emergency stop button (C) is not locked.
- Start spindle drive by pressing the green push-button (A).

11.1.3 Switching OFF the machine regularly

- Switch off the spindle drive by pressing the red push-button (B).
- Before leaving the machine and at the end of work or maintenance, turn the main switch (1) to the “O” position and secure it with a padlock against unauthorised restarting.

11.1.4 Switching OFF in Case of Emergency and Danger

- In case of emergency or danger, press the emergency stop button (C) → The machine stops.
- In order to restart the machine, the cause of the emergency stop must first be eliminated. Then the emergency stop button (C) can be unlocked again (turn to the right or pull out).

11.2 Speed Setting



**Switch off the machine during settings and secure it against unauthorised restarting!
Lock main switch with padlock!**

Setting the spindle speed is done by changing the belt to other pulleys.

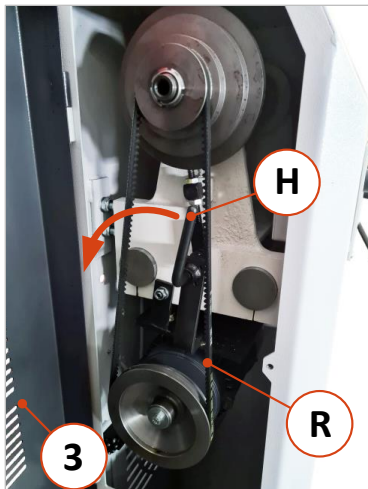


Figure 10: Speed setting

- Switch off spindle with push-button (B) and wait for standstill.
- Switch off the main switch and lock it.
- Now open the service door (3) on the left side of the machine.
- See ⇒ Figure 10: To loosen the belt pulleys, swivel the tensioning lever (H) 90° to the left. Then set the belt to the desired speed according to the following table:

2800	2000	1000	500	⌀/min

Note: Select a low speed for new, glued, long, unbalanced and hard workpieces as well as for large diameters.

- Then swivel the tensioning lever (H) back to tension the belt again.
- Afterwards, close the service door (3) so that the machine can be started again.

Please also read the sections ⇒ 13.3 “Tensioning the Drive Belt” and ⇒ 13.5 “Replacing the Drive Belt”.

11.2.1 Optimum Speed Setting

For safety reasons, it is of elementary importance to set the optimum speed for the respective upcoming work process. In principle, the optimum speed is based on the diameter of the workpiece → The smaller the workpiece diameter, the higher the speed can be set.

11.2.1.1 Slow Speeds

Slow speeds are set when

- a newly clamped workpiece is to be roughly pre-machined resp. brought into shape,
- rough turning work is carried out on large and/or unbalanced workpieces
- and if glued workpieces or hard materials are to be machined.

The slow rotation speed prevents oscillations and vibrations that can dangerously throw the workpiece out of the woodturning lathe.

11.2.1.2 Medium Speeds

Medium speeds are ideal for general woodturning tasks with low spindle loads.

11.2.1.3 High Speeds

High speeds are set when

- a workpiece with a small diameter is to be machined,
- a workpiece made of soft wood is to be machined
- or fine woodturning work is to be carried out.



Increased risk of injury due to ejection of the workpiece at too high speeds!

Be especially careful not to burn your hands when “sanding” and do not exceed the speed of the last turning operation. If you are unsure → Set slower speed.

11.3 Workpiece Clamping



Switch off the machine while clamping the workpiece and secure it against unauthorised restarting. Lock the main switch with a padlock!

Various fixtures which are mounted on the spindle resp. on the tailstock can be used to clamp the workpieces to be machined, for example face plate \varnothing 200 mm for flanged workpieces, Drill chuck, bung chuck, centre punch, 4 prong live centre etc.

In order to prevent vibrations, very long workpieces as well as longer workpieces where the free face is to be machined overhung must be additionally supported with a steady rest.

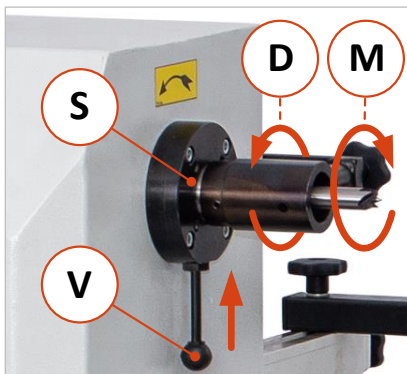
Longitudinal timber that is only clamped on one side in a chuck via a tapped tenon must not be longer than four times the tenon diameter. Otherwise use tailstock centre.

11.4 Assembly / Disassembly of a Bung or Clamping Chuck



Switch off the machine during assembly of the bung or clamping chuck and secure it against unauthorised restarting! Lock the main switch with a padlock!!

To assist in the assembly and disassembly of a bung or clamping chuck, the machine is equipped with a mechanical spindle lock. This is activated with the locking lever (V). To mount a chuck on the spindle, first switch off and lock the main switch and then proceed as follows:



- Push the locking lever (V) inwards (see arrow in \Rightarrow Figure 11), while turning the spindle (S) at the same time.
- Turn the spindle (S) until the locking lever (V) engages in the intended receptacle.
- Hold the locking lever (V) in the engaged position with one hand, otherwise it will move back again due to the internal spring.
- Use the other hand to disassemble a chuck, if mounted, by unscrewing it from the spindle (D) and/or to mount a chuck by screwing it onto the spindle (M).
- Afterwards, the locking lever (V) can be released again.

Figure 11: Cuck assembly / disassembly

11.5 Working with the Tool Rest

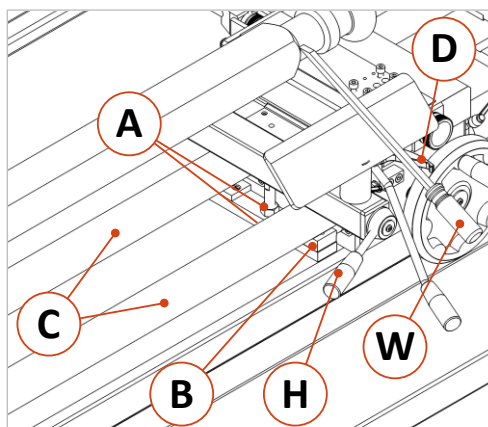


Figure 12: Mounting the tool rest

- Mount the tool rest by unscrewing the nuts (A) shown in ⇨ Figure 12. Then turn the plate (B) with the inserts as shown in the figure.
- The plate (B) must be aligned so that the inserts are positioned exactly under the two guide rods (C).
- Now fasten the plate (B) to the two guide rods (C) with the nuts (A).
- Use the handle (H) to fix the tool rest in the desired position on the guide rods.
- Adjust the height with the handle (D) so that the cutting edge of the tool (W) is correctly positioned in relation to the workpiece resp. axis centre (see ⇨ Figures below).

- To adjust the distance to the workpiece, turn the workpiece by hand and find the widest point.
- The edge of the tool rest should be positioned as close as possible (approx. 1 to 3 mm) to the workpiece.
- The edge of the tool rest must never come into contact with the rotating workpiece.
 - Therefore, before switching on the spindle, check whether the tool rest is well and securely fixed.
 - Turn the workpiece manually before switching on to ensure that it does not touch anywhere.



***Increased risk of injury from adjusting the tool rest while the spindle is running!
Always switch off the spindle before adjusting the position of the tool rest***

The height adjustment of the tool rest depends on the woodturning tool used. The following examples show the different settings considering the contact of the cutting edge to the tool.

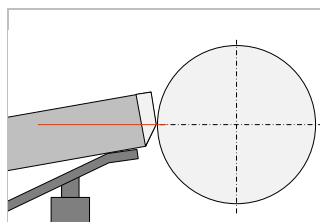


Figure 13: Roughing-out gouge

The roughing-out gouge is used to "pre-rough" workpieces between two centres. In the process, the square blank is pre-turned round so that it can later be turned to its final shape. The cutting angle of the tool can be 35° to 40°.

Approach the roughing-out gouge at a slight angle to the workpiece so that the angled edge scrapes off the material (still without cutting). Then raise the handle of the roughing-out gouge so that the cutting edge is in contact with the wood. Now feed the cutting edge outwards in several steps towards the workpiece front side.

⚠ Never move the roughing-out gouge back, as this increases the risk of splintering and injury!

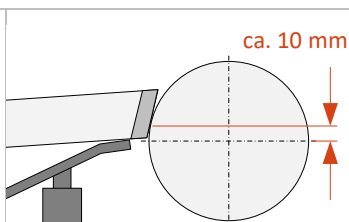


Figure 14: Square nosed chisel

Square nosed chisels for shaping, profiling and finishing are available in flat or curved form. Many people prefer the curved shape, as this gives better turning results in a simple way.

Square nosed chisels are ideal for producing smooth surfaces, optimising profiles or turning beads.

If the shape of the workpiece permits, square nosed chisels should always be preferred to gouges. Guide the square nosed chisel over the tool rest horizontally to the workpiece so that the bevelled edge scrapes off the material (still without cutting). Then raise the handle of the square nosed chisel so that you can do stepwise controlled cuts.

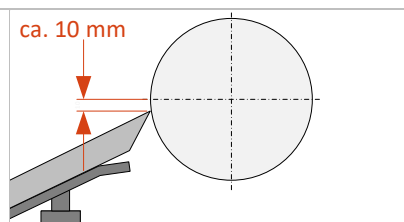


Figure 15: Spindle gouge

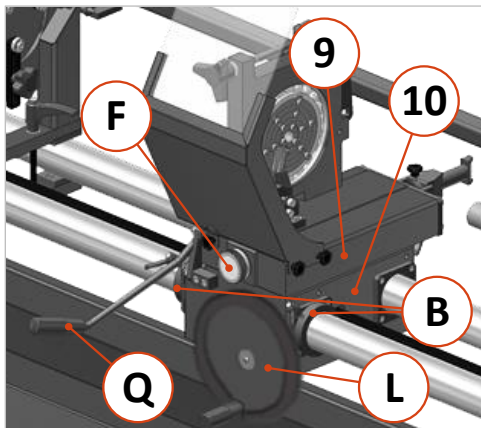
The spindle gouge creates curved and oval shapes on the workpiece but can also be used for finishing.

It is available in different sizes, thicknesses and cutting angles. The cutting edge should be fed through the steeper angle of the tool rest and always below the rotating axis.

Feed the spindle gouge at an angle to the workpiece so that the bevelled edge scrapes off the material (still without cutting). Then raise the handle of the tool and turn in several controlled steps and with little chip removal.

**⚠ Increased risk of injury!
Never use the spindle gouge for hollowing or turning bowls!**

11.6 Operating the Longitudinal and Transverse Support



The support unit, consisting of the longitudinal support (10) and the transverse support (9), can also be used to feed a tool.

Longitudinal adjustment:

The longitudinal adjustment in the front and rear direction is done via the hand wheel (L). If necessary, the set position can be fixed with the two set collars (B).

Transversal adjustment:

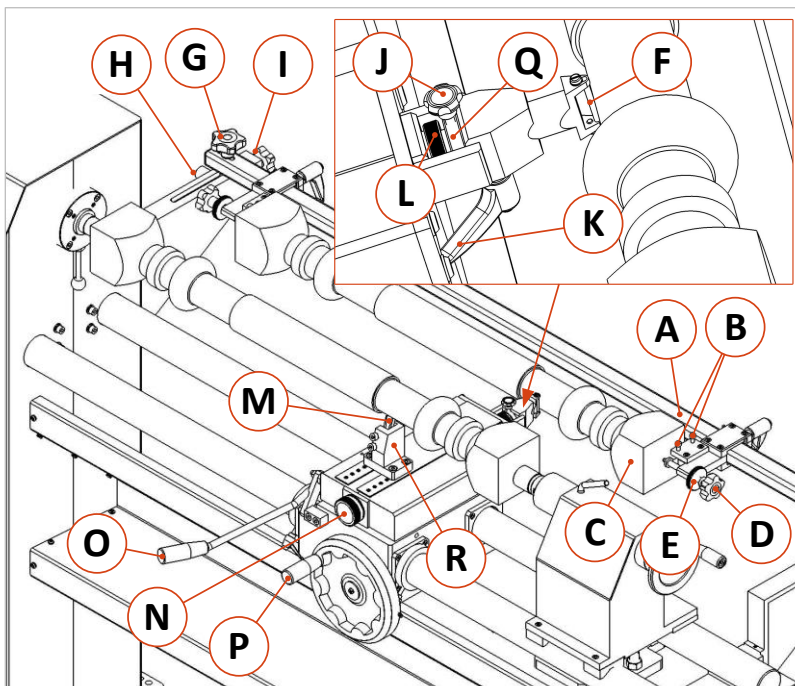
The transversal movement is adjusted with the lever (Q), which is pulled up or pushed down depending on the desired direction (towards or against the spindle). The adjusting wheel (F) can be used to limit the cross adjustment (chip removal).

Figure 16: Operating the support unit

Remark: The transverse support is equipped with mounting holes for attaching additional fixtures, e.g. tool rest (see section ⇨ 11.5), mortising adapter, movable steady rest and sensor for the copying device.

11.7 Operating the Copying Device

With the copying device, the shape of an already turned workpiece (sample) or a flat template can be duplicated onto other workpieces in a simple and quick way. For this purpose, the sample or template is clamped in the copying device next to the workpiece to be machined and scanned with a sensor. At the same time, the scanned shape is transferred to the copying tool, which is clamped in the tool holder mounted on the transverse support.



- A flat template is placed against the template carrier (A) and fastened to it with the screws (B).
- A sample (C), on the other hand, is clamped between the centre points (D) and tightened via the nut (E).
- The sample or template is moved to the sensor (F) by loosening the clamping wheels (G) and handles (H) on the front and rear sides for rough adjustment.
- The fine adjustment is made in each case via the setting wheel (I).

Figure 17: Operating the copying device

- The copying tool (M) mounted on the tool holder (R) must be centred along the centre axis - within the corresponding range of the diameter to be machined. You will find the details on the plate below the tool holder.
- To scan the largest diameter of the sample, loosen the handles (J) and (K) and move the copy sensor (F) to the corresponding position. Then tighten the handle (K).
- Pull the ring (Q) forward to the sample and fix it with the handle (J).
- The handwheel (P) is used for longitudinal and the lever (O) for transverse adjustment of the tool.
- The graduated handle (N) is used to preset the depth for rough turning (1 graduation = 0.03 mm).

- After rough turning, loosen the handle (K) and pull the sensor (F) with the ring (Q) backwards until it touches the nut (L). This sets the depth for fine turning.
- For machining the next workpiece, return the sensor (F) and the ring (Q) to the front position. So all work pieces get the same dimensions.
- The amount of chip removal during turning depends on the distance between the nut (L) and the ring (Q). This distance can be adjusted by adjusting the nut (L).

11.7.1 Making a Template or Sample

On the front of the sensor there is a roller with a diameter of 4 mm (see ⇒ Figure 18). The holder of the roller is wedge-shaped and has a 40° angle. Due to this shape, too small radii and inclinations/slopes are not machinable.

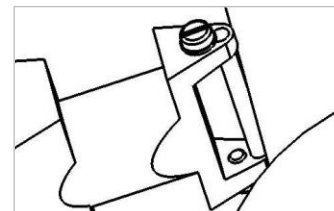


Figure 18: Sensor (detailed view)

The following must thus be considered when making the template/sample:

- The minimum radius for scanning should be more than 2 mm.
- The angle of inclination/slope for scanning should be higher than 20°.
- A safety area of sufficient size must be provided at the front and rear end of each sample. This deflects the tool so that it cannot collide with the spindle and/or tailstock quill → See front and rear areas of the workpiece (C) shown in ⇒ Figure 17.



Increased risk of collision and injury when using templates or samples without safety area at the front and rear end!

11.8 Using the Mortising Adapter

To be able to work with the mortising adapter, an electric hand drill or a router with a clamp diameter of 43 mm is required.

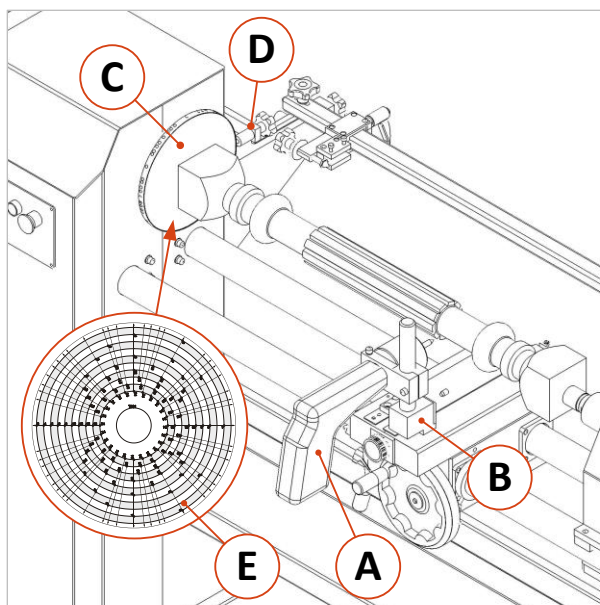


Figure 19: Using the mortising adapter

- Mount the machine holder (B) onto the transverse support instead of the tool holder (R) shown in ⇒ Figure 17.
- Now fasten your hand drill (A) or router into the clamping hole of the holder.
- Now clamp the drill or cutter to be used in the chuck of your hand drill or router.
- Mount the index plate (C) into the spindle of the copy woodturning lathe.
- With the fixing device (D) attached to the side of the spindle, you can set the pitches 3, 4, 5, 6, 8, 10, 12, 15, 18, 24 using the pitch table (E) and work on them step by step.
- To do this, clamp the workpiece between two centres using the tailstock.

- If you want to make grooves or slots on a profile surface, then make a template according to the corresponding profile. Please follow the instructions in section ⇒ 11.7.1.
- The centre axes of the sensor and the tip of the drilling or milling tool must be flush with each other in relation to the surfaces of the template and the workpiece.

11.9 Fixed and Movable Steady Rest

If the length of a workpiece or its strength does not allow machining to be carried out without offset or bending, a steady rest is used instead of the tailstock. A steady rest serves as additional support for long, thin or heavy workpieces and to avoid unbalance, oscillations and vibrations. Use a steady rest also if you want to turn longer workpieces overhung on the free face.

11.9.1 Using the fixed Steady Rest

The fixed steady rest is placed on the two guide rods of the machine and can be moved there in the longitudinal direction of the workpiece. By loosening and tightening the clamping lever, it can be pushed manually to the required position and fixed there. The three rollers of the steady rest can be released via clamping wheels and easily adjusted to the respective workpiece diameter.

11.9.2 Using the movable Steady Rest

The movable steady rest is mounted on the top of the longitudinal support and thus also carries out the longitudinal movement of the support, which enables continuous machining of the workpiece with the copying device.

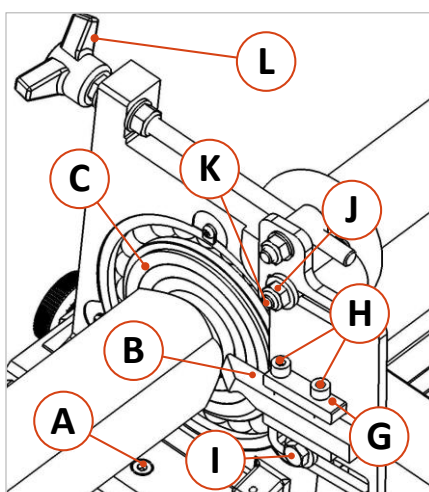


Figure 20: Movable steady rest "pre-turning"

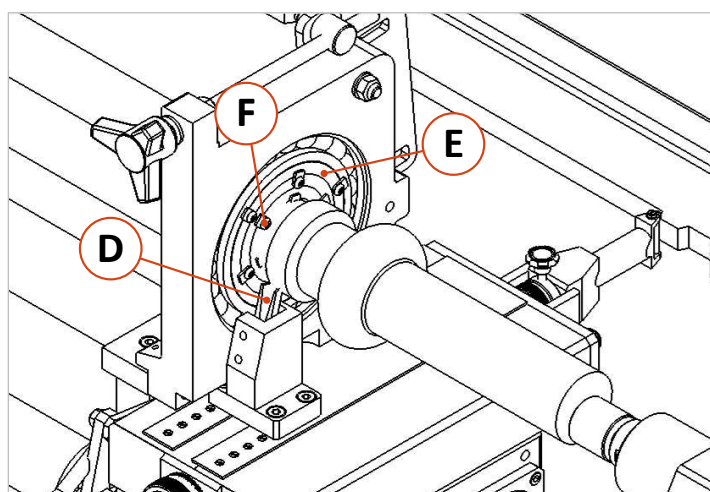


Figure 21: Movable steady rest "machining"

Pre-turning (⇒ Figure 20): With the tool (B) clamped in the tool holder (G) of the steady rest, a tenon is pre-turned which guides the workpiece through the steady rest by means of a ring (C) corresponding to the tenon diameter.

Machining (⇒ Figure 21): The actual machining is done with the copying tool (D), which is attached to the transverse support on the other side of the steady rest. The rings (C) are fixed in the steady rest with the small plates (E) and screws (F). The shape for the workpiece is transferred by the sensor of the copying device on the basis of a template or sample.

The tool (B) for pre-turning is clamped in the tool holder (G) via the screws (H).

→ It must protrude 28 to 30 mm from the tool holder (G).

The tool holder (G) is fixed to the steady rest by the bolt (I), the nut (J) and the axis (K). After loosening the bolt (I) and tightening the nut (J), the tool holder (G) can be rotated around the axis (K) by turning the handle (L).

To set the tool (B) for pre-turning, proceed as follows:

- Loosen the bolt (I) and the nut (J) so that the tool holder (G) can be moved in the grooves by turning the handle (L).
- Adjust the tool (B) to a diameter that is 1 to 2 mm larger than the corresponding ring in the centre of the steady rest. Then tighten the bolt (I) and the nut (J) again.
- Now turn a test chip removal and measure the machined diameter.
→ For correction, only loosen the bolt (I) and turn the tool holder to the axis (K) by means of the handle (L).
- Tighten bolt (I) and carry out a new test chip removal.
- Repeat the process until the diameter is reached.

11.10 Tailstock Operation

- To move the tailstock to its longitudinal position, loosen the clamping lever (**K1**). Then tighten the clamping lever (**K1**) again.

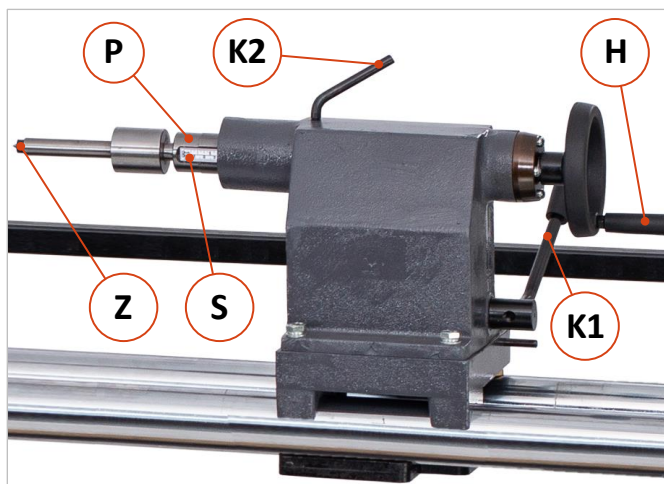


Figure 22: Tailstock operation

- The workpiece is clamped between the spindle and tailstock with the quill (**P**) and the revolving tailstock centre (**Z**).
- To adjust the quill (**P**), loosen the clamping lever (**K2**) and crank the quill with the handwheel (**H**) to the desired position. **Note:** The depth setting of the quill (**P**) can be read via the scale (**S**).
- Adjust the quill (**P**) outwards with the handwheel (**H**) until the centre point (**Z**) has penetrated sufficiently deep into the workpiece.

- Then tighten the clamping lever (**K2**) again.
- Before switching on the spindle, rotate the workpiece by hand and ensure a firm and secure fit between the two centres.
- Readjust the revolving tailstock centre (**Z**) from time to time during machining with the motor stopped.
- To remove the revolving tailstock centre (**Z**), hold it with your left hand and turn the handwheel (**H**) counterclockwise \curvearrowright with your right hand until the Morse taper is released and the quill (**P**) can be removed.

Remark: Regularly check that the revolving tailstock centre is aligned vertically and horizontally with the spindle centre. To do this, clamp a live centre into the MK2 insert on the spindle side and push the tailstock towards the spindle until the two centres are almost touching. Now check the alignment of the two centres. If this does not match, the tailstock must be realigned with a suitable alignment tool (e.g. MK2 lathe alignment test bar).

12 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.

Fault	Possible Cause	Remedy
Motor does not run	Motor has no voltage or is connected incorrectly	→ Power supply / connections / check phases (electrician!)
	Main switch (1) defective	→ Replace main switch (electrician!)
	Push button (A) defective	→ Replace push button (electrician!)
	External main fuse defective	→ Replace external fuse
	Motor defective	→ Replace motor (customer service!)
	Broken drive belt	→ Replace the drive belt (⇒ 13.5)
	Emergency stop button pressed	→ Pull/unlock button
	Internal safety switch active	→ Close service door
	Motor overloaded / overheated	→ Switch off the machine and allow the motor to cool down for a while. Only then switch on again.
Spindle stops with motor running as soon as the tool contacts the workpiece	Chip removal too high	→ Reduce chip removal
	Insufficient drive belt tension	→ Retension belt (see ⇒ 13.3)
	Drive belt worn / sagging	→ Replace belt (see ⇒ 13.5)
	Drive belt and/or pulleys are contaminated with grease or oil	→ Clean belt and/or pulleys thoroughly → Replace belt if necessary (see ⇒ 13.5)
Surface of the workpiece is too rough	Blunt woodturning tool	→ Resharpener or replace tool
	Woodturning tool springs	→ Clamp tool shorter
The workpiece becomes conical	The tailstock is misaligned (centres are not aligned)	→ Align tailstock centrally
The woodturning tool gets caught in the workpiece or is pulled into the wood	Blunt woodturning tool	→ Resharpener or replace tool
	Tool rest set too low	→ Set the tool rest correctly
	Distance of the tool rest too high	→ Set the tool rest closer to the workpiece
	Wrongly chosen tool	→ Use suitable tool
The workpiece flutters	Workpiece is not centred correctly	→ Centre the workpiece correctly
	Workpiece loosens when turning	→ Clamp the workpiece correctly
	The rotation speed is too high	→ Reduce speed
Strong vibrations occur	Workpiece is warped, out of round or has weak points/cracks	→ Prepare the workpiece adequately for turning (e. g. by sawing, planing etc.)
	The workpiece is too long	→ Use steady rest (see ⇒ 11.9)
	Drive belt worn	→ Replace belt (see ⇒ 13.5)
	Machine stands unevenly	→ Level the machine (see ⇒ 8.3)
Inaccurate woodturning results	Workpiece is too heavy, unevenly shaped or strained	→ Clamp workpiece stress-free and mass-balanced
	Tool rest incorrectly aligned	→ Align tool rest horizontally

13 Maintenance and Inspection



Before carrying out any maintenance and inspection work, chapter ⇒ 5 “Safety” must be read carefully and observed!

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



Switch off the machine during all maintenance and repair work and secure it against being switched on again unexpectedly! Lock the main switch with a padlock!

Due to the different operating conditions, it is not possible to determine in advance how often a wear check, inspection or maintenance is required. Appropriate inspection intervals should be determined considering your operating conditions.

13.1 Cleaning

Regular and thorough cleaning guarantees a long service life of the machine and also contributes to safety.

- After each work shift, the machine and all its parts must be thoroughly cleaned by removing dust and chips from the machine bed and the machine interior.
- Clean all moving parts every week with turpentine or other suitable and safe solvents. Pay special attention to the thorough cleaning of all guides and clean them with a soft brush and turpentine or other suitable and safe solvents.



Avoid cleaning with compressed air, as the wood dust produced can penetrate the bearings and guides of the machine and is also distributed in the workshop!

13.2 Lubrication

The machine was subjected to a test run at the factory for a longer period of time and was already lubricated ready for operation. Relubrication before commissioning is therefore not necessary.

- Clean all the belts of the machine weekly with a soft brush to eliminate the dust and chips
- Clean the machine and its parts and apply a thin layer of oil or grease to all moving parts of the machine. Cover the drive belts and pulleys beforehand to avoid contamination by oil and grease.
- The two guide rods (**F**) are lubricated with special grease via the lubricating nipples (**N**).
- Apply a few drops of oil weekly to the threads of clamping and adjustment levers.

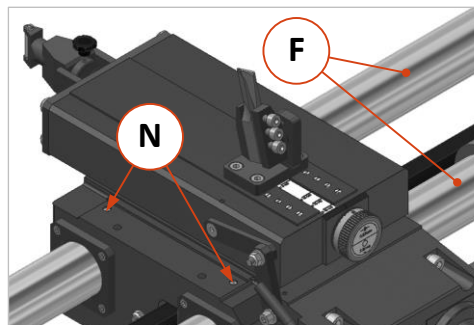


Figure 23: Lubricate guide rods

Lubricate the machine only with special grease, e.g.

- **ARCANOL BN 102**
- **CALIPSOL H442B**
- **Shell Gadus S2 V100 3 (formerly SHELL Alvania 3)**

For oil lubrication we recommend:

- **Motor oil type 20 W 40**

Always use the same grease/oil

13.3 Tensioning the Drive Belt

	<p>Switch off the machine during all maintenance and repair work and secure it against being switched on again unexpectedly! Lock the main switch with a padlock!</p>
--	--

After the first ten hours of operation, check the V-belt tension. If the two belts are too loose, they must be retightened as follows:

- Turn off the main switch (1) and lock it.
- Open the maintenance door (3) on the left side of the machine.
- Swivel the clamping lever (H) 90° to the left.
- **To retension**, loosen the lock nut (K) and tension the belt via the adjusting nut (S) with a suitable open-end wrench by turning clockwise ↻.
- Then tighten the lock nut (K) again and swivel the clamping lever (H) back to the right.

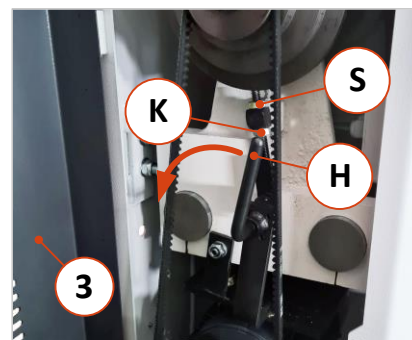


Figure 24: Tensioning the drive belt

Important: Do not tension the belt too much. The belt is correctly tensioned when it can be pressed through between the pulleys by about 1 cm with a lateral force of approx. 2 kg.

- Finally close the maintenance door again.

	<p>To avoid damage to the bearing, increased wear and excessive heat generation, the belt must never be tensioned too much!</p>
--	--

	<p>The belt tension must be checked at least monthly and retensioned if necessary!</p>
--	---

13.4 Maintaining the Drive Belt

Contamination of the drive belt with oil, grease, solvents, paint, etc. must be avoided. Clean and dry the belt and pulley channels only with a soft brush or a clean cotton or paper towel. Do not use solvents or similar cleaning agents and never use water.

13.5 Replacing the Drive Belt

- To replace the belt, swivel the lever (H) shown in ⇒ Figure 24 by 90° to the left until the belt can be removed easily and without jamming. Then the new belt can be fitted and the lever (H) can be tensioned again.
- Check the belt tension and retension if necessary as described in section ⇒ 13.3.
- Drive belt type to be used: SPZ 1237 LW.

13.6 Checking the Function of the Emergency Stop Button

- Check the function of the emergency stop button weekly. Press the emergency stop button while the machine is running → The machine must stop.
- To be able to restart the machine, the emergency stop button must be unlocked again (turn to the right or pull out).

13.7 Machine Condition

Check the machine at regular intervals for loose screw connections, worn, damaged or defective switches and for the correct tension of the drive belt.

13.8 Checking the Centres

- Regularly check the alignment of the centres between the spindle and the tailstock. The detailed procedure for this can be found in the bottom paragraph of the section ⇒11.10.

13.9 Checking the Safety Labels

- Check regularly that all safety labels on the machine are present and in good legible condition.
- The safety labels must be completely present and always clearly legible.
This applies especially to the safety instructions.




13.10 Taking the Machine out of Operation / Storage

- When putting the machine out of operation, switch off the electrical system.
- If the machine will not be used for a long time, clean the machine carefully after switching off the electrical system and treat the worktable and the other bare parts with an anti-corrosion agent.
- The machine must not be stored in a damp room and must be protected against the effects of the weather.

13.11 Defects and their Remedy

- In case of defects and pending repair work, switch off the machine, lock the main switch and disconnect the machine from the mains by pulling out the supply plug. Attach an appropriate sign, e.g. "Defect / Repair Work", to the machine so that it is clearly visible.

13.12 Average Situations / Emergencies

	<ul style="list-style-type: none"> • <i>In case of flooding of the work area, switch off the power supply immediately!</i> • <i>In case of fire, immediately switch off the power supply and use a class A fire extinguisher. Alternatively, fight the fire with a fire blanket. If the power cannot be switched off, you need a class C powder extinguisher.</i> • <i>Never extinguish burning electrical equipment with water!</i>
	<ul style="list-style-type: none"> • <i>Before the machine is put back into operation, it must be checked by a trained and approved technician.</i> • <i>The working area around the machine (see section ⇒ 6.4) always be clear.</i>
	<ul style="list-style-type: none"> • <i>The machine must not be used in potentially explosive atmospheres!</i>

14 Electrical Circuit Diagram

⚠ Work on the electrical components of the machine may only be carried out by an authorised electrician!

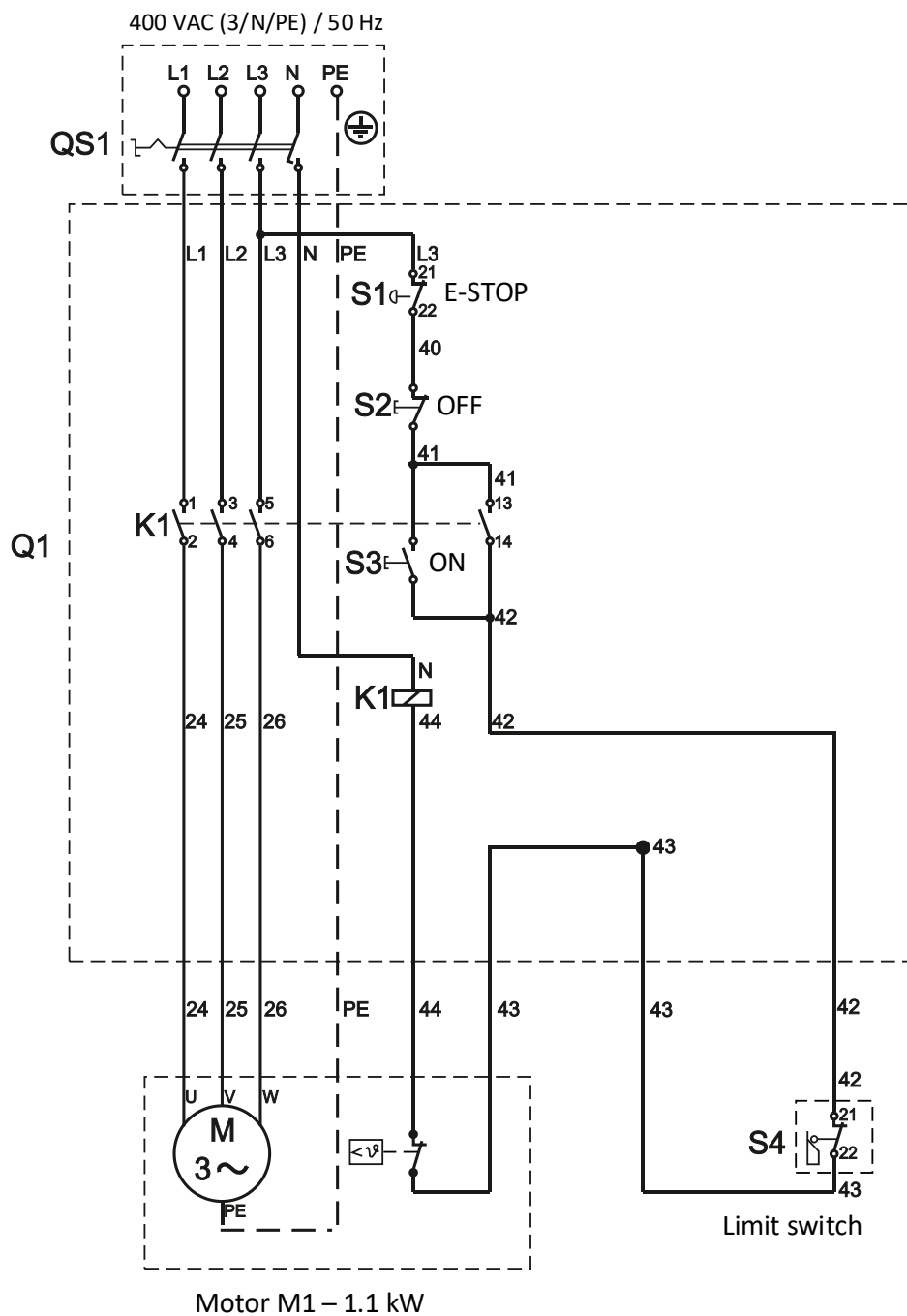




Figure 25: Electrical circuit diagram

15 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.

CE 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

D- 72488 Sigmaringen (Germany)

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

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

hereby declares that the manufactured machine

Copy Woodturning Lathe WOODPECKER DRM 10-1200

Machine-No.:

Year of manufacture:

in the version provided complies with the following directives:

- Machinery Directive 2006/42/EC

- EMC Directive 2014/30/EU

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

Sigmaringen, 06.07.2022

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Reinhold Beck
Business Manager