holzstar®
Holzbearbeitungsmaschinen

Operating instructions

DB VARIO SERIE

Woodturning lathe

- DB 305 VARIO
- DB 460 XL VARIO

DB 305 VARIO

DB 460 XL VARIO

Imprint

Product identification

Woodturning lathe	Item number
DB 305 VARIO	5920305
DB 460 XL VARIO	5920462

Manufacturer

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Indications regarding the operating instructions

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According to DIN EN ISO 20607:2019

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Indications regarding the copyright

Content

1 Introduction

Congratulations on purchasing your HOLZSTAR woodturning lathe.

Please read the operating instructions carefully before commissioning.

They form an important part of the delivery and must be kept at a location within the vicinity of the woodturning lathe that is accessible to every user.

The instructions contain important information relating to proper commissioning, the intended use as well as the safe and efficient operation and maintenance of your woodturning lathe. Please also observe the local accident prevention regulations and general safety regulations relating to the different application areas of your table router.

1.1 Copyright

1.2 Customer service

Please contact your specialist dealer if you have questions about the woodturning lathe or need technical assistance. They will help you with specialist information and expert advice.

Germany:

Stürmer Maschinen GmbH
Dr. Robert-Pfleger-Str. 26
D-96103 Hallstadt, Germany

Repair service:
Fax: 0049 (0) 951 96555-111
Email: service@stuermer-maschinen.de
Internet: www.holzstar.de

Spare part order:
Fax: 0049 (0) 951 96555-119
Email: ersatzteile@stuermer-maschinen.de

We are always interested in information and experiences that result from the application and can be valuable for the improvement of our products.

1.3 Limitation of liability

All information and notes in these operating instructions were summarised while taking applicable standards and rules, the state-of-the-art technology and our long-term knowledge and experiences into consideration.

In the following cases the manufacturer is not liable for damages:

- Failure to observe these operating instructions
- Use other than intended,
- Use of incompetent or unqualified personnel,
- Unauthorised modifications,
- Technical changes,
- Use of not allowed spare parts.

The actual scope of delivery may deviate from the explanations and presentations described here in case of special models, when using additional ordering options or due to latest technical modifications.

The obligations agreed in the delivery contract, the general terms and conditions as well as the delivery conditions of the manufacturer and the legal regulations at the time of the conclusion of the contract are applicable.

2 Safety

This section gives an overview of all the important safety packages for protecting personnel and for safe, trouble-free operation. Other task-based safety notes are included in the individual chapters.

2.1 Symbol explanation

Safety instructions

The safety notes in these operating instructions are highlighted by symbols. The safety notes are introduced by signal words which express the concern of the risk.

DANGER!

This combination of symbol and signal word indicates an imminently hazardous situation which will result in death or serious injury if not avoided.

WARNING!

This combination of symbol and signal word indicates a potentially dangerous situation that will result in death or serious injury if not avoided.

CAUTION!

This combination of symbol and signal word indicates a potentially hazardous situation which may result in minor or slight injury if not avoided.

ATTENTION!

This combination of symbol and signal word indicates a potentially hazardous situation which may result in damage to property and the environment if not avoided.

NOTE!

This combination of symbol and signal word indicates a potentially hazardous situation which may result in damage to property and the environment if not avoided.

Tips and recommendations

This symbol highlights useful tips and recommendations as well as information for an efficient and trouble-free operation.

It is necessary to observe the safety notes quoted in these operating instructions in order to reduce the risks for personal injuries and damages to property.

2.2 Obligations of the operating company

The operating company or operator is the person who independently operates the woodturning lathe for commercial reasons, or leaves it to a third party for use or application, and who bears the legal product responsibility for the protection of the user, the staff or for third parties.

Obligations of the operating company:

If the woodturning lathe is used for commercial purposes, the operating company must comply with the legal working safety regulations. Therefore, the safety notes in this operating manual, as well as the safety, accident prevention and environment protection regulations applying for the area of application of the woodturning lathe must be met. The following applies in particular:

- The operating company must be informed about the applicable industrial safety regulations and conduct a risk assessment to identify additional hazards resulting from the special working conditions at the machine's place of use.
  The company must include this information in operating manuals for operating the woodturning lathe.
- Throughout the lifetime of the woodturning lathe, the operating company must verify whether the operating manuals it has prepared correspond to the latest regulations, and adapt them, if necessary.
- The operating company must unambiguously regulate and determine the responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- The operating company must ensure that all persons who work with the woodturning lathe have read and understood this manual. Furthermore she must instruct the staff in regular intervals and inform them about the hazards.
- The operator must provide the necessary protective equipment to the staff and order the use of the necessary protective equipment in a binding way.

Furthermore, the operating company is responsible for maintaining the woodturning lathe in a technically flawless state. Thus, the following applies:

- The operator must ensure that the maintenance intervals described in this manual are observed.
- The operator must have all safety devices checked regularly for their good working order and their integrity.

2.3 Qualification of personnel

The different tasks described in this manual represent different requirements to the qualification of the persons entrusted with these tasks.

WARNING!

Danger in case of insufficient qualification of the staff!

Insufficiently qualified personnel are not capable of assessing the risks associated with machine use and may expose themselves and others to the risk of severe or fatal injuries.

- Have all works only performed by qualified persons.
- Keep insufficiently qualified persons out of the working area.

Only persons reliable working procedures can be expected from, are allowed to perform all works. Persons the responsiveness of which is affected by e. g. drugs, alcohol or medication, are not allowed to work with the machine.

The qualifications of the personnel for the different tasks are mentioned below:

Operator:

The operator is instructed by the operating company about the assigned tasks and possible risks in case of improper behaviour. Any tasks which need to be performed beyond the operation in the standard mode must only be performed by the operator if it is indicated in these instructions and if the operating company expressively commissioned the operator.

Electrical specialist:

With professional training, knowledge and experience as well as knowledge of respective standards and regulations, qualified electricians are able to perform work on the electrical system and recognise and avoid any possible dangers.

Qualified personnel:

Due to their professional training, knowledge and experience as well as their knowledge of relevant regulations the specialist staff is able to perform the assigned tasks and to recognise and avoid any possible dangers themselves.

Manufacturer:

Certain works may only be performed by specialist personnel of the manufacturer. Other personnel is not authorized to perform these works. Please contact our customer service for the execution of all arising work.

2.4 Personal protective equipment

The personal protective equipment serves to protect persons against impairments of safety and health while working. The staff member has to wear personal protective equipment while performing different tasks on and with the machine which are indicated in the individual paragraphs of these instructions.

The personal protective equipment is explained in the following paragraph:

Ear protection

The hearing protection protects against damages of hearing due to noise.

Safety goggles

The safety goggles are used to protect the eyes from flying parts.

Protective gloves

The protective gloves serve to protect the hands against sharp components as well as against friction, abrasions or deep injuries.

Safety boots

Safety boots protect the feet against crushing, falling parts and slipping over on slippery ground.

Protective work clothing

Protective work clothing is close-fitting work clothing, without protruding parts, with low tear resistance.

2.5 Safety markings on the machine

The following safety markings affixed to the woodturning lathe (Fig. 1) must be observed and followed.

Fig. 1: Safety markings: 1 Mandatory sign (observe instructions for use / wear ear protection / wear eye protection / use a mask / wear protective clothing / wear safety shoes / disconnect the plug) |
Warning sign (2 Warning of entanglement risk / 3 Warning of dangerous electrical voltage) |
4 Prohibition sign (operation with long hair / tie prohibited)

The safety markings attached to the woodturning lathe must not be removed. Damaged or missing safety markings may lead to errors, personal and material damages. Immediately replace them.

Decommission the machine if the security symbols cannot be recognised nor understood at the first glance, until the new security symbols are applied.

2.6 Safety data sheets

Safety data sheets for hazardous materials can be obtained from your specialist dealer or by calling +49 (0)951/96555-0. Specialist dealers can find safety data sheets in the download area of the partner portal.

2.7 Safety devices

Motor protection switch

NOTE!

The motor on the woodturning lathe is equipped with a thermal circuit breaker that switches off the motor automatically in the event of thermal overload.

The motor can be restarted once the cause of the overload has been rectified and the motor has cooled down completely.

Cover circuit breaker

NOTE!

The cover circuit breaker is located under the front cover. If the cover is not fitted or closed, the switch prevents the motor from starting.

Emergency stop button

NOTE!

The emergency stop button is located above the control panel. The emergency stop button is used to quickly switch the lathe to a safe state in the event of danger or avert a hazard.

2.8 General safety notes

- The lathe may only be operated and maintained by personnel who have read and understood these operating instructions. The operator must be adequately trained in the application, adjustment and operation of the lathe.
- Always keep the machine and its working environment clean. Provide for sufficient illumination.
- Do not use the lathe in areas where there is a risk of exposure to fire, explosions or damp.
- Protect the woodturning lathe from environmental influences and do not leave exposed to direct sunlight or rain.
- Never use tools in a damp or wet environment.
- Keep children and persons who are not familiar with the woodturning lathe away from your working environment.
- Do not overload the machine! It works better and more safely within the specified power range.
- Never pull the cable to remove the plug from the socket. Protect the cable against heat, oil and sharp edges.
- If the mains cable is damaged, shut down the machine immediately and have the cable replaced by a qualified electrician.
- When laying the mains cable, make sure that it is not crushed or bent and does not get wet.
- In order to avoid operating errors, familiarise yourself with the position of the switches before turning on the machine.
  Memorise the location of the emergency stop button so that you can use it immediately whenever necessary.
- Never leave the machine unsupervised during operation. Before leaving the work area, switch off the machine and wait until the motor is stationary! Then disconnect the plug from the power supply.

- Only operate the machine with all the safety devices attached correctly and do not make any modifications to the machine.
- Before each use of the woodturning lathe, make sure that no parts have been damaged. Immediately replace damaged parts in order to avoid sources of danger.
- Before switching on the machine, make sure that any wrenches and adjustment tools have been removed.
- Before starting work, remove items such as rings, watches, bracelets, ties, etc., as they may become entangled in different parts of the machine.
- Never work under the influence of illnesses that affect concentration, drugs, alcohol or medication, or when suffering from fatigue.
- Protect and tie up long hair to prevent it from becoming entangled in moving machine parts.
- Always wear the necessary safety equipment (safety goggles, aprons, safety shoes, ear protection, etc.). Wearing non-slip footwear is recommended when operating the machine.
- Always wear a protective mask when machining materials that generate dust and chips.
- Avoid adopting an abnormal posture.
- Make sure that you are standing in a stable position.

2.9 Machine-specific safety measures

- The wood dust produced when machining materials can pose a health risk. Always operate the woodturning lathe in a well-ventilated area with proper dust extraction. Use an extraction system, if possible.
- Always position the tool rest over the centre line of the lathe before machining a workpiece.
- Never operate the woodturning lathe in the wrong rotational direction. The rotational direction must always match the direction of the arrow on the machine (anti-clockwise rotational direction).
- The machine may only be used with operational safety devices. If a safety device is faulty or becomes ineffective, stop the machine immediately.
- Firmly secure the workpiece you wish to process.
- Do not machine cracked or flawed pieces of wood.
- Use the lowest speed immediately after clamping a new workpiece in position.
- Observe the warning information on the woodturning lathe.
- In order to avoid being ejected, the material clamped in the lathe must not be too unbalanced.
- Before switching on the motor, rotate the clamped workpiece a few times by hand to prevent collisions.
- Do not wear working gloves as they can become caught on the workpiece.
- Avoid snagging the tool when machining the workpiece.
- Place the tool on the rest. Position the cutting edge on the tool at the centre of the workpiece.
- Remove any loose knots before turning on the machine.
- Before starting any maintenance or repair work, secure the lathe to prevent it from being put into operation.
- Never touch a rotating tool with your hands.
- Do not use compressed air to clean the lathe or remove chips.

3 Intended use

The lathe is designed exclusively for turning wood or wood-based materials.

It is intended for use in the hobby sector and small workshops. The proper use also includes observing all indications in these operating instructions.

3.1 Reasonably foreseeable misuse

Any use beyond the proper use or any other use is regarded as misuse.

- Using the woodturning lathe to machine materials other than wood (e.g. metal or plastic).
- Machining unbalanced or heavy workpieces.
- Industrial use.

Misuse of the woodturning lathe can result in dangerous situations.

Stürmer Maschinen GmbH is not liable for any design and technical modifications to the woodturning lathe.

Any claims due to damages because of intended use are excluded.

3.2 Residual risks

Even if all safety regulations are observed and if the machine is operated properly, there are residual risks which are listed as follows:

- Health hazard from wood dust.
- Health hazard from noise.
- Risk of injury from contact with live components.
- Risk of injury to fingers and hands from rotating parts.
- Risk of injury from flying workpiece parts.
- Risk of injury (particularly cuts) from improper handling/guidance of tools.

4 Technical data

Model	DB 305 VARIO	DB 460 XL VARIO
Max. turning Ø	200 mm	305 mm
Centre height	100 mm	155 mm
Centre width	305 mm	460 mm
Spindle head thread	M 33 x 3.5	M 33 x 3.5
Speeds [rpm]	750-3200	650-1430 | 1240-2790 | 1600-3800
Speed settings	1	3
Speed regulation control	Electroni-cally variable	Electroni-cally variable
Tailstock cone	MT 1	MK 2
Sleeve adjustment	35 mm	55 mm
Connection voltage (~50 Hz)	230 V	230 V
Current type/ phase(s)	AC / 1	AC / 1
Output power	0.15 kW	0.35 kW
Rated input	0.25 kW	0.55 kW
Approx. length (product)	740 mm	900 mm
Approx. width / depth (product)	320 mm	340 mm
Approx. height (product)	360 mm	410 mm
Weight	19 kg	38 kg

4.1 Rating plate

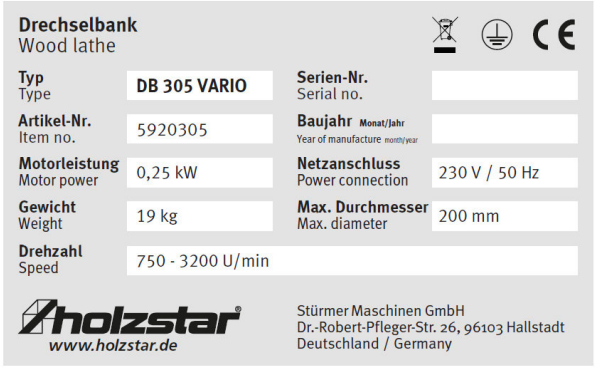

Fig. 2: DB 305 VARIO rating plate

5 Transport, packaging, storage

5.1 Delivery and transport

Delivery

Check the woodturning lathe for visible transport damage immediately after delivery. If you notice any damage on the woodturning lathe, please inform the carrier or distributor immediately.

5.2 Transport

CAUTION!

Risk of injury from devices falling over or falling from a forklift, pallet truck or transport vehicle.

Only use transport devices and load suspension gear that can hold the total weight of the load.

The improper transport of individual devices and packaged or unpackaged devices that are stacked on top of one another or next to one another unsecured, is liable to cause accidents and damage or malfunctions for which we cannot assume liability or provide any guarantee.

Transport the scope of delivery secured against shifting or tilting with a sufficiently dimensioned industrial truck to the installation site.

General risks during internal transport

CAUTION: DANGER OF TIPPING

The device may be lifted unsecured by a maximum of 2cm.

Employees must remain outside the danger zone and out of range of the load.

Warn employees and advise them of the hazard.

Loads may only be transported by authorised and qualified persons. Act responsibly during transport and always consider the consequences. Refrain from daring and risky actions.

Gradients and descents (e.g. driveways, ramps and the like) are particularly dangerous. If such passages are unavoidable, special caution is required.

Before starting the transport check the transport route for possible danger points, unevenness and disturbances as well as for sufficient strength and load capacity.

Danger points, unevenness and disturbance points must be inspected before transport. The removal of danger spots, unevenness, and disturbances by other employees at the time of transport presents a major risk.

Careful planning of internal transport is therefore essential.

5.3 Packaging

All packaging materials and packaging aids used for the woodturning lathe are recyclable and must therefore always be recycled.

The delivery packaging is made of cardboard, so please dispose carefully by having it chopped up and given to the recycling collection.

The films are made of polyethylene (PE) and the upholstery parts are made of polystyrene (PS). Deliver these substances to a collection point for recyclable materials or to the waste disposal company which looks after your region.

5.4 Storage

The woodturning lathe must be cleaned thoroughly prior to storage in a clean, dry, frost-free environment. Cover the machine with a protective tarpaulin.
Ambient temperature range: –25 °C to +55 °C.

6 Description of the device

6.1 Machine

Illustrations in these operating instructions may deviate from the original.

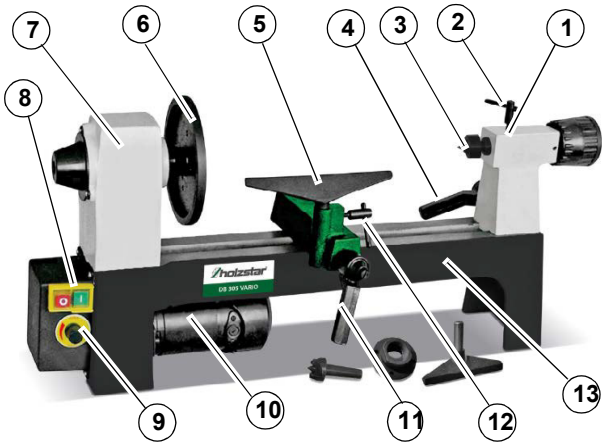

Fig. 3: Woodturning lathe DB 305 VARIO

1 Tailstock
2 Sleeve clamping lever
3 Sleeve with centre point
4 Locking lever for tailstock
5 Tool rest
6 Drive plate
7 Headstock
8 On/off buttons
9 Speed regulator
10 Drive motor
11 Locking lever for tool rest
12 Locking handle for tool rest
13 Machine bed

6.2 Scope of delivery

DB 305 VARIO

1x Turning steel support 110 mm
1x Turning steel support 172 mm
1x Clamping disc 52 mm
1x Clamping disc 145 mm
1x Fourspur drive centre
1x Travelling centre

DB 460 XL VARIO

1x Turning steel support 150 mm
1x Turning steel support 300 mm
1x Clamping disc 145 mm
1x Fourspur drive centre
1x Travelling centre

6.3 Accessories

Description	Item no.	Compatible with	
		DB 305 VARIO	DB 460 XL VARIO
Bed extension 550 mm	5930460		x
Turning tool set, 8-piece	5931011	x	x
4-jaw chuck Ø 150 mm M33 x 3.5	5931020		x
4-jaw chuck Ø 100 mm M33 x 3.5, set 1	5931021	x	x
4-jaw chuck Ø 100 mm M33 x 3.5, set 2	5931023	x	x
Tangs set MT2, 3-piece	5931056		x
4-jaw chuck Ø 95 mm Premium set	5931057	x	x
4-jaw chuck Ø 115 mm Premium set	5931058	x	x

7 Setting up and connecting

7.1 Installation site requirements

The woodturning lathe must be set up securely on a solid, level surface. Make sure that there is adequate space to work The installation site should meet the following criteria:

- The support surface must be level, firm and free of vibrations.
- The support surface must not be permeable to lubricants.
- The installation room or workspace must be dry and well ventilated.
- Machines that produce dust and chips should not be operated near the lathe.
- There must be sufficient space for operating personnel to work and handle materials as well as perform adjustment and maintenance tasks.
- There must be adequate lighting at the installation site.

7.2 Assembly

The machine must be fully assembled prior to being commissioned. In order to ensure a smooth assembly process, first clean any parts that are covered or coated with a heavy-duty rust inhibitor (if applicable).

Mounting the woodturning lathe on the tabletop (DB 305 VARIO)

Step 1: Measure and mark the three holes on the tabletop as shown in Fig. 4.

Step 2: Drill through the tabletop. Position the woodturning lathe on the tabletop.

Step 3: Insert the bolts with washers (not supplied) into the holes from underneath the tabletop and screw into the threaded holes on the underside of the lathe frame.
The bolts should engage at least 25 mm into the thread on the lathe frame.

ATTENTION!

Make sure that the machine is freely accessible for the operating personnel and material transport as well as adjustment and maintenance tasks.

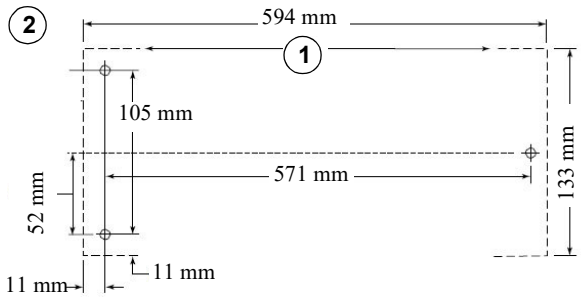

Fig. 4: Mounting on DB 305 VARIO

Locking lever

The locking levers for the tailstock spindle and the tool rest come in several parts.
The bolt (item 1, Fig. 5) is screwed through the spring (item 2, Fig. 5) and into the clamping lever (item 3, Fig. 5). If a locking lever comes loose or has fallen apart in transit, reassemble and screw into position.

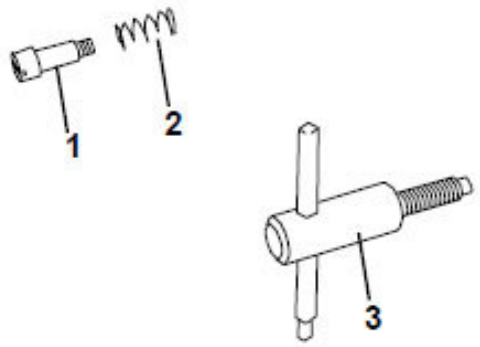

Fig. 5: Locking lever

NOTE!

The levers on the woodturning lathe are designed to collide as infrequently as possible with other parts of the machine or the workpiece. To tighten the lever, push it down and turn it clockwise. If you pull the lever outwards, it is released from the interlock and can be adjusted as required.

Drive plate

The woodturning lathe incorporates two drive plates with different diameters. Use the disc that is most suitable for the size of the workpiece. Secure the workpiece to the drive plate using wood screws (not supplied). Make sure that the screws are not so long that they penetrate into the area of the workpiece where you intend to remove material.

Step 1: Screw the drive plate (item 1, Fig. 6) onto the end of the headstock shaft and tighten by hand.

Step 2: Place the wrench (item 2, Fig. 6) onto the drive plate.

NOTE: Since the headstock shaft is belt-driven, it rotates freely if not held while the face plate is tightened or loosened.

Step 3: Insert the tip of the locating rod (item 3, Fig. 6) into one of the slots on the side of the headstock shaft.

Step 4: Hold the locating rod and turn the wrench to either tighten or loosen the drive plate.

Step 5: Remove the locating rod and the wrench. When removing the drive plate, continue turning it until it becomes detached from the spindle thread.

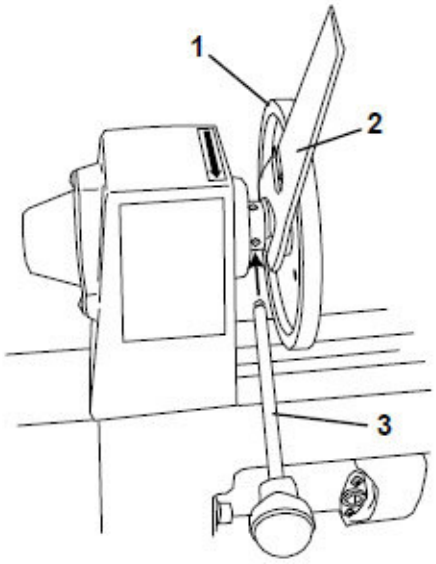

Fig. 6: Drive plate

Inserting the centre point

Step 1: Make sure that the mating surfaces of the centre point and spindle are clean. You can use a cloth dampened with acetone to remove other residues, oil, etc.

ATTENTION!

Never feed the workpiece to the centre of the spindle while the centre point is located in the headstock.

Step 2: Insert the centre point (item 1, Fig. 7) through the drive plate and into the headstock mount (sleeve).

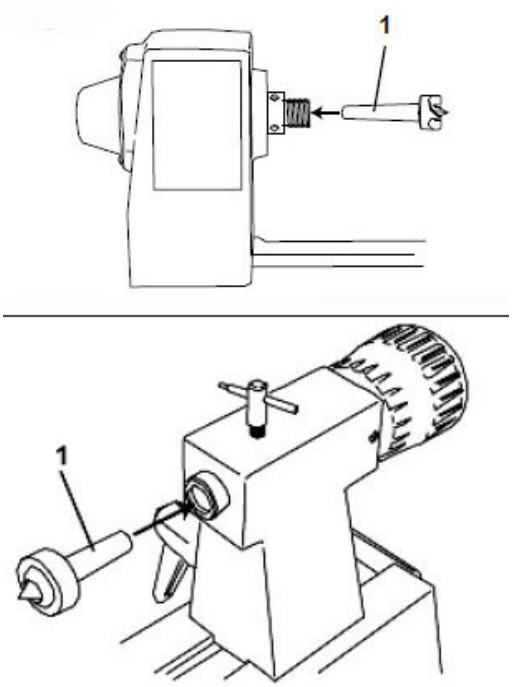

Fig. 7: Fitting the centre point

Removing the centre point

Step 1: Hold the centre point firmly to prevent it from falling. Use a cloth to protect your hand from sharp edges.

Step 2: Insert the locating rod (item 1, Fig. 8) through the spindle hole to loosen the centre point.

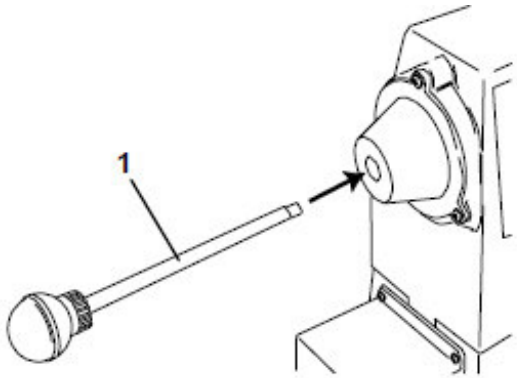

Fig. 8: Removing the centre point

7.3 Electrical connection

DANGER!

Risk of death from electric shock!

There is a danger of life in case of contact with current running through components. Switched on electrical components can execute uncontrolled movements and lead to severe injuries.

ATTENTION!

Work on the electrical installation must always be carried out by a qualified electrician.
The housing must be earthed to protect against the risk of electric shock.
Check the socket and make sure that it is earthed properly.

When connecting the cable to the power supply, make sure that the cable properties (voltage, mains frequency, fuse protection) match the information on the rating plate and for the motor.

If you need to use an extension cable, make sure it is in good condition and rated for the power consumption of the device. An undersized cable will cause the mains voltage to drop, resulting in power loss and overheating.

Use a separate circuit for the woodturning lathe. Before connecting the motor to the mains power supply, make sure that the switch is set to OFF.

Step 1: Insert the plug into a 230 V socket.

Step 2: The machine is now operational.

8 Prior to commissioning

ATTENTION!

Before starting up the machine, check the electrical connection, cables and contacts.

After completing assembly, perform a test run to ensure that the machine is connected to the power supply correctly and the safety components are working properly. If you identify an unusual problem during the test run, stop the machine immediately, disconnect from the mains power supply and resolve the problem BEFORE operating the machine again. The troubleshooting table in this manual may help you resolve the issue.

During the test run, the machine checks whether the motor is performing and operating correctly.

Carry out a test run on the machine as follows:

Step 1: Remove all tools required for assembly from the machine.

Step 2: Set the machine to the neutral position and turn the spindle speed knob anti-clockwise as far as it will go.

Step 3: Connect the machine to the power supply.

Step 4: Make sure that the machine is operating correctly by pressing the ON button and slowly turning the spindle speed control clockwise. The spindle must rotate.

Step 5: Turn the spindle speed knob anti-clockwise.

Step 6: When operating correctly, the machine runs quietly without generating vibrations or friction noise. The spindle should rotate anti-clockwise.

Step 7: Press the OFF button.

9 Operating the woodturning lathe

LUBRICATION NOTE!

All moving parts must be lubricated before the woodturning lathe is used for the first time. The belt cover must be removed in order to lubricate the bearing and drive shafts. Do not use any lubricant other than adhesive grease, otherwise the machine may malfunction!

In addition, all guides, sleeves and bearings must be lubricated or oiled with commercially available lubricating grease.

DANGER!

There is danger to life for the operator and for other persons if they do not comply with the following rules.

- The woodturning lathe may only be operated by one person. Other persons must not enter the working area during operation.

CAUTION!

Risk of crushing!

Working on the machine improperly poses a risk of injury to the upper limbs.

The following personal protective equipment must be worn while working on the device:

Chapter 2.4 "Personal protective equipment" includes an explanation of the pictograms.

9.1 Switching on the machine

Step 1: Turn the speed control to the lowest setting. Select the rotational direction using the selector switch.

Step 2: Press the "ON" button.

9.2 Switching off the machine

Step 1: Press the "OFF" button.

NOTE!

If you do not intend to use the woodturning lathe for longer periods, disconnect the mains plug.

9.3 Speed adjustment

9.3.1 DB 305 VARIO

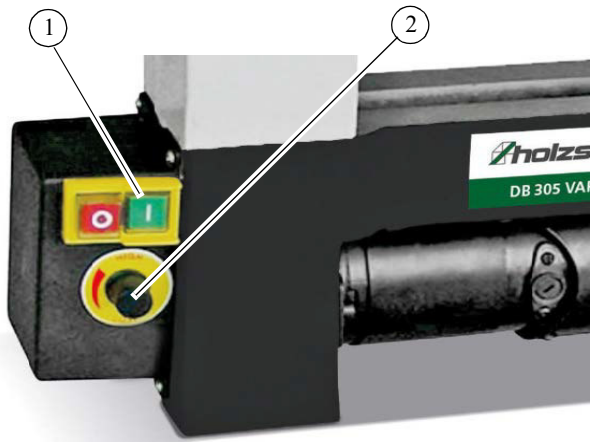

Fig. 9: Control box

The control box is connected to the motor's electrical connection and incorporates two external control elements: ON/OFF switch (1) and speed control (2).

Step 1: Set the switch to the ON position (item 1, Fig. 9) to start the motor. Power is supplied to the motor immediately.
The activation delay is 1 to 3 seconds. The time it takes for the motor to reach the speed selected using the speed control depends on the size and weight of the workpiece.

Step 2: Set the switch to the OFF position to stop the woodturning lathe.
The power is interrupted immediately, but the spindle and workpiece will continue to rotate and eventually come to a stop.

Speed control

ATTENTION!

Always set the speed control to the lowest setting before starting the woodturning lathe. Never start the lathe at maximum speed!

The speed control (item 2, Fig. 9) can be used to set the speed according to the weight of the workpiece. Turning the rotary knob clockwise after starting the woodturning lathe increases the speed of the spindle.
Turning the knob anti-clockwise decreases the speed of the spindle.
Adjust the rotary knob until the lathe reaches the required speed.

9.3.2 DB 460 XL VARIO

The detachable control box can be mounted up to 90 cm away from the lathe (mounting materials included).

After mounting the control box, insert the connector on the box into the plug connector on the motor.

The woodturning lathe is fitted with a 3-stage belt pulley configuration for the different speed ranges (Fig. 10).

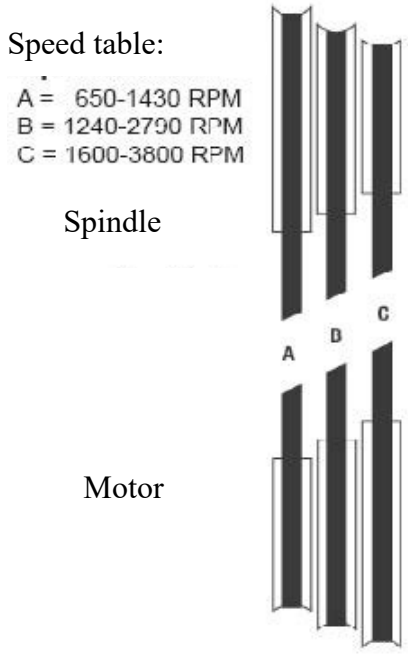

Fig. 10: Belt configuration

Changing belts to change speed

ATTENTION!

Only remove the protective cover when the woodturning lathe is disconnected from the power supply.
Every time you reposition the V-belt, always close and secure the protective cover afterwards.

Step 1: Disconnect the connector plug from the woodturning lathe.

Step 2: Open the protective cover.

Step 3: Release the clamping lever so that the motor plate can be moved upwards.

Step 4: Tilt the control box to the side to access the motor pulley. Move the belt drive from one pulley to another to change the speed (Fig. 10).
Always move from the larger pulley to the smaller pulley!

Step 5: Tighten the clamping lever again to tension the belt drive.

Step 6: Close the protective cover.

ATTENTION!

Make sure that the V-belt tension is correct.
If the V-belt is tensed too strong or too weak it might result in damages.
The V-belts are tensioned correctly if they deflect about 1 cm when pressed with your finger.

9.4 Adjusting the tailstock

You also have the option of moving the tailstock on the lathe onto the machine bed after releasing the locking lever.

Step 1: In order to move the tailstock (item 5, Fig. 11), release the locking lever (item 1, Fig. 11) and slide the tailstock to the required position on the bed.

Step 2: Tighten the locking lever (item 1, Fig. 11) again.

ATTENTION!

The tailstock may fall off the machine bed when moved.

Step 3: The tailstock spindle (item 4, Fig. 11) can be moved by releasing the spindle locking lever (item 2, Fig. 11) and then turning the handwheel (item 3, Fig. 11).

Turn the handwheel clockwise to extend the spindle, and anti-clockwise to retract the spindle.
Lock the tailstock locking lever (item 1, Fig. 11) and the spindle locking lever (item 2, Fig. 11) before operating the woodturning lathe.

The tailstock spindle is hollow and can be accessed from the handwheel end. Use the ram to remove the centre point or drill holes through the centre of a workpiece on a drive plate.

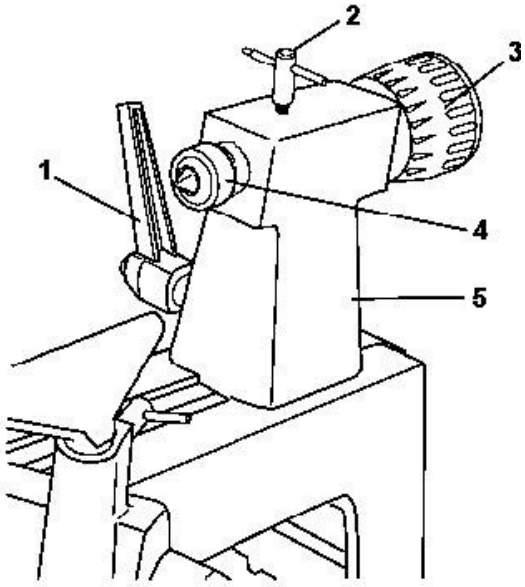

Fig. 11: Tailstock

9.5 Adjusting the tool rest

Use the tool rest to safely guide the turning tool and support your hand.

Step 1: To move the tool rest (item 1, Fig. 12), release the locking lever (item 4, Fig. 12) and the clamping lever 3, then move the base to the right or left and forwards or backwards.

Step 2: After aligning the tool rest, tighten the lever (item 4, Fig. 12) again.

Step 3: To adjust the angle of the tool rest (item 2, Fig. 12), release the locking lever (item 3, Fig. 12), slide the tool rest to the required position and tighten the locking lever.

Step 4: To fit the other tool rest, release the locking lever (item 3, Fig. 12) and remove the tool rest (item 2, Fig. 12) from the tool rest base, insert the other tool rest, position as required and tighten the locking lever (item 3, Fig. 12) again.

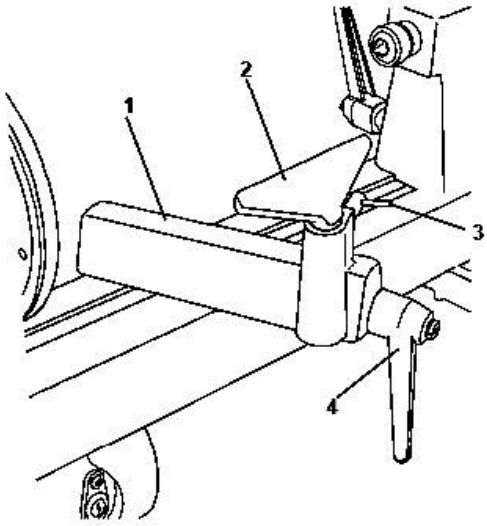

Fig. 12: Adjusting the tool rest

WARNING!

Make sure that the tool rest is positioned as close to the workpiece as possible.
Turn the workpiece by hand to check the distance before switching on the lathe.

9.6 Replacing the belt, spindle, and bearing

DB 460 XL VARIO (see spare parts drawing, Fig. 15).

Step 1: To change the belt (item 53), the spindle (item 14) or the bearing (item 4), you must first loosen the two clamping screws (item 2) and release the handwheel (item 1).

Step 2: Loosen the knurled screw (item 8) and remove the top access panel (item 7), then loosen the clamp screw (item 69) on the drive pulley (item 52).

Step 3: Knock out the spindle with a hammer.
Then use a slotted screwdriver to push the spindle out completely. Make sure you do not to damage the bearing or thread.

NOTE!

Replace the bearing, spindle, or belt as required.

Belt: The spindle only has to be moved far enough for a new belt to be fitted.

Spindle: The spindle must be knocked all the way out through both bearings.

Bearing: Once the spindle has been removed, the bearing must be knocked all the way out of the headstock.

To do this, guide a long rod or screwdriver through one of the headstock bearings towards the opposite bearing. Knock hard to remove the bearing from the cast part. When knocking out the bearing, make sure that the circlips (item 13) are not damaged.
Insert the new bearings by knocking them in from the outside. Insert the spindle again.

You may need to release the locking lever (items 44, 45, 46) to reinstall the spindle pulley (52), collar (3), and belt (53). Tighten the clamping screw on the pulley, leaving enough clearance to the bearing, and close the access panel.

9.7 Material selection

The turning wood must have a good quality and must be free of flaws such as transverse cracks or knots. Flawed wood tends to splinter and pose a risk to the user and the machine. Only experienced craftsmen should machine workpieces made of glued wood. Before this type of wood can be turned, it must be glued carefully and any weak points must be eliminated, as the workpiece may fall apart due to the centrifugal forces that are generated.

9.8 Material preparation

Before starting to machine long workpieces, the material must be cut into a square shape. Similarly, before starting to machine transverse workpieces, the material must be cut roughly into a square shape. You can cut the transverse workpiece roughly into shape using a band saw, for example. An octagonal shape is ideal, as it prevents vibrations.

9.9 Centring the workpiece

It is extremely important that you centre the prepared workpieces before clamping them in the machine. Centring means measuring the centre point of the workpiece, marking it with a centre punch and making a 1.5 to 2 mm indentation at the centre point. If the workpiece is not centred exactly, the imbalance will cause excessive vibrations. The workpiece may be ejected as a result.

NOTE!

Clean rotation can only be achieved by centring the workpiece accurately.

9.10 Position of the tool rest

Position the tool rest approximately 3.2 mm away from the edge of the workpiece and approximately 3.2 mm above the centre of the workpiece

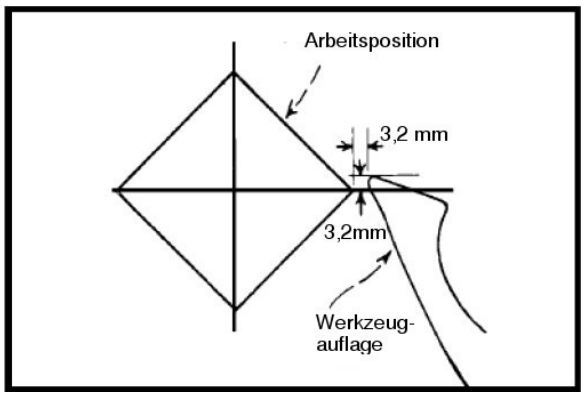

Fig. 13: Position of the tool rest

9.11 Working with the lathe

The unmachined workpiece must be machined at a low speed. After pre-turning the workpiece, i.e. when the basic shape of the workpiece and even rotation have been achieved, the speed can be increased. From time to time, the revolving centre point must be readjusted using the handwheel with the motor switched off. The centre point must be inserted firmly into the wood. Turn the workpiece by hand to check it is seated securely between the points.

10 Care, maintenance and overhaul/repair

DANGER!

Risk of death from electric shock!

There is a danger of life in case of contact with current running through components. Switched on electrical components can execute uncontrolled movements and lead to severe injuries.

- Before starting any cleaning and maintenance work, switch off the machine and disconnect the mains plug!
- Connections and repairs of the electrical equipment may only be carried out by specialized electrical staff.

10.1 Care at the end of work

Use protective gloves!

NOTE!

Never use strong cleaning agents in order to clean the device. Such cleaning agents might damage or destroy the device.

Step 1: Disconnect the mains plug from the socket.

Step 2: Clean any chips and dust from the machine using compressed air (caution: wear safety goggles!) and/or a dry cloth. If the tailstock or centre point was used as a guide through the centre of a workpiece, blow any sawdust or chips out of both spindles as well. (Attention: wear safety goggles and a dust mask!).

Step 3: Spray all unpainted metal surfaces with a little anti-rust spray or lubricate accordingly.

Step 4: Check the sleeves and grease the threads.

Step 5: Check the machine for damage to the safety devices. If necessary, carry out or arrange for repairs to be carried out according to the safety instructions.

Step 6: Check the machine regularly for the following:

- Appropriate tension of the drive belt
- Loose screws, bolts and nuts
- Worn or damaged switches

Step 7**:** Check the drive belt every 6 months, or monthly if used daily, and replace if worn or damaged.

10.2 Maintenance and repair

Maintenance and repair works must only be performed by specialists.

If the woodturning lathe does not work properly, please contact your specialist dealer.

Immediately reassemble all protective and safety equipment after completing the repair and maintenance of the device.

Lubrication

Lubricate or oil the shafts, threads, sleeves, bearings and guides regularly (at least once a month or more frequently, if necessary).

Only lubricate the selector and drive shafts with adhesive grease, otherwise the belt may malfunction.

11 Troubleshooting

Failures	Possible cause	Remedial action
The surface of the workpiece is too rough	1. Turning tool blunt 2. Turning tool bounces	1. Resharpen the turning tool 2. Hold the turning tool with less overhang
The workpiece becomes conical	1. Centre are not aligned (tailstock offset)	1. Align the tailstock with the centre
The workpiece judders	1. Workpiece comes loose during turning 2. Centring not in the centre 3. Speed excessive	1. Observe the working notes in the operating instructions 2. Centre the workpiece 3. Select a lower speed
Excessive vibrations	1. Workpiece warped, out of round, has large weak points/cracks, or has not been prepared for turning 2. Spindle bearing worn 3. Belt worn 4. Motor mount loose 5. Woodturning lathe positioned on an uneven surface	1. Plane and cut the workpiece in preparation for turning 2. Have the spindle bearings re-placed 3. Replace the belt 4. Tighten the screws and handle 5. Place the lathe on a level surface and align
Motor does not start	1. Motor connected incorrectly 2. Fuse is faulty	1. Have it checked by a specialist 2. Have it checked by a specialist
Motor overheats and lacks power	1. Motor overloaded? 2. Insufficient mains voltage 3. Motor connected incorrectly	1. Reduce feed rate 2. Disconnect immediately and have it checked by authorized personnel 3. Have it checked by a specialist
Precision of the work deficient	1. Irregularly heavy or tensed workpiece 2. Horizontal position of the tool rest is imprecise	1. Balance the piece statically and secure without straining 2. Align the tool rest
Digital display does not work	1. Digital display sensor not in the correct position	1. Open the belt cover and position the sensor so that it detects the screws

12 Disposal, recycling of used devices

In your own interest and for the benefit of the environment, please always dispose of any machine components at designated and approved facilities.

12.1 Decommissioning

Immediately decommission used machines professionally in order to avoid subsequent misuse and endangerment of the environment or persons.

Step 1: Remove all environmentally hazardous operating materials from the used machine.

Step 2: If required, disassemble the machine into easy-to-handle and usable components and parts.

Step 3: Supply the machine components and operating materials to the provided disposal routes.

12.2 Disposing of electrical devices

Please note that electrical devices contain a large number of recyclable materials as well as environmentally hazardous components.

Please ensure that these components are disposed of separately and professionally. In case of doubt, please contact your local municipal waste management authority.

If appropriate, call on the help of a specialist waste disposal company for the treatment of the material.

12.3 Disposal of lubricants

The manufacturer of the lubricant makes the disposal instructions for the used lubricants available.
If necessary, request the product-specific data sheets.

12.4 Disposal via municipal collection facilities

Disposal of used electrical and electronic components (Applicable in the countries of the European Union and other European countries with a separate collecting system for those devices).

The sign on the product or on its packing indicates that the product must not be handled as common household waste, but that is needs to be disposed of at a central collection point for recycling. Your contribution to the correct disposal of this product will protect the environment and the health of your fellow humans. Incorrect disposal constitutes a risk to the environment and public health. Recycling of material will help reduce the consumption of raw materials. For further information about the recycling of this product, please contact your District Office, municipal waste collection centre or the shop where you purchased the product.

13 Spare parts

DANGER!

Danger of injury by the use of wrong spare parts!

Dangers may result for the user and damages as well as malfunctions may be caused by using wrong or damaged spare parts.

- Only use original spare parts of the manufacturer or spare parts admitted by the manufacturer.
- Always contact the manufacturer in case of uncertainties.

Tips and recommendations

The use of non-approved spare parts will void the manufacturer's warranty.

13.1 Ordering spare parts

Spare parts can be purchased from specialist dealers.

Indicate the following basic information for requests or orders of spare parts:

- Type of device
- Item No.
- Position No.
- Year of construction:
- Quantity
- Required mode of dispatch (mail, freight, sea, air, express)
- Address of dispatch

Spare part orders which do not include the above indications may not be taken into consideration. If the indications regarding the mode of dispatch are missing, the product is dispatched at the discretion of the supplier.

Refer to the rating plate on the compressor for information on the device type, item number, and year of manufacture.

Example

You wish to order a motor for woodturning lathe DB 305 VARIO. The number of the motor is 41 in the spare parts drawing.

When ordering spare parts, send a copy of the spare parts drawing with marked component (motor) and marked item number (41) to the authorised dealer together with the following information:

- Type of device: **Woodturning lathe DB 305 VARIO**
- Item number: **5920305**
- Position No.: **41**

In case of service, the following drawing shall help to identify the necessary spare parts.

13.2 Spare part drawings

Spare parts drawing DB 305 VARIO

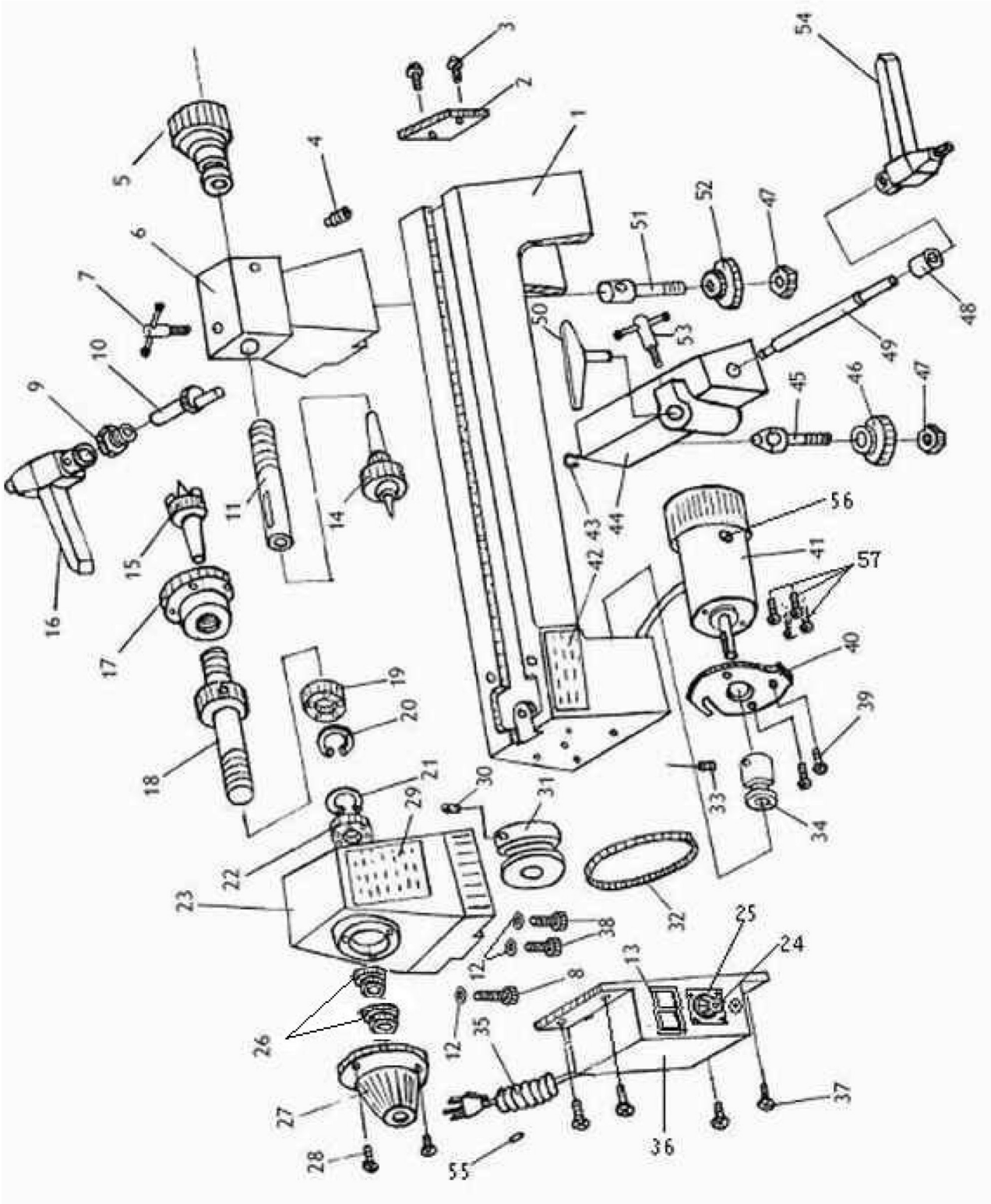

Fig. 14: Spare parts drawing DB 305 VARIO

Parts list DB 305 VARIO

Item	Designation	Quantity	Size	Item number
1	Machine bed	1		0592030501
2	Fence	1		0592030502
3	Screw*	2	M5x8	
4	Screw*	1	M6x8	
5	Handwheel	1		0592030505
6	Tailstock	1		0592030506
7	Clamping screw of spindle sleeve	1	M6x18	0592030507
8	Cylinder screw*	1	M8x40	
9	Collar	1		0592030509
10	Eccentric shaft	1		0592030510
11	Tailstock spindle	1		0592030511
12	Lock washer*	3	8 mm	
13	Switch	1	KJD6	0592030513
14	Travelling centre	1		0592030514
15	Centre point	1		0592030515
16	Clamping screw tailstock	1		0592030516
17	Face plate	1	15.24 cm	0592030517
18	Main spindle	1		0592030518
19	Ball bearing	1	6004ZZ	0406004ZZ
20	Circlip	1	C40	042SR40W
21	Circlip	1	C40	042SR40W
22	Ball bearing	1	6004ZZ	0406004ZZ
23	Spindle stock	1		0592030523
24	Potentiometer incl. label	1		0592030524
26	Spindle nut	2		0592030526
27	Spindle cover	1		0592030527
28	Screw*	3	M4x10	
29	Rating plate	1		0592030529
30	Screw*	1	M6x8	
31	Spindle pulley	1		0592030531
32	Drive belt	1	K-516	0592030532
33	Screw*	1	M6x10	
34	Motor pulley	1		0592030534
35	Mains cable	1	1.5m², 230 V	01003600356
36	Switch housing	1		0592030536

Item	Designation	Quantity	Size	Item number
37	Screw*	4	M4x10	
38	Screw*	1	M8x25	
39	Screw*	2	M6x16	
40	Motor plate	1		0592030540
41	Motor	1	230V~, 250W, 1.7A	0592030541
42	Warning sticker	1		0592030542
43	Circlip	1	Ø8	042SR8W
44	Tool rest holder	1		0592030544
45	Eyebolt	1		0592030545
46	Clamping washer	1		0592030546
47	Nut*	2	M8	
48	Spacer sleeve	1		0592030548
49	Eccentric rod	1		0592030549
50 A	Large tool rest	1		0592030550B
50B	Small tool rest	1		0592030550S
51	Special clamping screw	1		0592030551
52	Clamping washer	1		0592030552
53	Clamping screw	1		0592030553
54	Clamping lever	1		0592030554
55	Fuse, fast-acting*	1	5A / 5x20	
56	Carbon brush pair	2		0592030556
57	Cylinder screw*	4	M5x8	

* Standard part, available from specialist dealers

Spare parts drawing DB 460 XL VARIO

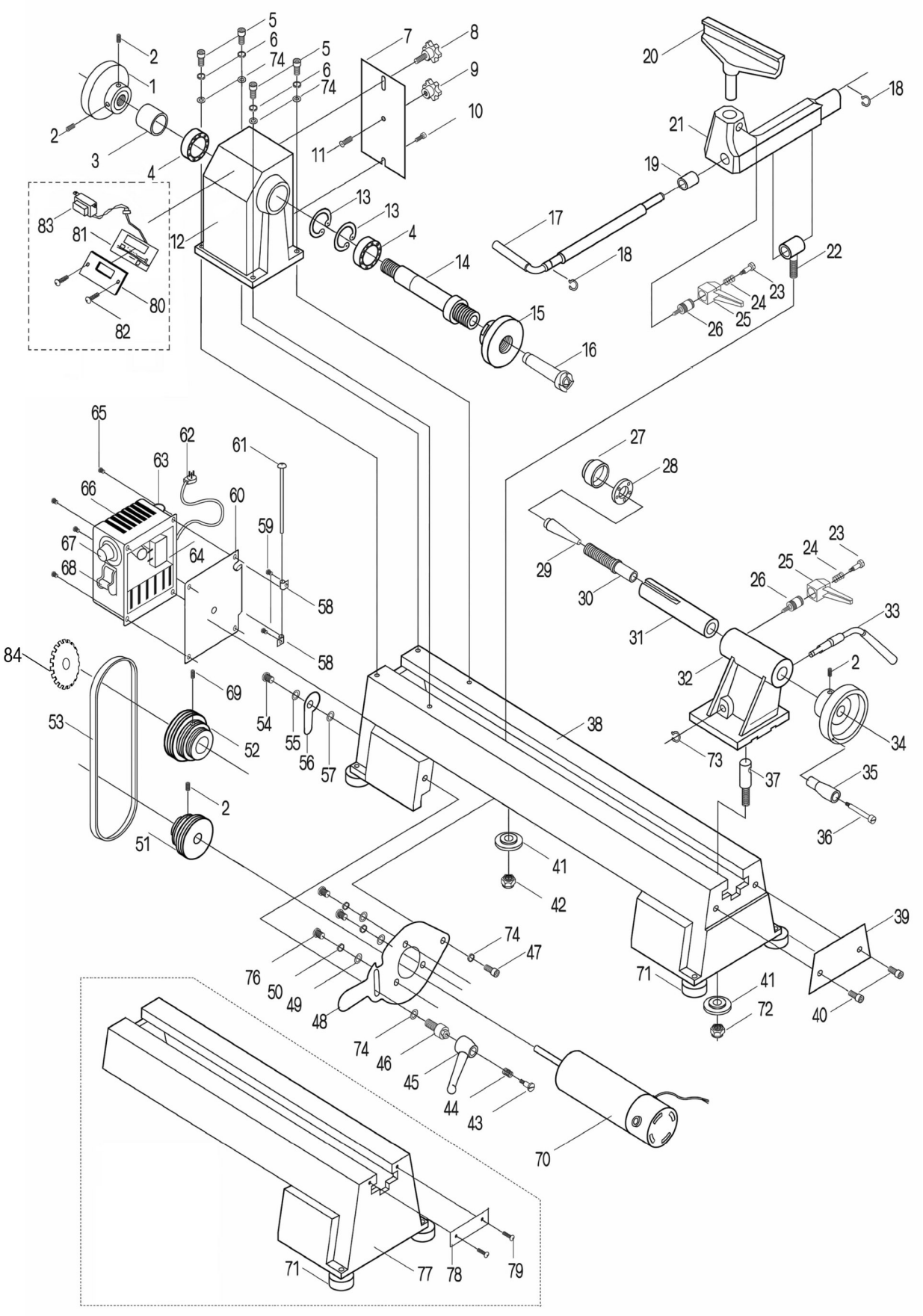

Fig. 15: Spare parts drawing DB 460 XL VARIO

Parts list DB 460 XL VARIO

Item	Designation	Quantity	Size	Item number
1	Handwheel	1		0592046201
2	Hexagon socket screw*	4	M6x12	
3	Distance collet	1		0592046203
4	Ball bearing	2	6005	0406005R
5	Hexagon socket screw*	4	M8x25	
6	Washer	6	Ø 8	
7	Headstock cover plate	1		0592046207
8	Twist grip	1		0592046208
9	Twist grip	1		0592046209
10	Bolt*	1	M5x8	0592046210
11	Screw*	1	M5x8	
12	Spindle stock	1		0592046212
13	Circlip	2	Ø48	042SR48W
14	Main spindle	1		0592046214
15	Face plate	1		0592046215
16	Centre point	1		0592046216
17	Clamping lever	1		0592046217
18	Circlip*	3	10	042SR10W
19	Bushing	1		0592046219
20	Large tool rest Small tool rest	1	300 mm 150 mm	0592046220B 0592046220S
21	Rest base	1		0592046221
22	Guide bolt	1		0592046222
23 - 26	Clamping lever	1		0592046225CPL
27	Centre point	1		0592046227
28	Ball bearing	1	6201	0406201R
29	Centre point	1		0592046229
30	Tailstock spindle	1		0592046230
31	Sleeve	1		0592046231
32	Tailstock	1		0592046232
33	Clamping lever	1		0592046233
34 - 36	Handwheel	1		0592046234

Item	Designation	Quantity	Size	Item number
37	Guide bolt	1		0592046237
38	Machine bed	1		0592046238
39	Mounting plate	1		0592046239
40	Hexagon socket screw*	2	M10x12	
41	Clamping washer	2		0592046241
42	Nut*	2	M10	
43 - 46	Belt tension clamping lever	1		0592046245CPL
47	Hexagon socket screw*	1	M8x12	
48	Motor plate	1		0592046248
49	Washer*	3	Ø6	
50	Washer*	3	Ø6	
51	Motor pulley	1		0592046251
52	Spindle pulley	1		0592046252
53	Drive belt	1	PJ690	0592046253
54	Bolts	1	M4x12	0592046254
55	Washer	1	Ø4	
56	Door lock	1		05920462056
57	Washer	1	Ø4	
58	Hinge	2		0592046258
59	Screw*	2	M4x8	
60	Cover	2		0592046260
61	Pin hinge	1		0592046261
62	Mains cable	1		0592046262
63	Motor circuit breaker	1	MR1 4A	0592046263
64	Control	1		0592046264
65	Screw*	4	M4x6	
66	Switch housing	1		0592046266
67	Potentiometer	1		0592046267
68	Switch 230 V	1	KJD6	0592046268
69	Screw*	4	M6x12	
70	Motor	1	230V~, 550W, 50Hz	0592046270
70	Carbon brush holder	2		0592046270CBH
70	Carbon brush pair	2		0592046270CB
71	Foot (rubber)	4		0592046271
72	Nut*	4	M10	

Item	Designation	Quantity	Size	Item number
73	Circlip	1	Ø9	042SR9W
74	Washer*	4	Ø8	
76	Flat-head screw*	3	M6x16	
77	Machine bed extension	2		0592046277
78	Machine bed cover plate	2		0592046278
79	Screw*	1	M5x8	
80	Cover	1		0592046280
81	Digital display	1		0592046281
82	Screw*	2	M4x18	
83	Transformer	1		0592046283
84	Rotary encoder	1		0592046284

* Standard part, available from specialist dealers

14 Electrical circuit diagrams

Electrical circuit diagram DB 305 VARIO

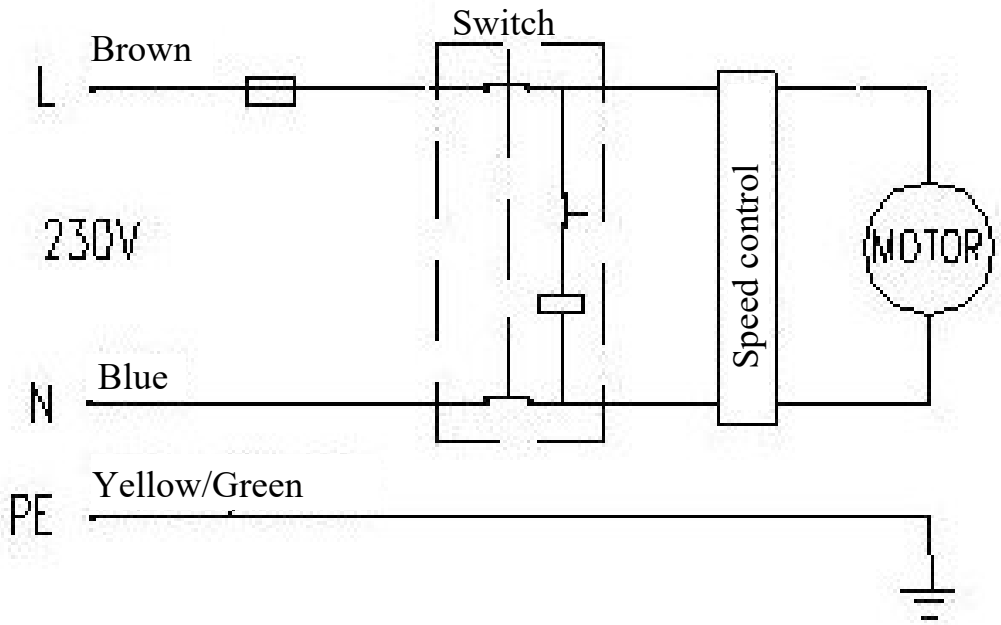

Fig. 16: Electrical circuit diagram DB 305 VARIO

Electrical circuit diagram DB 460 XL VARIO

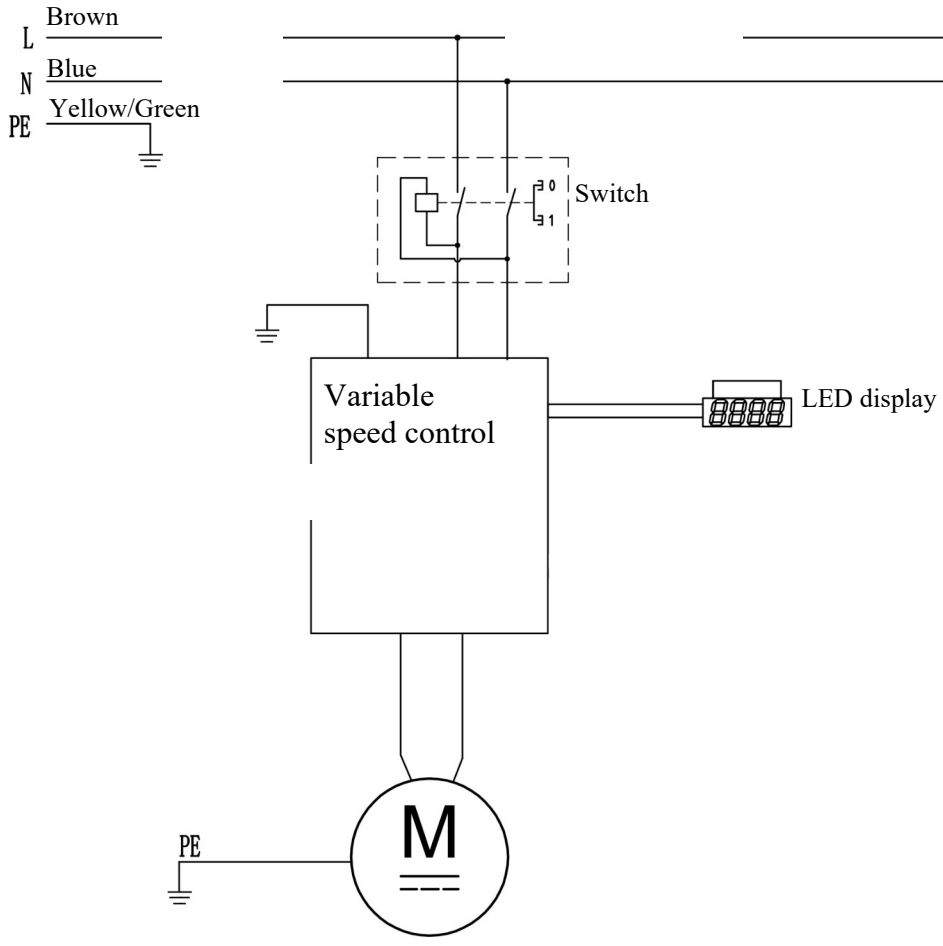

Fig. 17: Electrical circuit diagram DB 460 XL VARIO

15 EU Declaration of Conformity

According to Machinery Directive 2006/42/EC, Attachment II 1.A

Manufacturer/distributing company: Stürmer Maschinen GmbH
Dr. Robert-Pfleger-Str. 26
D-96103 Hallstadt, Germany

hereby declares that the following product

Product group: Holzstar® woodworking machines

Machine type: Woodturning lathe

Designation of the machine:	**Item number:**
☐ DB 305 VARIO	5920305
☐ DB 460 XL VARIO	5920462

Serial number *: _____

Year of manufacture *: 20____

* Fill in these fields with the information on the rating plate

complies with all relevant provisions of the above mentioned directive as well as the other applied directives (below) - including their applicable modifications at the time of the declaration.

Applicable EU Directives:
2014/30/EU EMC Directive
2011/65/EU RoHS Directive
2012/19/EU WEEE Directive

Applicable EU regulations: EGV 1907/2006 REACH regulation

The following harmonised standards were applied:

DIN EN ISO 12100:2011-03	Safety of machinery - General principles for design - Risk assessment and risk reduction
DIN EN 62841-1:2016-07	Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 1: General requirements
DIN EN 55014-1:2018-08	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission
DIN EN 55014-2:2016-01	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard
DIN EN IEC 61000-3-2:2019-12	Electromagnetic compatibility - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
DIN EN 61000-3-3:2020-07	Electromagnetic compatibility - Part 3-3: Limits - Limits of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

Person responsible for the documentation: Kilian Stürmer, Stürmer Maschinen GmbH,
Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt, Germany

Hallstadt, 2021-10-12

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