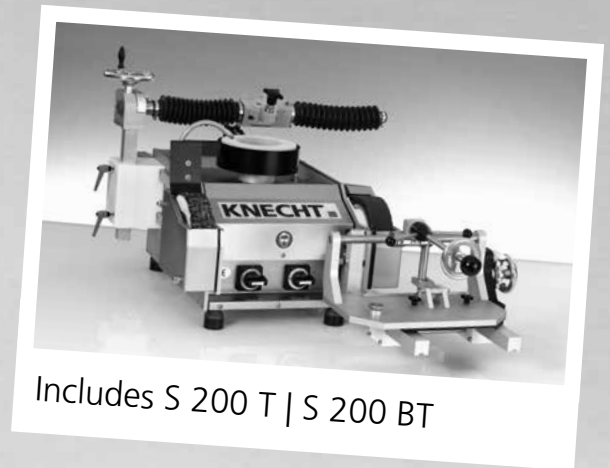


Operating Instructions

S 200 S | S 200 BS

Universal Wet-Sharpening Machine



Includes S 200 T | S 200 BT

Operating Instructions

Universal Wet-Sharpening Machine S 200 S | S 200 BS

Including tabletop version S 200 T | S 200 BT

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Documents for the machine operator

Operating Instructions

Date of issue of the operating instructions

March 6, 2018

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1. Important notes

1.1 Foreword

These operating instructions are designed to make it easier to get to know the Universal Wet-Sharpening Machine, referred to in this document as grinding machine, and to use it properly for the intended purpose.

The operating instructions contain important information on how to operate the grinding machine safely, properly and cost-effectively. Observance of these instructions helps to avoid dangers, repair costs and downtimes, and increases the reliability and service life of the grinding machine.

The operating instructions must always be accessible at the place of use of the grinding machine.

The operating instructions must be read and used by all persons entrusted with working on the grinding machine, e.g. those entrusted with

- Transport, installation, commissioning
- Operation, including troubleshooting in the process flow, as well as
- Servicing (maintenance, repair).

In addition to the operating instructions and the binding accident prevention regulations applicable in the country and place of use of the machine, the generally acknowledged rules of technology with regard to safe and professional work practices are to be observed.

1.2 Warnings and symbols in the operating instructions

Heeding the following safety alert symbols/designations used in the operating instructions is absolutely necessary:



The hazard triangle with the signal word "CAUTION" is used as a work safety indication for all work which could result in death or physical injury.

Special care and caution must be taken when carrying out such jobs.



The signal word "ATTENTION" is used to call attention to hazards which could result in damage and/or destruction of the grinding machine or its environment.



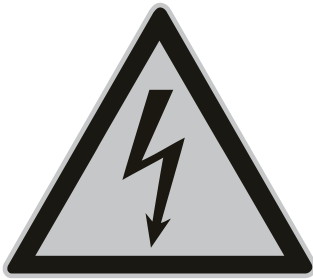
The signal word "NOTE" calls attention to tips on use and useful information.

1. Important notes

1.3 Warning plates and their meaning

1.3.1 Warning and prohibition signs on/in the grinding machine

The following warning and prohibition signs have been affixed to the grinding machine:



CAUTION! DANGEROUS ELECTRICAL VOLTAGE (warning notice on the switch cabinet)

On being connected to the voltage supply (3x 400 V), the grinding machine becomes electrically live and touching its live parts directly could be life-threatening.

Live machine parts may be opened only by authorised, trained personnel.

The grinding machine must be separated from the mains supply before carrying out servicing, maintenance and repair jobs on it.



CAUTION! RISK OF INJURY FROM ABRASIVE PARTICLES (warning notice on the machine bonnet)

Grinding, polishing, deburring and truing gives rise to abrasive particles which could enter the eyes.

Wearing safety glasses is mandatory when carrying out such jobs.

1.3.2 General mandatory signs

The following general mandatory signs must be observed:



CAUTION! RISK OF INJURY ON THE BLADE

Work on the grinding machine involves the sharpening of knives which could cause serious cut injuries due to their sharpness.

Protective gloves must be worn when clamping and unclamping the knives.

Be careful when transporting blades. Use the protective devices provided by the knife manufacturer. Wear protective gloves and apron.

1. Important notes

1.4 Rating plate and machine serial number

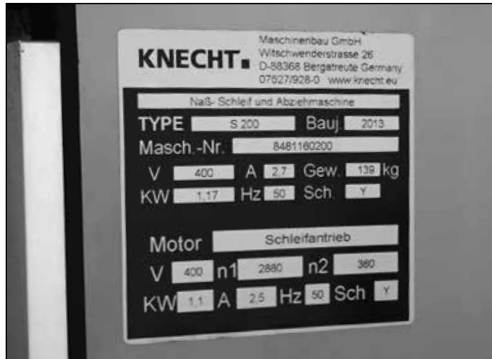


Figure 1-1 Rating plate

The type plate is located on the rear panel of the machine.



Figure 1-2 Machine serial number

The machine number can be found on the type plate and on the left side panel underneath the flap brush.

1.5 Figure and item numbers in the operating instructions

If a component of the machine that is shown in a figure is described in the text, it is followed by a figure or item number in brackets.

Example: (6-2/1) denotes figure number 6-2, item 1.



Figure 6-2 Check the direction of rotation

Check the direction of rotation of the flap brush.

The direction arrow (6-2/1) indicates the direction of rotation of the wet-grinding belt/flap brush. If the flap brush is rotating in the right direction, then the direction of rotation of the grinding disk and of the wet-grinding belt too is correct.

If the direction of rotation of the flap brush is incorrect, have the phase reversed by a qualified electrician.

2. Safety

2.1 Basic safety instructions

2.1.1 Observe notes in the operating instructions

The basic prerequisite for the safe handling and uninterrupted operation of this grinding machine is knowledge of the basic safety instructions and regulations.

- These operating instructions contain important notes on how to operate the grinding machine safely.
- All persons carrying out work on the grinding machine must follow these operating instructions, in particular the safety notices.
- In addition, the accident prevention rules and regulations applicable at the place of use of the machine must also be observed.

2.1.2 Operator's duty

The operator is obliged to allow only those persons to work on the grinding machine, who

- are familiar with the basic occupational safety and accident prevention regulations and have been trained and instructed in the handling of the grinding machine,
- have read the operating instructions, particularly the "Safety" section, and have read and understood the warning notes. They have given a signed confirmation of this in writing.

It is also checked at regular intervals as to whether the worker is fulfilling his employee obligation to observe safety at work.

2.1.3 Obligations on the part of the personnel

All the personnel working on the grinding machine shall be obliged to

- observe the basic occupational safety and accident prevention regulations,
- read the operating instructions, particularly the "Safety" chapter, and the warning notes. They shall give a signed confirmation of this in writing.

2.1.4 Hazards associated with the handling of the machine

The grinding machine has been built to the latest technological standards and the acknowledged rules of technical safety. In spite of that, its use presents inherent risks which could result in bodily harm or even death of the user or third parties, or impairment of the grinding machine or other property.

The grinding machine may be used only:

- for the intended purpose, and
- in faultless condition with regard to safety-relevant aspects.

2. Safety

Faults that could impair safety must be eliminated immediately.

2.1.5 Malfunctions

If safety-relevant malfunctions occur in the grinding machine, or if the processing behaviour indicates that such malfunctions may have occurred, the grinding machine must be stopped immediately and until such time as the malfunction has been found and eliminated.

Allow only authorised technical staff to eliminate the malfunctions.

2.2 Proper use

The grinding machine can be used universally for all common varieties of cutter knives, as well as circular knives, hand knives and other cutting tools.

Other than hand knives (e.g. butcher knives), all the knives must be clamped to suitable grinding plates. Before starting work on a flat knife, it must be checked whether the knife fits on the grinding plate. Only then may the knife be mounted on the grinding plate.

Any other use is considered improper use. KNECHT Maschinenbau GmbH does not assume any liability for damages resulting from improper use. The user alone bears the risk in such cases.

Use as intended includes the observance of all the instructions in the operating instructions.

The grinding machine is being used improperly, if, e.g.,

- flat knives are sharpened without grinding plate.
- devices are not fastened properly.
- knives are sharpened/polished in opposite direction of the cutting edge on the wet-grinding belt or the flap brush.

2.3 Warranty and liability

Warranty and liability claims in case of personal injuries or property damage are excluded if such damage is attributable to one or more of the following causes:

- improper use of the grinding machine,
- improper transportation, commissioning, operation and maintenance of the grinding machine,
- operating the grinding machine with defective safety devices, or improperly attached or malfunctioning safety and protective equipment,
- ignoring the operating instructions with regard to transportation, commissioning, operation, maintenance and repair of the grinding machine.

2. Safety

- unauthorised structural alterations to the grinding machine,
- unauthorized modification, e.g. of the drive conditions (power and speed), and
- insufficient monitoring of machine parts that are exposed to wear.
- use of unapproved replacement and wear parts

Use only original replacement and wear parts. If parts are purchased from external suppliers, it cannot be guaranteed that they will be constructed and manufactured to withstand the stresses and provide the required level of safety.

2.4 Safety regulations

2.4.1 Organisational measures

All the existent safety devices must be checked regularly.

Observe prescribed intervals for recurring maintenance work or as specified in the operating instructions.

2.4.2 Protective devices

Before commissioning the grinding machine, it must be ensured that all protective equipment is properly mounted and in functional condition.

Protective equipment may be removed only after the machine has stopped and has been secured against accidental restarting of the grinding machine.

If sub-components are supplied, the protective equipment must be correctly attached by the operator according to the instructions.

2.4.3 Informal safety measures

The operating instructions must be permanently available at the place of use of the grinding machine. In addition to the operating instructions, the generally applicable as well as the locally relevant accident prevention regulations must also be made available and observed.

All the safety alert symbols and danger warnings on the grinding machine must be complete and clearly legible.

2.4.4 Selection and qualifications of the personnel

Only trained and instructed personnel may work on the grinding machine. The minimum legal age for employment must be observed.

The responsibilities of the personnel must be clearly assigned, i.e. commissioning, operation, maintenance and repair, etc.

2. Safety

Personnel still in the training or instruction phase may only be allowed to work on the grinding machine under the permanent supervision of an experienced person.

2.4.5 Machine control system

Only trained and instructed personnel is allowed to switch on the machine.

2.4.6 Safety measures in normal operation

Refrain from any method of working which may pose a risk to safety. Only operate the grinding machine if all the safety devices are installed and fully functional.

Check the grinding machine for external signs of damage and correct operation of the safety devices at least once every shift.

Report any changes (including operating behaviour) immediately to the competent department/person. Where required, shut down the grinding machine immediately and secure against restarting.

Before switching on the grinding machine, ensure that no one is exposed to any risk from the start-up of the machine.

If there are any functional faults, immediately stop the machine and secure against restarting. Have the faults eliminated immediately.

2.4.7 Dangers due to electrical power

Work on electrical units or operating materials may only be performed by a qualified electrician in accordance with electrical rules.

Defects, such as damaged cables, cable connections, etc., must be immediately rectified by an authorised electrician.

2.4.8 Particular danger zones

In the area of the grinding wheel, wet-grinding belt and flap brush, there is a hazard of pinching and being drawn in (e.g. clothing, fingers and hair). Suitable personal protective equipment must be worn.

2.4.9 Servicing (maintenance, repair) and fault rectification

Maintenance work is to be carried out on schedule by trained personnel. Inform operating personnel before starting repair work. The responsible supervisor is to be named.

For all service work, the grinding machine is to be disconnected from the power supply and secured against accidental restarting. Pull out the mains plug. Cordon off the servicing area, as far as possible.

2. Safety

After completion of the maintenance work and fault rectification, install all the safety devices and check whether they are fully functional.

2.4.10 Structural alterations to the grinding machine

Modifications, retrofitting or rebuilds of the grinding machine are not allowed without permission from the manufacturer. This also applies to the installation and adjustment of safety devices.

No alterations may be carried out without prior written permission from KNECHT Maschinenbau GmbH.

Immediately replace machine parts which are not in perfect condition.

Use only original replacement and wear parts. If parts are purchased from external suppliers, it cannot be guaranteed that they will be constructed and manufactured to withstand the stresses and provide the required level of safety.

2.4.11 Cleaning the grinding machine

Cleaning agents and materials used must be handled properly and disposed of in an environmentally friendly way.

Ensure that wear and replacement parts are disposed of in a safe and environmentally friendly way.

2.4.12 Oils and greases

When handling oils and greases, follow the safety instructions for the product. Observe special instructions for the foodstuffs sector.

2.4.13 Relocation of the grinding machine

Even when moving the machine a short distance from its site, disconnect it from all external power supply sources. Before restarting the machine, connect it properly to the current supply.

When loading or unloading, only use hoisting and load lifting equipment with sufficient load-bearing capacity. Appoint a qualified banksman (signaller) for the lifting process.

No persons other than those entrusted with this work may be present in the loading and installation area.

Only lift the grinding machine correctly with a suspension device in accordance with the operating instructions (attachment points for load suspension devices, etc.). Only use suitable transport vehicles with sufficient load-bearing capacity. Attach the load securely. Use suitable attachment points. When putting in operation again, proceed only as instructed in the operating instructions.

3. Description

3.1 Use as intended

The S 200 Wet Grinding and Sharpening Machine is meant for grinding, deburring and polishing all commonly used cutter knives as well as circular knives, hand knives and other cutting tools.

3.2 Technical specifications

3.2.1 General

Power supply*	3x 400 V
Mains frequency*	50 Hz
Connected load*	1.15 kW
Power consumption*	1.61 kW
Current consumption*	2.79 A
Backup fuse	16 A
Measured A-evaluated emission sound pressure level at workplace LpA**	78 dB (A)
Speed of wet-grinding belt/flap brush	2880 rpm
Speed of grinding disk (optional)	360 rpm

*) This data may vary depending on the electrical power supply.

***) Dual number noise emission value according to EN ISO 4871 (measurement uncertainty KpA. 3 dB(A)).
Emission sound pressure level according to EN ISO 11201.

A K 24 cutter knife by KNECHT Maschinenbau GmbH was ground.

3.2.2 S 200 S | S 200 BS (pedestal version)

Height (version with grinding disk)	approx. 1300 mm
Width	approx. 900 mm
Depth	approx. 1100 mm
Required space (WxD)	1500 x 1500 mm
Weight	max. 160 kg

3. Description

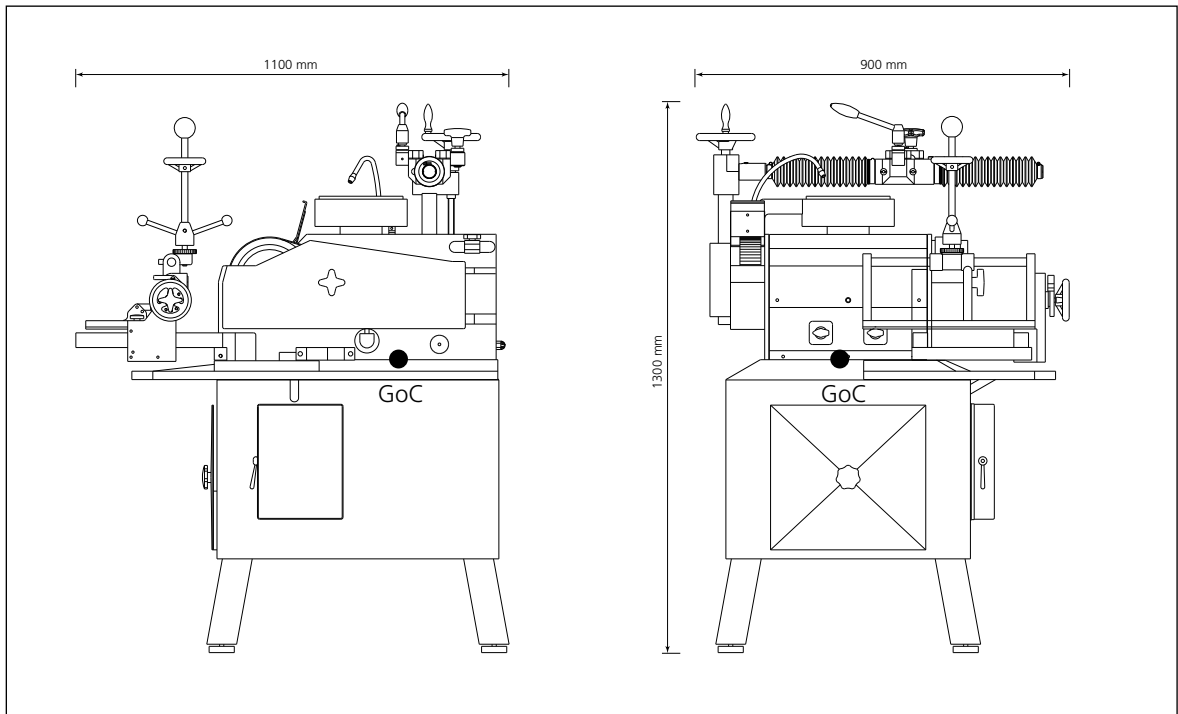


Figure 3-1 Dimensions in mm (S 200 S pedestal version)

3.2.3 S 200 T | S 200 BT (tabletop version)

Height (version with grinding disk) _____ approx. 600 mm

Width _____ approx. 900 mm

Depth _____ approx. 1000 mm

Required space (WxD) _____ 1500 x 1400 mm

Weight _____ max. 104 kg

3. Description

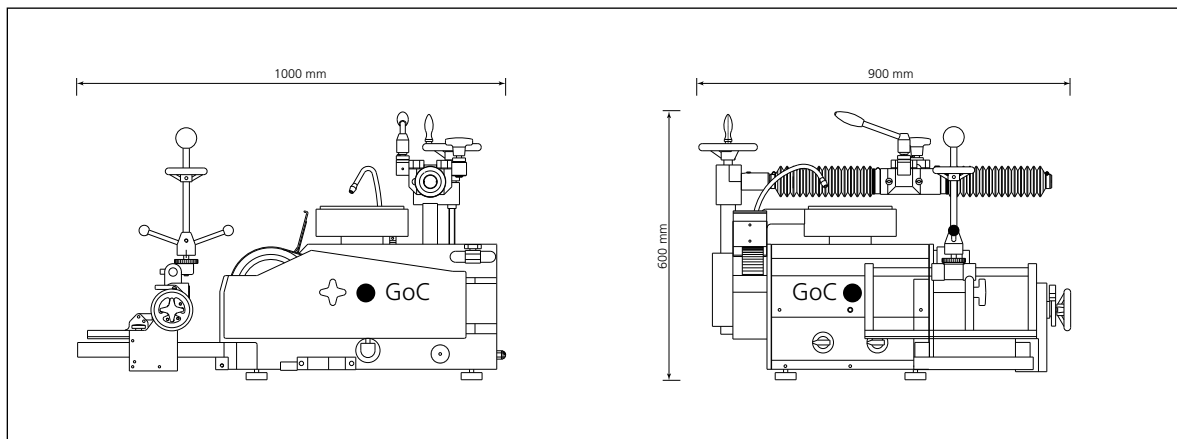


Figure 3-2 Dimensions in mm (S 200 T tabletop version)

3.3 Functional description

The Wet Grinding and Sharpening Machine can be used to grind, deburr and polish linear, sickle-shaped and circular knives.

All knives other than hand knives must be clamped onto grinding plates and must be ground on the grinding disk as well as the wet-grinding belt with the relevant units.

The grinding angle on the grinding disk can be infinitely adjusted. The grinding angle on the wet-grinding belt can be adjusted using various spacer disks.

Knives can be deburred and polished on the flap brush without any tools.

3. Description

3.4 Description of the assemblies

The Universal Wet-Sharpening Machine is available in various versions: S 200 S (pedestal version with grinding disk), S 200 BS (pedestal version without grinding disk), S 200 T (tabletop version with grinding disk), S 200 BT (tabletop version without grinding disk). KNECHT Maschinenbau GmbH also offers logical extensions that can be optionally used. These units have been explained in the following pages.

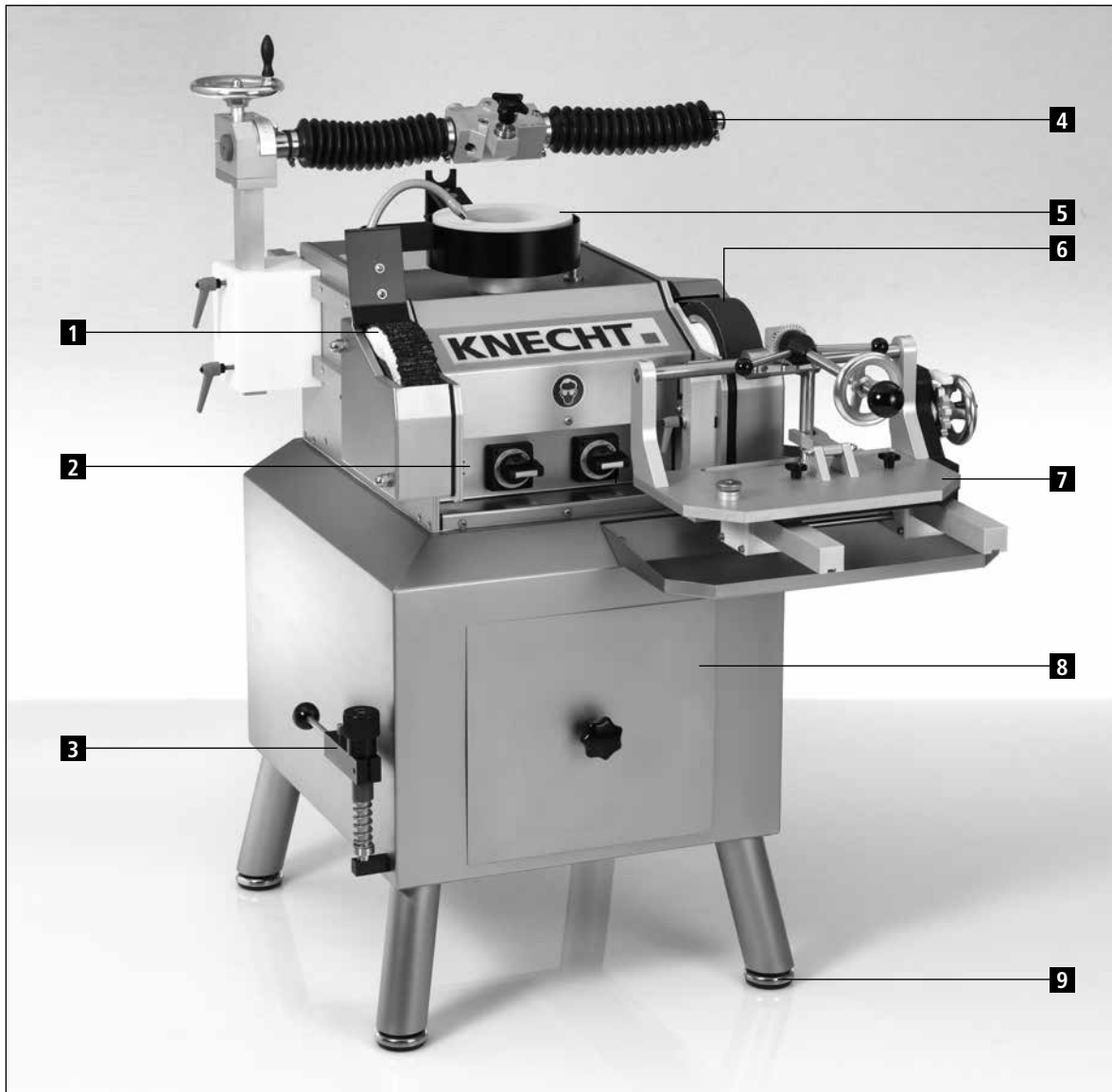
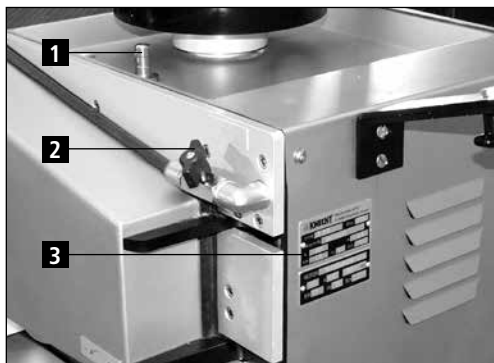


Figure 3-3 General view of grinding machine (S 200 S pedestal version | HV 203 | HV 262)

- 1 Flap brush
- 2 Control panel
- 3 HV 201 Dressing Tool for grinding disk (Chapter 3.4.4)
- 4 HV 203 Universal Grinding Arm (Chapter 3.4.3)
- 5 Grinding disk
- 6 Wet-grinding belt
- 7 HV 262 Universal Belt Grinding Unit (Chapter 3.4.5)
- 8 Water tank (pedestal version)
- 9 Machine feet

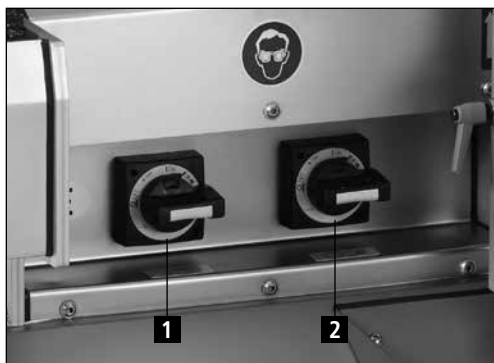
3. Description



- 1 Holder for HV 201 Dressing Tool
- 2 Coolant dosing unit for wet-grinding belt
- 3 Rating plate

Figure 3-4 Rear view

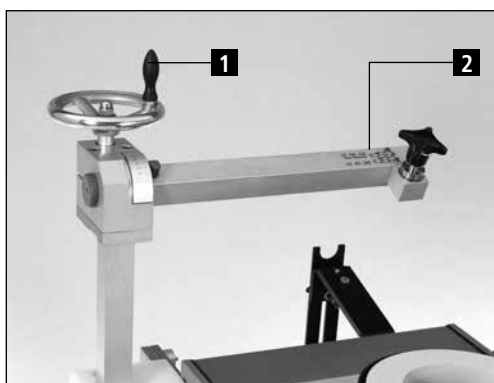
3.4.1 Control panel



- 1 Coolant pump ON/OFF
- 2 Units ON/OFF

Figure 3-5 Control panel

3.4.2 HV 207 Swivel Arm (optional S 200 S | S 200 T)

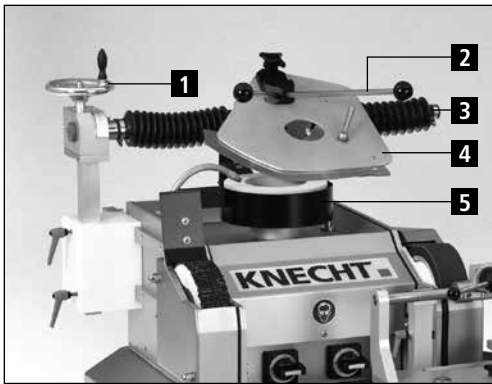


- 1 Hand wheel for angle adjustment
- 2 Swivel arm

Figure 3-6 HV 207 Swivel Arm

3. Description

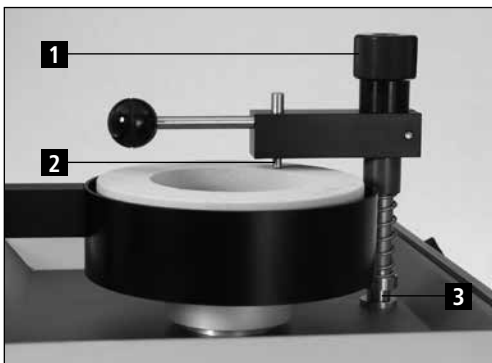
3.4.3 HV 203 Universal Grinding Arm (optional S 200 S | S 200 T)



- 1 Hand wheel for angle adjustment
- 2 Grinding lever
- 3 Grinding arm
- 4 SP 107 Grinding plate
- 5 Grinding disk guard

Figure 3-7 HV 203 Universal Grinding Arm

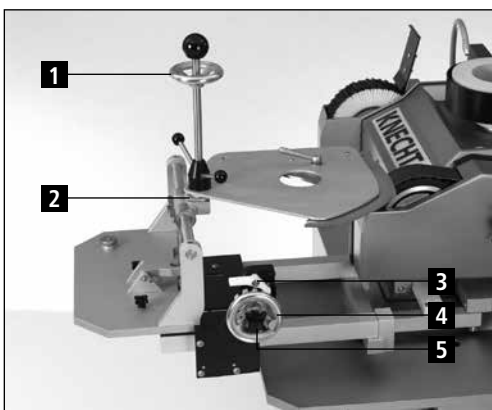
3.4.4 HV 201 Dressing Tool (S 200 S | S 200 T)



- 1 Adjusting nut
- 2 Dressing diamond
- 3 Holder for HV 201 Dressing Tool

Figure 3-8 HV 201 Dressing Tool

3.4.5 HV 262 Universal Belt Grinding Unit (optional, all versions)

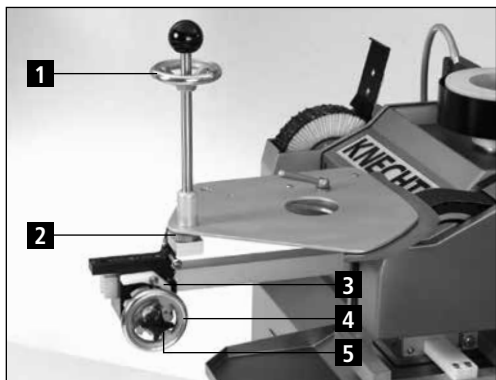


- 1 Grinding lever
- 2 Function disk
- 3 Locking lever
- 4 Hand wheel for feeding the Universal Belt Grinding Unit
- 5 Star knob

Figure 3-9 HV 262 Universal Belt Grinding Unit

3. Description

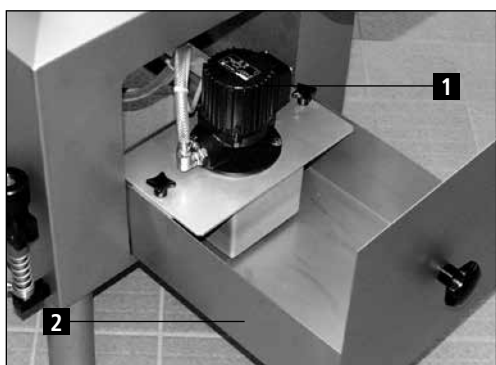
3.4.6 HV 261 Belt Grinding Unit (optional, all versions)



- 1 Grinding lever
- 2 Function disk
- 3 Locking lever
- 4 Hand wheel for feeding the Belt Grinding Unit
- 5 Star knob

Figure 3-10 HV 261 Belt Grinding Unit

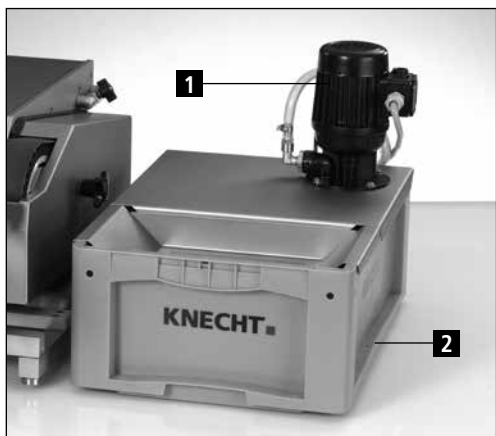
3.4.7 Coolant Unit (S 200 S | S 200 BS)



- 1 Coolant pump
- 2 Water tank

Figure 3-11 Coolant unit

3.4.8 EP 205 External Coolant Unit (optional S 200 T | S 200 BT)



- 1 Coolant pump
- 2 Water tank

Figure 3-12 EP 205 External Coolant Unit

3. Description

3.5 Functional description of units



Figure 3-13 General view of grinding machine (S 200 S pedestal version | HV 203 | HV 262)

- 1 Grinding disk (S 200 S | S 200 T)
For rough and repair grinding. Depending upon the device (HV 203 | HV 207), linear and sickle-shaped cutter knives as well as circular knives can be ground.
- 2 Flap brush
For deburring and polishing linear and sickle-shaped cutter knives as well as hand knives.
- 3 HV 203 Universal Grinding Arm (optional S 200 S | S 200 T)
Device for grinding sickle-shaped cutter knives on the grinding disk.
- 4 Wet-grinding belt
Enables angle grinding and convex grinding. Depending upon the device, linear and sickle-shaped cutter knives can be ground. Hand knives are ground without grinding unit.
- 5 HV 262 Universal Belt Grinding Unit (optional, all versions)
Device for grinding linear and sickle-shaped cutter knives on the wet-grinding belt.

4. Transport



For transporting the machine, the locally applicable safety and accident prevention regulations must be observed.

Only transport the machine in upright position (with the machine feet facing downwards).

4.1 Transport aids

For transporting and for setting up the grinding machine, only use adequately dimensioned transport aids with a minimum load-bearing capacity of 1.5 t, e.g. truck, forklift or hydraulic lift truck.

When using a forklift or a lift truck, move the fork under the grinding machine.

Bear in mind the centre of gravity of the machine. The centre of gravity (CoG) is shown in figure 3-1 and 3-2.

4.2 Transport damage

If damage is detected on unloading after acceptance of the delivery, inform KNECHT Maschinenbau GmbH and the freight forwarder about it immediately. If required, consult an independent expert immediately.

Remove the packaging and shipping straps. Remove the shipping straps on the grinding machine. Dispose of the packaging in an environmentally friendly way.

4.3 Transport to another installation site

For transportation to another installation site, ensure that the space requirements are fulfilled (see Chapter 3.2).

A reliable electrical connection must be provided at the new installation site. The grinding machine must be stable and firmly placed.



Installations on the electrical system may only be performed by an authorized specialist or our customer service staff. Observe the locally applicable safety and accident prevention regulations.

5. Installation

5.1 Selection of qualified personnel



It is advisable to have trained KNECHT personnel perform the installation work on the grinding machine.

We assume no liability for damage caused by improper installation.

5.2 Installation site

When determining the installation site, bear in mind the space requirement for installation, maintenance and repair work on the grinding machine (see Chapter 3.2).

5.3 Supply connections

The grinding machine is delivered ready for connection with the appropriate connection cable.



Confirm that the machine is correctly connected to the current supply.

5.4 Settings

The various components and the electrics are adjusted by KNECHT Maschinenbau GmbH before delivery.

ATTENTION

Unauthorized changes to set values are not permitted and may damage the grinding machine

5. Installation

5.5 Initial commissioning of the grinding machine

Place the grinding machine at the installation site on a level base.

To level out uneven floors, adjust the machine feet by turning them counter-clockwise. The machine is aligned with the help of a spirit level.

Have a qualified electrician on site install the current supply.

Completely install and check the safety devices before commissioning



Have all the protective devices checked for proper functioning by authorised specialists before initial operation of the machine.

6. Commissioning



All work on the machine may only be performed by trained personnel.

The locally applicable safety and accident prevention regulations must be observed.

There is a risk of hands, hair and clothes getting caught in the grinding machine while the machine is on.

This can result in serious injuries. Personal protective equipment must be worn.

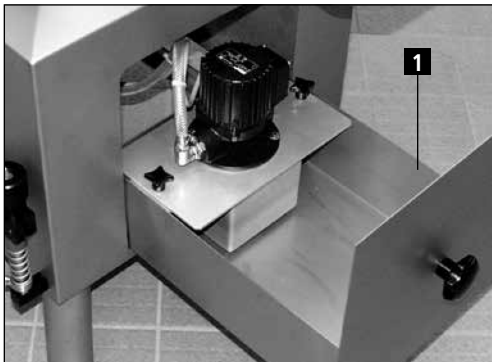


Figure 6-1 Filling the water tank

Fill the water tank (6-1/1) with approx. 15 litre water.

Connect the phase changing plug to the power socket provided on site (3x 400 V, 16 A).

Turn the "Units" switch (3-5/2) to "ON". The grinding disk, wet-grinding belt and flap brush start rotating.



Figure 6-2 Checking the direction of rotation

Check the direction of rotation of the flap brush.

The direction arrow (6-2/1) indicates the direction of rotation of the wet-grinding belt/flap brush. If the flap brush is rotating in the right direction, then the direction of rotation of the grinding disk and of the wet-grinding belt too is correct.

If the direction of rotation of the flap brush is incorrect, have the phase reversed by a qualified electrician.

6. Commissioning

ATTENTION

In the event of an incorrect connection, the grinding disk can turn opposite to the specified direction of rotation.

An incorrect direction of rotation can result in the grinding wheel coming loose.

7. Operation

7.1 General principles of grinding technology

If a blade has become blunt, material must be removed from its surface to restore it to its original sharpness.

For that, the knife in question is ground to produce its cutting edge. If, in the process, a burr appears on the blade, then the grinding process was successful and can be concluded. Now, before the final sharpness is achieved, the burr must be removed in a further step. This is done with a flap brush.

As it is not only the sharp cutting edges but also the long service lives that define a blade, the cutting angle is another important indicator of a blade's performance. The smaller the cutting edge angle, the higher is the theoretical service life. In practice, however, the cutting edge breaks off and is therefore no longer sharp when the cutting edge angle is too small.

The cutting edge angles must therefore lie between 15° and 35° . If the cutting edge angles are less than 15° , the blade becomes so unstable that it breaks at the slightest resistance. If the cutting edge angle is greater than 35° , the blade is extremely stable, but service life will not be as long.

One more criterion for judging the properties of a cutting edge is the cutting edge profile.

There are three different ground profiles:



Tapered grinding



Convex grinding



Concave grinding

Convex ground profiles can mostly be found on cutter blades and hand knives. Tapered and concave ground profiles are predominantly found on circular knives and blades.

In general: Adhering to the profiles and the cutting edge angles specified by the manufacturer is required

7. Operation

7.2 Switching on the grinding machine

Turn the switches for the coolant pump (3-5/1) and the units (3-5/2) from "OFF" to "ON" one after the other.

The grinding disk, wet-grinding belt and flap brush start rotating.

7.3 HV 207 Swivel Arm (optional S 200 S | S 200 T)

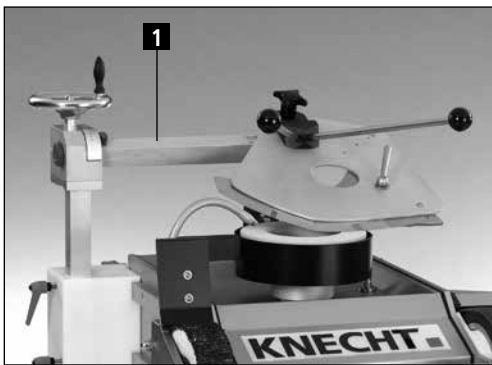


Figure 7-1 HV 207 Swivel Arm

For grinding of sickle-shaped cutter knives, the machine is fitted with the HV 207 Swivel Arm (7-1/1) on which the grinding plate with the knife is clamped.

The Swivel Arm allows you to grind and repair grind at accurate angle with very little force and simple operation.

NOTICE

More information on this can be found in the technical documentation of the HV 207 Swivel Arm.

7.4 HV 203 Universal Grinding Arm (optional S 200 S | S 200 T)

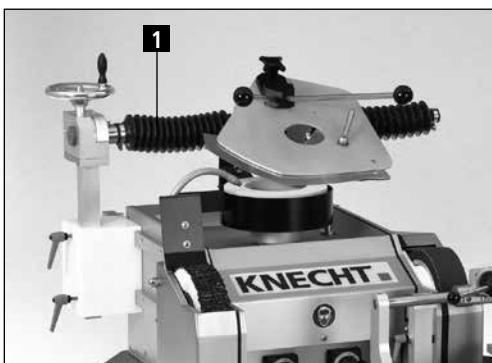


Figure 7-2 HV 203 Universal Grinding Arm

For grinding of linear and sickle-shaped cutter knives, the machine is fitted with the HV 203 Universal Grinding Arm (7-2/1) on which the grinding plate with the knife is clamped.

The Universal Grinding Arm allows you to grind and repair grind at accurate angle with very little force and simple operation.

NOTICE

More information on this can be found in the technical documentation of the HV 203 Universal Grinding Arm.

7. Operation

7.5 HV 261 Belt Grinding Unit (optional, all versions)



Figure 7-3 HV 261 Belt Grinding Unit

For grinding sickle-shaped cutter knives, the machine is fitted with the HV 261 Belt Grinding Unit (7-3/1) on which the grinding plate with the knife is clamped.

NOTICE

More information on this can be found in the technical documentation of the HV 261 Belt Grinding Unit.

7.6 HV 262 Universal Belt Grinding Unit (optional, all versions)



Figure 7-4 HV 262 Universal Belt Grinding Unit

For grinding linear and sickle-shaped cutter knives, the machine is fitted with the HV 262 Universal Belt Grinding Unit (7-4/1) on which the grinding plate with the knife is clamped.

NOTICE

More information on this can be found in the technical documentation of the HV 262 Universal Belt Grinding Unit.

7. Operation

7.7 Deburring the cutter knife with the flap brush



There is a risk of hands, hair and clothes getting caught in the grinding machine while the machine is on.

Never hold the blade against the direction of travel of the flap brush.

Polishing gives rise to abrasive particles that could enter the eyes. Wear protective glasses. Wear mask.

This can result in serious injuries!

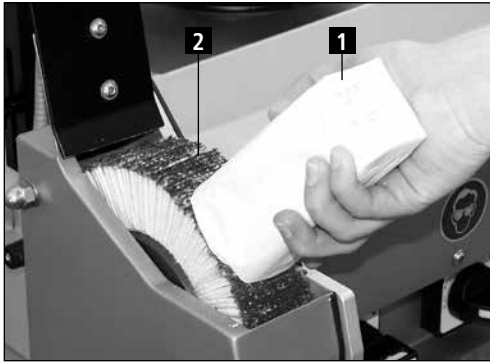


Figure 7-5 Applying the polishing paste

The burr that forms on the knife during the grinding process is removed with the help of the flap brush. This is where the cutter knife achieves its final sharpness.

Before the polishing/deburring process, hold the polishing paste (7-5/1) briefly against the moving flap brush (7-5/2).



Figure 7-6 Polishing/deburring the cutter blade

For polishing/deburring, unclamp the cutter knife from the grinding unit and move along the flap brush (7-6/1) at a steep angle.

Polish the topside and underside of the knife alternately until the burr is removed.

7. Operation

7.8 Grinding the hand knife on the wet-grinding belt



There is a risk of hands, hair and clothes getting caught in the grinding machine while the machine is on.

Never hold the blade against the direction of travel of the wet-grinding belt. This can result in serious injuries!



Figure 7-7 Grinding the hand knife

Place the hand knife flat on the wet-grinding belt (7-7/1).

The cutting edge should not have a transverse course relative to the grinding belt, but a diagonal course. Press the knife onto the grinding belt with the free hand. The greater the pressure, the more convex the ground profile.

Alternately draw both sides of the hand knife over the grinding belt, until burr has formed over the entire length of the blade.

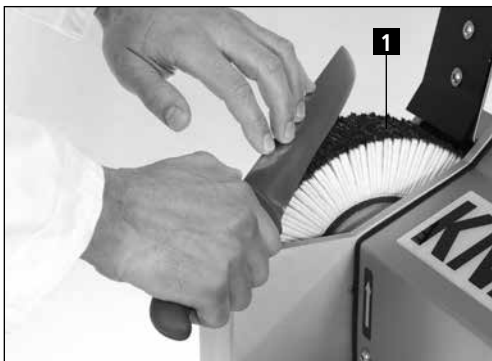


Figure 7-8 Polishing the hand knife

The burr on the knife is removed at the flap brush (7-8/1). This is where the hand knife achieves its final sharpness.

Both sides of the knife blade are honed alternately on the flap brushes.

7. Operation

7.9 Dressing the grinding disk (S 200 S | S 200 T)



Dressing gives rise to abrasive particles (small fragments of abrasive grit and dust) which could enter the eyes.

Wearing protective glasses is mandatory.

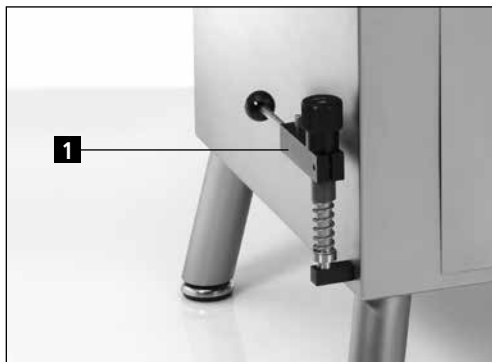


Figure 7-9 HV 201 dressing tool

The HV 201 dressing tool (7-9/1) is located on the bottom left of the base when not in operation.

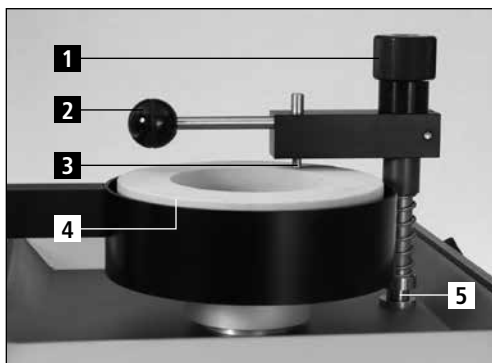


Figure 7-10 Dressing the grinding wheel

Untrue or unevenly abraded grinding disks can be trued with it.

To mount the dressing tool (7-9/1), it is inserted in the holder (7-10/5) and clamped with the help of a SW5 socket wrench. Its height can be adjusted with the help of an adjusting nut (7-10/1).

Switch on the grinding machine (see Chapter 7.2) and rotate the adjusting nut (7-10/1) clockwise until the truing diamond (7-10/3) touches the grinding disk. Then move the dressing tool (7-10/2) slowly over the grinding disk (7-10/4).

When the truing diamond (7-10/3) has ground the face of the wheel until flat, turn the adjusting nut (7-10/1) clockwise by 1/4th of a rotation and move the dressing tool over the grinding disk. Repeat the process until the face of the grinding disk is completely flat and true.

After truing, round off the grinding disk edges with the dressing stone that is included with the machine. Finally, adjust the grinding disk guard (see Chapter 7.10) and remove the dressing tool.

7. Operation

7.10 Adjusting the grinding disk guard (S 200 S | S 200 T)

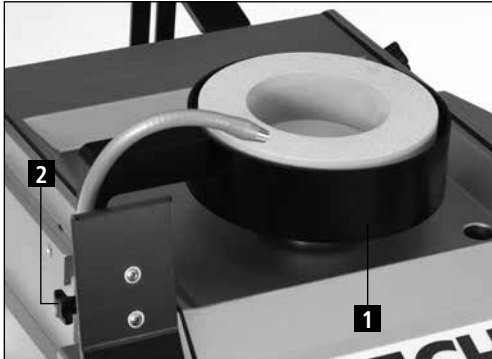


Figure 7-11 Adjusting the grinding disk guard

To adjust the grinding disk guard (7-11/1), turn the star knob (7-11/2) counter-clockwise. Then loosen the grinding disk guard, taking care to maintain a distance of approx. 5 mm between the grinding disk edge and the grinding disk guard.

Then turn the star knob (7-11/2) clockwise to tighten it.

7.11 Changing the grinding disk (S 200 S | S 200 T)



For all work on the grinding machine, the locally applicable safety and accident prevention regulations as well as instructions in the "Safety" and "Important notes" section of the operating instructions must be observed.



Figure 7-12 Changing the grinding disk

There is a screw (7-12/1) in the centre of the grinding disk.

Loosen the screw (7-12/1) with the help of the socket wrench SW5 (included in the tool box) and remove the grinding disk.

The assembly of the new grinding disk is performed in reverse sequence.

ATTENTION

Only original grinding disks approved by KNECHT Maschinenbau GmbH may be used.

Incorrect grinding disks can lead to overheated blades that can cause knife breaks.

7. Operation

7.12 Changing the wet-grinding belt



For all work on the grinding machine, the locally applicable safety and accident prevention regulations as well as instructions in the “Safety” and “Important notes” section of the operating instructions must be observed.



Figure 7-13 Opening the belt protective hood

Loosen the star knob (7-13/2) by turning it counter-clockwise; remove the belt protecting hood (7-13/1).

This automatically activates the belt unloading mechanism.

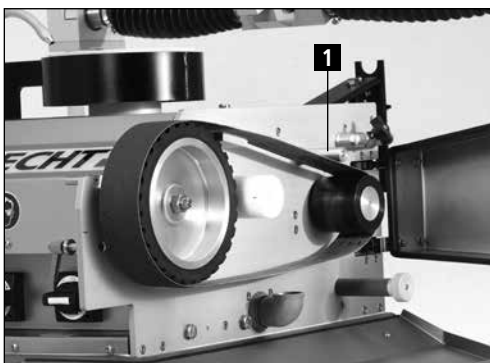


Figure 7-14 Changing the wet-grinding belt

Remove the used grinding belt and place a new belt over the contact disk and guide roller. Take care to route the grinding belt below and past the water nozzle (7-14/1).

Turn the grinding belt one full circle by hand and verify that it is not scuffed anywhere.

Then close the belt protective hood again completely.

ATTENTION

Heed the movement direction arrows on the inside of the grinding belt!

Only original grinding belts approved by KNECHT Maschinenbau GmbH may be used.

Incorrect grinding belts can lead to overheated blades that can cause knife breaks.

7. Operation

NOTICE

The machine cannot be switched on when the belt protective hood is open. If the belt protective hood is opened while the machine is in operation, it switches off automatically.

7.13 Belt control

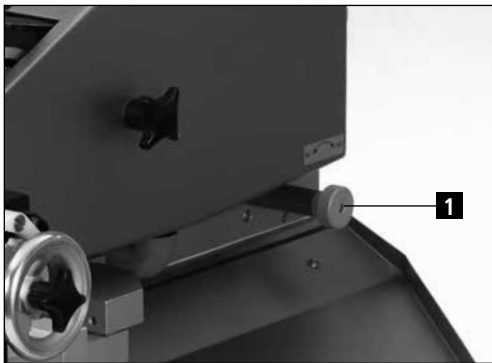


Figure 7-15 Belt control

If the grinding belt is not running in the centre of the contact disk, it can be aligned with the belt control knob (7-15/1).

Turning the belt control knob (7-15/1) counter-clockwise makes the grinding belt run to the left.

Turning the belt control knob (7-15/1) clockwise makes the grinding belt run to the right.

7.14 Changing the flap brush

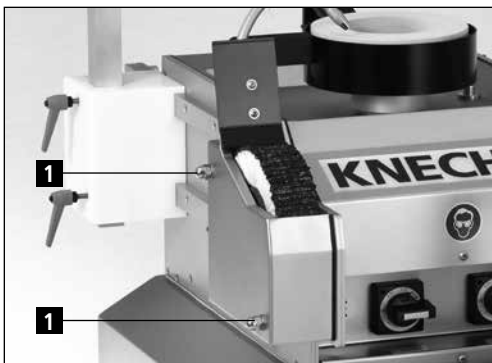


Figure 7-16 Unfastening the cap nuts

To change the flap brush, turn each of the cap nuts (7-16/1) counter-clockwise. The screws remain on the hood.

Then remove the hood carefully and clean as necessary.

7. Operation

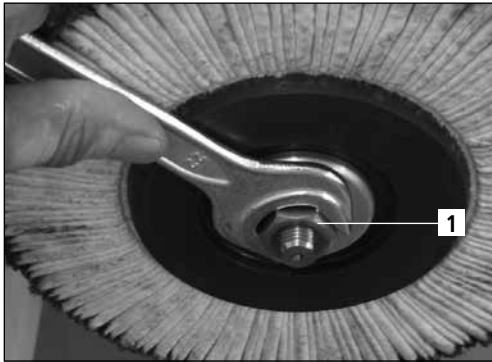


Figure 7-17 Changing the flap brush

Loosen the nut (7-17/1) with the included flat wrench, carefully pull the old flap brush downwards and replace with a new one. Then mount the complete hood again in reverse order.

Carry out a function check!

ATTENTION

Only original flap brushes approved by KNECHT Maschinenbau GmbH may be used.

Incorrect flap brushes can damage the blades.



Do not switch on the machine with the protective hood in dismantled condition!

This can result in serious injuries!

8. Care and maintenance



For all work on the grinding machine, the locally applicable safety and accident prevention regulations as well as instructions in the “Safety” and “Important notes” section of the operating instructions must be observed.

8.1 Cleaning

Clean the machine each time after sharpening to prevent the swarf from drying, hence making it harder to remove.

After cleaning, lightly grease the grinding machine with non-corrosive oil. See also the explanations in the lubrication schedule, Chapter 8.2.

The coolant must be changed and the container cleaned every week.

ATTENTION

Do not spray-wash the grinding machine with water. This can damage the machine!

Flap brush does not work when it is wet.

8.2 Lubrication schedule and lubricant table

Lubricating activity	Interval	OEST	SHELL	EXXON Mobil	DEA
Lubricate the threads of star knobs and clamping levers	Every 4 weeks	Mehrzweckfett L 2	Gadus S2 V100 2	Mobilith SHC 100	Dolon E2
Grease machine parts after cleaning	After each grinding operation	Paraffinum Perliquidum 16 L	Shell Risella 917	Marcol 82	Merkur Weißöl Pharma 40

9. Malfunctions

9.1 Faults

Malfunction	Fault	Remedy
Wet-grinding belt/grinding disk stalls under load	V-belt not tight enough	Tighten the V-belt
	V-belt disk and V-belt worn out	Change
Wet-grinding belt moves to and fro, making a lot of noise, and cannot be controlled	Wet-grinding belt is faulty	Change the wet-grinding belt
	Contact disk is damaged or worn out	Change the contact disk
	Guide roller is worn out	Change the guide roller
There is no coolant flow	Too little coolant in the coolant tank	Fill
	Lines are clogged	Clean
	Defective pump	Change pump
Machine cannot be switched on	Belt protective hood is open	Close the belt protective hood
	Motor protection switch has tripped	Wait for five minutes until the machine has cooled down, lock "Units" switch in "OFF" position and only then switch on

If a fault is not included in the faults table or if the fault is not eliminated, please contact our service staff (Chapter 11).

10. Disassembly and disposal

10.1 Disassembly

All operating materials must be disposed of correctly.

Secure moving parts against slipping.

The disassembly must be carried out by a qualified specialist company.

10.2 Disposal

At the end of the machine service life, it must be disposed of by a qualified specialist company. In exceptional cases and in agreement with KNECHT Maschinenbau GmbH, the machine can be returned.

Operating materials (e.g. grinding disks, grinding belts, flap brushes, etc.) must also be disposed of correctly.

11. Service, spare parts and accessories

11.1 Postal Address

KNECHT Maschinenbau GmbH
Witschwender Straße 26
88368 Bergatreute
Germany

Phone +49-7527-928-0
Fax +49-7527-928-32

mail@knecht.eu
www.knecht.eu

11.2 Service

Service management:

See postal address

service@knecht.eu

11.3 Spare parts

If you need spare parts, please use the spare parts list provided with the machine. Please place your order as shown below.

Please always include the following information: (Example)

Machine type	(S200)
Machine serial number	(8920961200T)
Designation of assembly	(S200 Tabletop)
Designation of individual part	(Motor IEC80 B3 400V 1.1 kW)
Item number	(2)
Drawing No.	(410DA01-0589)
Quantity	(1 pc.)

Please feel free to contact us with any questions.

11. Service, spare parts and accessories

11.4 Accessories

11.4.1 Abrasives used

Name	Dimension	Grain	Order number	Remarks
Grinding disk H6V2709	d.200x60xd.50	80	412B-10-0492	
Grinding disk L/M6V51	d.200x60xd.50	120	412B-11-0491	
Grinding disk 60C120H8V30	d.200x60xd.50	120		For heavy material abrasion
Wet-grinding belt	1250x60	60		
	1250x60	80	412A-42-0523	
	1250x60	100	412A-43-0524	
	1250x60	120	412A-44-0525	Assembled on delivery
	1250x60	240	412A-46-0526	
Wet-grinding belt, compact grain	1250x60	180	412A-50-0180	
Flap brush	d.200x50xd.17		412J-02-0510	Assembled on delivery
Polishing paste	1200 g		412R-01-0501	Included in the scope of delivery
Truing diamond 1.5 carat			312A-01-2328	Included in the scope of delivery

ATTENTION

No other abrasives may be used without the approval of KNECHT Maschinenbau GmbH.

KNECHT Maschinenbau GmbH accepts no liability if other abrasives are used.

If you require grinding disks, wet-grinding belts, flap brushes, polishing pastes or other accessories, please contact our sales staff, dealers, or KNECHT Maschinenbau GmbH directly.

Thank you for buying our product!

12. Appendix

12.1 EC Declaration of Conformity

in accordance with the EC Directive 2006/42/EC

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2004/108/EC

We hereby declare that the machine mentioned below fulfils the basic health and safety requirements of the relevant EC Directive by virtue of the machine's construction and design and the version placed by us on the market.

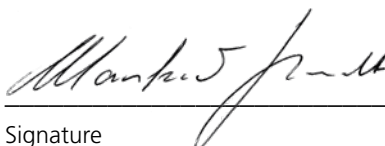
This declaration becomes void if the machine is modified in any way without our consent.

Designation of the machine:	Universal Wet-Sharpening Machine
Type designation:	S 200
Applicable harmonised standards, in particular:	DIN EN 12100-1 DIN EN 12100-2 DIN EN 60204-1 ISO 13857 DIN EN 349
Responsible for the documentation:	Peter Heine (Dipl. Ing. Mechanical Engineering BA) Phone +49-7527-928-15
Manufacturer:	KNECHT Maschinenbau GmbH Witschwender Straße 26 88368 Bergatreute Germany

Complete technical documentation is available. The operating instructions document for the machine is available in its original version and in the native language of the user.

Bergatreute, 09 September 2015

Place, date


Signature

Managing Director

Signatory details

KNECHT Maschinenbau GmbH

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