

## Operating Instructions

### S 200 S | S 200 BS

Universal Wet-Sharpening Machine



Includes S 200 T | S 200 BT

# Operating Instructions

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

Includes S 200 T | S 200 BT Table model

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### **Documents for machine operator**

Operating Instructions

### **Date of issue of the operating instructions**

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# 1. Important notes

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## 1.1 Preface to the operating instructions

These operating instructions are intended to make it easy to learn how to use the Universal Wet-Sharpening Machine, hereafter referred to as the grinding machine, and to properly utilize its features.

These operating instructions contain important notes on how to operate the grinding machine safely, properly, and efficiently. Observing these instructions helps to avoid hazards, reduce repair costs and downtimes, and to increase the reliability and service life of the grinding machine.

The operating instructions must always be stored in the location that the grinding machine is used.

The operating instructions must be read and applied by every person tasked with working with the grinding machine, e. g.:

- transport, installation, commissioning
- operation, including error rectification during operation, as well as
- servicing (maintenance, repair).

Recognized technical standards for safe and professional work must be observed in addition to these operating instructions and the binding accident prevention regulations applicable in the country of use and at the place of use.

## 1.2 Warnings and symbols in the operating instructions

The operating instructions use the following symbols/designations that must be followed:



The hazard triangle with the signal word “CAUTION” serves as a work safety notice for all work for which there is a risk of personal injury or death.

In these cases, work should be done with special attention and care.



“ATTENTION” is used to draw attention to particular points in order to avoid damage to and/or destruction of the grinding machine and its environment.



“NOTICE” refers to user tips and especially useful information.

# 1. Important notes

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## 1.3 Warning signs and their meaning

### 1.3.1 Warning and mandatory signs on/in the grinding machine

The following warnings and mandatory signs have been affixed on/in the grinding machine:



#### **CAUTION! DANGEROUS ELECTRICAL VOLTAGE (warning sign on switch housing)**

The grinding machine carries life-threatening voltage when it is connected to the current supply.

Current-carrying device parts may only be opened by authorized personnel.

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



#### **CAUTION! RISK OF INJURY FROM ABRASIVE PARTICLES (mandatory sign on machine front)**

Grinding, polishing, deburring and dressing gives rise to grinding particles which could enter the eyes.

Wearing protective goggles is mandatory when carrying out such work.

### 1.3.2 General mandatory signs

The following general mandatory signs must be followed:



#### **CAUTION! RISK OF INJURY FROM KNIFE**

Working with the grinding machine involves grinding knives that could cause serious cut injuries due to their sharpness.

Protective gloves must be worn when clamping and releasing knives.

Caution when transporting blades. Use the protective equipment provided by the knife manufacturer. Protective gloves and safety shoes must be worn.

# 1. Important notes

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## 1.4 Rating plate and machine serial number



Figure 1-1 Rating plate

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



Figure 1-2 Machine serial number

The machine serial number can be found on the rating plate and on the left side wall underneath the flap brush.

## 1.5 Figure and position numbers in the operating instructions

If the text makes a reference to a machine component depicted in a figure, the figure and position number will be given in parentheses.

Example: (6-2/1) means figure number 6-2, position 1.



Figure 6-2 Checking the direction of rotation

Check the direction of rotation of the finned brush.

The direction arrow (6-2/1) indicates the direction of rotation of the wet-grinding belt and finned brush.

If the finned brush is rotating in the right direction, then the direction of rotation of the grinding wheel and of the wet-grinding belt is also correct.

If the finned brush is rotating in the wrong direction, have the phase reversed by a qualified electrician.



## 2. Safety

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### 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 rules and regulations regarding accident prevention at the place of use are to be observed.

#### 2.1.2 Obligation on the part of the operator

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

- are familiar with the occupational safety and accident prevention regulations and have received instruction in handling the grinding machine,
- have read and understood the operating instructions, in particular the section entitled "Safety" and the warning notes, and have provided signed confirmation of this.

The safety-awareness of the personnel at work will be monitored at regular intervals.

#### 2.1.3 Obligation on the part of the personnel

All personnel working on the grinding machine shall be obliged, before starting work, to

- observe basic occupational safety and accident prevention regulations,
- read the operating instructions, particularly the section entitled "Safety" and the warning notes, and provide signed confirmation that they have understood them.

#### 2.1.4 Hazards involved in handling the grinding machine

The grinding machine has been built to the latest technological standards and the recognized rules of technical safety. In spite of this, its use poses inherent risks which could result in bodily harm or even death of the user or third persons, or damage to the grinding machine or other property.

The grinding machine may be used only:

- for its intended purpose
- in faultless condition with regard to safety-related aspects.

## 2. Safety

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Malfunctions that may impair safety are to be eliminated immediately.

### 2.1.5 Malfunctions

If safety-relevant malfunctions occur with the grinding machine, or if the processing behavior 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 authorized trained personnel to eliminate the malfunctions.

## 2.2 Intended use

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

Except for hand knives (e.g. cutting knives), all cutting tools must be clamped on the corresponding grinding plates. First, check whether the grinding plate matches the knife to be ground. The knife can only be ground if this is the case.

Any other use is considered to be improper. KNECHT Maschinenbau GmbH is not liable for any damage arising from this. The user alone bears this risk.

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

### ATTENTION

**The grinding machine is being used improperly if, for example:**

- **cutting tools that cannot be guided by hand are ground without a grinding plate.**
- **fixtures are not properly attached.**
- **knives are sharpened / polished in the opposite direction of the cutting edge on the wet-grinding belt or the finned brush.**

## 2.3 Warranty and liability

Warranty and liability claims in case of personal injury 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 transport, commissioning, operation, and maintenance of the grinding machine,
- operating the grinding machine with defective safety devices, or using improperly attached or malfunctioning safety and protective equipment,

## 2. Safety

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- failure to observe the instructions with regard to transportation, commissioning, operation, maintenance and repair of the grinding machine,
- unauthorized structural alterations to the grinding machine,
- unauthorized modification, e.g. of the drive conditions (output and speed),
- failure to monitor machine parts that are subject to wear, and
- use of unapproved replacement and wear parts.

Use only original replacement and wear parts. When using external parts, it cannot be guaranteed that they are constructed and manufactured to be suitable and safe.

### 2.4 Safety regulations

#### 2.4.1 Organizational measures

Inspect all available safety devices regularly.

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

#### 2.4.2 Protective equipment

Before every commissioning of the grinding machine, ensure that all protective equipment is properly mounted and in functional condition.

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

When attaching spare parts, the protective equipment must be attached by the operator as stipulated.

#### 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 locally relevant accident prevention regulations must also be made available and observed.

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

#### 2.4.4 Selection and qualification of personnel

Only trained and instructed personnel may work on the grinding machine. Observe the legally permitted minimum age!

## 2. Safety

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The responsibilities of personnel with respect to commissioning, operation, maintenance, and repair must be clearly specified.

Personnel still undergoing training or instruction may only work on the grinding machine under the permanent supervision of an experienced person!

### 2.4.5 Machine control system

Only trained and instructed personnel are permitted to switch on and operate the machine.

### 2.4.6 Safety measures in normal operation

Do not operate the machine in any unsafe manner. Only operate the grinding machine if all the safety devices are installed and fully functional.

At least once per shift (or per day), check the grinding machine for externally visible damage and proper functioning of the safety devices.

Immediately report any changes present (including those of the operating behavior) to the responsible office or person. If necessary, immediately shut down the grinding machine and secure it against restart.

Before you switch on the grinding machine, ensure that no one can be injured by the start-up of the machine.

In the event of a malfunction, immediately stop the grinding machine and secure it against restart. Rectify malfunctions immediately.

### 2.4.7 Hazards due to electrical power sources

Work on electrical systems or operating materials may only be performed by a qualified electrician, in accordance with electrical regulations.

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

### 2.4.8 Particular hazard areas

Hazard in the area of the grinding wheel, wet-grinding belt and finned brush: objects, e.g. clothing, fingers and hair, can be pinched and drawn in. Wear suitable personal protective equipment.

### 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 beginning repair work. Designate a supervisor responsible for this.

For all service work, the grinding machine is to be disconnected from the current supply and secured against accidental restart.

## 2. Safety

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Remove power plug. Cordon off the repair area as far as it is required.

After completing maintenance work and rectifying any faults, install all safety devices and verify that they are fully functional.

### 2.4.10 Structural alterations to the grinding machine

Alterations to or retrofits or rebuilds of the grinding machine are not allowed without the permission of the manufacturer. This also applies for installation and configuration of the safety devices.

Any conversion work requires the written permission from KNECHT Maschinenbau GmbH.

Immediately replace any machine parts that are not in a serviceable state.

Use only original replacement and wear parts. When using external parts, it cannot be guaranteed that they are constructed and manufactured to be suitable and safe.

### 2.4.11 Cleaning the grinding machine

Properly handle any cleaning agents and materials used and dispose of them in an environmentally-friendly manner.

Dispose of the wear parts and replacement parts in a safe and environmentally-friendly manner.

### 2.4.12 Lubricants / oils and greases

When using oils and greases, follow the safety regulations applicable to the product. Comply with the special regulations for the foodstuffs sector.

### 2.4.13 Relocation of the grinding machine

Disconnect the grinding machine from any external current supply, even if adjusting its position slightly. Before restarting the grinding machine, properly connect it to the power supply.

When loading or unloading, only use suspension devices and load suspension devices with sufficient load-bearing capacity. Designate suitable lifting devices for the lifting process.

Ensure that only persons authorized to carry out this work are located where the machine is unloaded and installed.

Only lift the grinding machine correctly with a suspension device in accordance with the operating instructions. Use only a suitable transport vehicle with sufficient carrying capacity. Secure loads safely. Use suitable attachment points. When recommissioning, do so only in accordance with the operating instructions.

# 3. Description

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## 3.1 Intended use

The S 200 Universal Wet-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

Current supply*	_____	3x 400 V
Mains frequency*	_____	50 Hz
Output*	_____	1.15 kW
Power consumption*	_____	1.61 kW
Energy consumption*	_____	2.79 A
Back-up fuse	_____	16 A
Measured A-weighted emission sound pressure level at workplace LpA**	_____	78 dB (A)
Speed of wet-grinding belt/finned brush	_____	1700 rpm
Speed of grinding wheel (optional)	_____	420 rpm

\*) This information may change depending on the electrical current supply.

\*\*\*) Two-digit sound emission value according to EN ISO 4871 (measurement uncertainty KpA. 3 dB (A)).  
Emission sound pressure level according to EN ISO 11201.

A K24 cutter knife from KNECHT Maschinenbau GmbH was ground.

### 3.2.2 S 200 S | S 200 BS (floor model)

Height (version with grinding wheel)	_____	approx. 1300 mm
Width	_____	approx. 900 mm
Depth	_____	approx. 1100 mm
Space requirement (W x D)	_____	1500 x 1500 mm
Weight	_____	max. 160 kg

### 3. Description

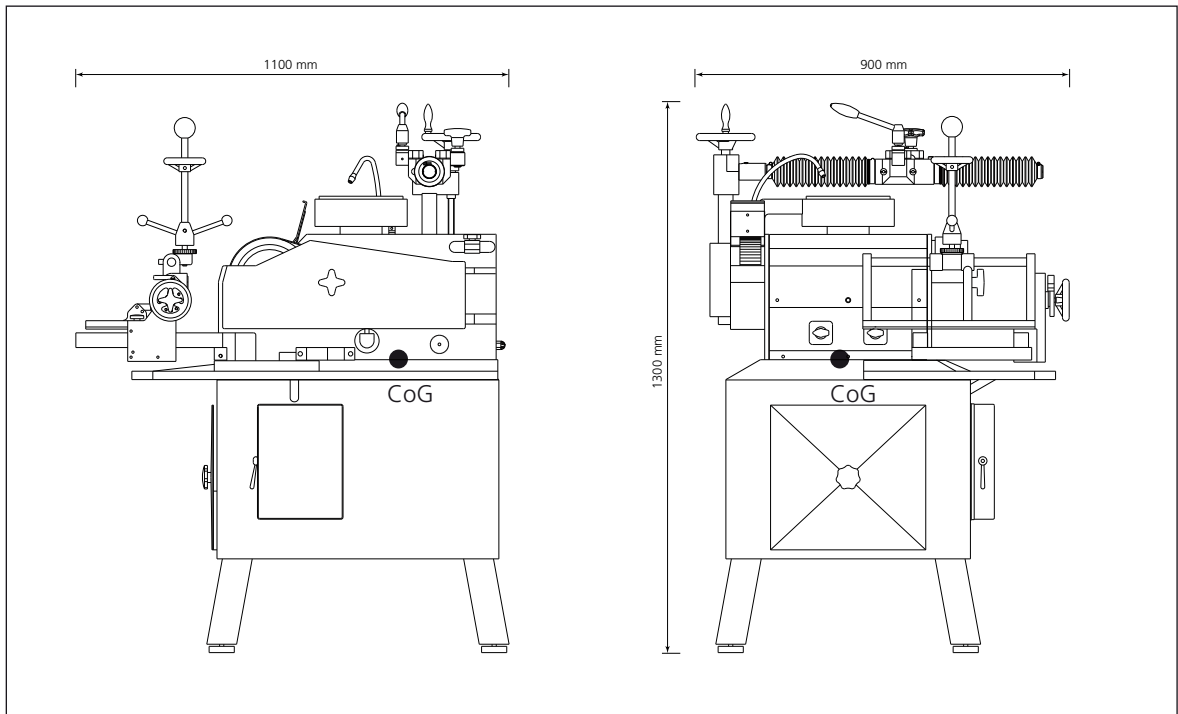


Figure 3-1 Dimensions in mm (S 200 S floor model)

#### 3.2.3 S 200 T | S 200 BT (table model)

Height (version with grinding wheel) \_\_\_\_\_ approx. 600 mm

Width \_\_\_\_\_ approx. 900 mm

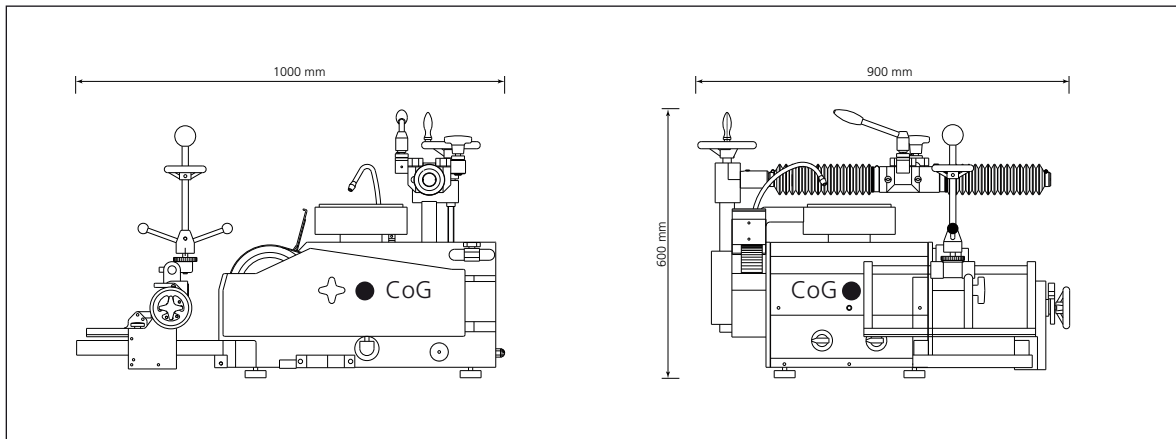
Depth \_\_\_\_\_ approx. 1000 mm

Space requirement (W x D) \_\_\_\_\_ 1500 x 1500 mm

Weight \_\_\_\_\_ max. 104 kg

## 3. Description

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**Figure 3-2** Dimensions in mm (S 200 S table model)

### 3.3 Functional description

The Universal Wet-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 wheel as well as the wet-grinding belt with corresponding fixtures.

The grinding angle on the grinding wheel can be steplessly adjusted. The grinding angle on the wet-grinding belt is adjusted with different spacer discs.

Knives can be deburred and polished on the finned brushes without the use of fixtures.



# 3. Description

## 3.4 Description of the assemblies

The Universal Wet-Sharpening Machine is available in different versions:

- S 200 S (floor model with grinding wheel)
- S 200 BS (floor model without grinding wheel)
- S 200 T (table model with grinding wheel)
- S 200 BT (table model without grinding wheel)

KNECHT Maschinenbau GmbH also offers useful optional attachments that can be used as needed. These fixtures are explained on the following pages.



**Figure 3-3** General view of grinding machine (S 200 S floor model | HV 203 | HV 262)

- 1 Finned brush
- 2 Control panel
- 3 HV 201 Dressing tool for grinding wheel (chapter 3.4.9)
- 4 HV 203 Universal grinding arm (chapter 3.4.4)

# 3. Description

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- 5 Grinding wheel
- 6 Wet-grinding belt
- 7 HV 262 Universal belt-grinding unit (chapter 3.4.6)
- 8 Water tank (floor model)
- 9 Machine feet

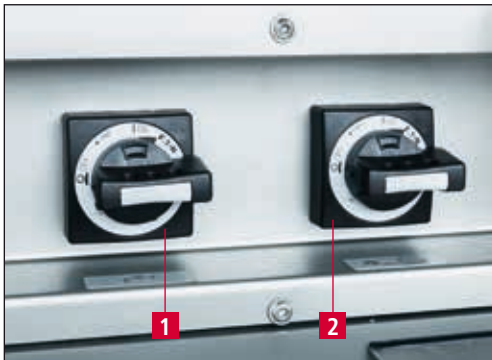
## 3.4.1 Coolant dosing unit for wet-grinding belt



- 1 Coolant dosing unit for wet-grinding belt
- 2 Mount for HV 201 Dressing tool

Figure 3-4 Coolant dosing unit for wet-grinding belt

## 3.4.2 Control panel



- 1 Coolant pump ON/OFF
- 2 Grinding motor ON/OFF

Figure 3-5 Control panel

# 3. Description

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## 3.4.3 HV 207 Swivel arm (optional, S 200 S | S 200 T)

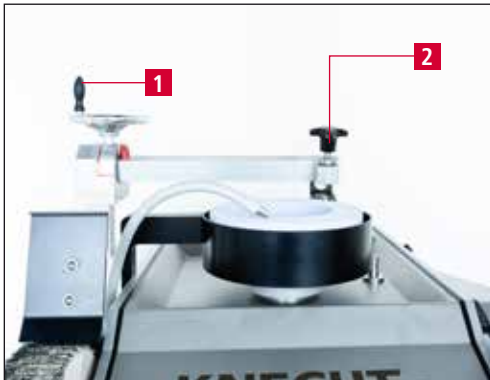


Figure 3-6 HV 207 Swivel arm

- 1 Hand wheel to set grinding angle
- 2 Swivel arm

## 3.4.4 HV 203 Universal grinding arm (optional, S 200 S | S 200 T)



Figure 3-7 HV 203 Universal grinding arm

- 1 Hand wheel to set grinding angle
- 2 SP 107 grinding plate
- 3 Grinding lever
- 4 Universal grinding arm
- 5 Grinding wheel guard

## 3.4.5 HV 261 Belt-grinding attachment (optional, all versions)

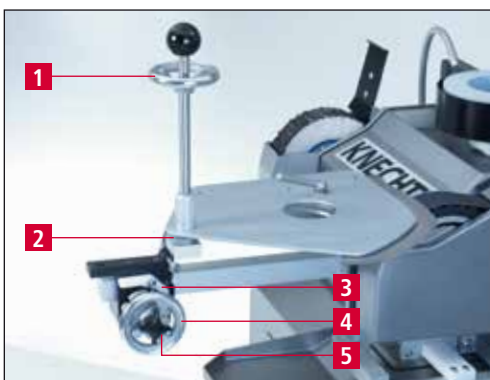


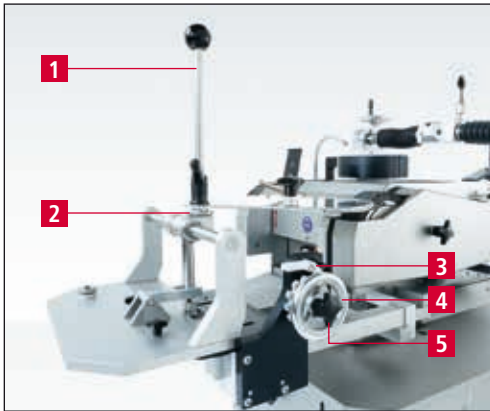
Figure 3-8 HV 261 Belt-grinding attachment

- 1 Grinding lever
- 2 Function disc
- 3 Locking lever
- 4 Hand wheel for feeding the belt-grinding attachment
- 5 Star handle

# 3. Description

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## 3.4.6 HV 262 Universal belt-grinding unit (optional, all versions)



- 1 Grinding lever
- 2 Function disc
- 3 Locking lever
- 4 Hand wheel for feeding the Universal belt-grinding unit
- 5 Star handle

Figure 3-9 HV 262 Universal belt-grinding unit

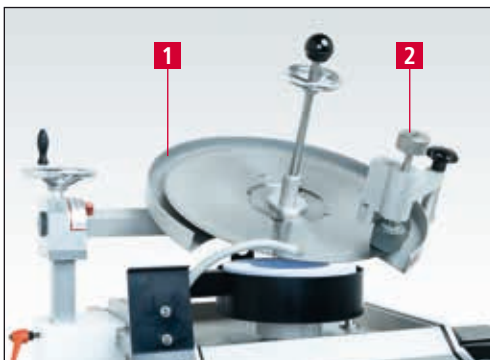
## 3.4.7 HV 205-1 Circular knife grinding attachment (optional, S 200 S | S 200 T) for circular knives, 80–250 mm



- 1 Circular knife holding fixture

Figure 3-10 HV 205-1 Circular knife grinding attachment

## 3.4.8 HV 205-2 Circular knife grinding attachment (optional, S 200 S | S 200 T) for circular knives, 250–470 mm



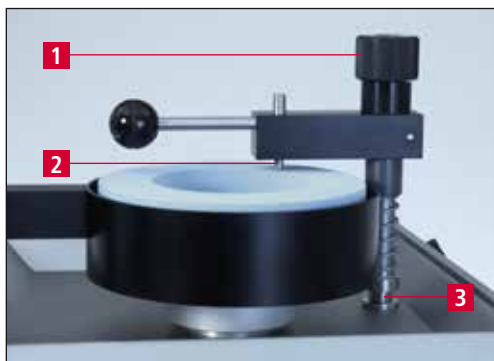
- 1 Blade guard
- 2 Deburring unit

Figure 3-11 HV 205-2 Circular knife grinding attachment

# 3. Description

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## 3.4.9 HV 201 Dressing tool (S 200 S | S 200 T)



- 1 Adjusting nut
- 2 Dressing diamond
- 3 Mount for HV 201 dressing tool

Figure 3-12 HV 201 Dressing tool

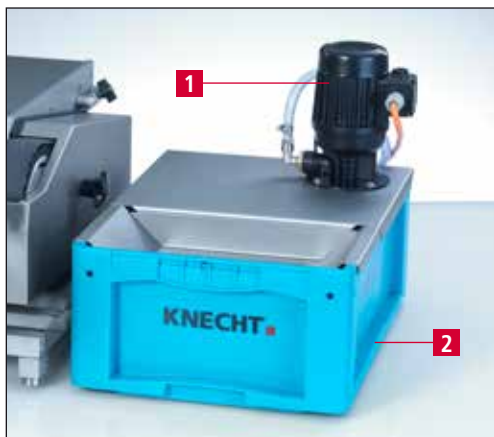
## 3.4.10 Coolant unit (S 200 S | S 200 BS)



- 1 Coolant pump
- 2 Water tank

Figure 3-13 Coolant unit

## 3.4.11 EP 205 External coolant unit (optional, S 200 T | S 200 BT)



- 1 Coolant pump
- 2 Water tank

Figure 3-14 EP 205 External coolant unit

# 3. Description

## 3.5 Functional description of units



Figure 3-15 General view of grinding machine (S 200 S floor model | HV 203 | HV 262)

### 1 Cup grinding wheel (S 200 S | S 200 T)

Quickly removes a great deal of material. Used to easily repair heavily damaged cutter knives. Chamfered edges, e.g. on circular knives, are attached to the cup grinding wheel. The desired grinding angle can be steplessly adjusted.

Fixtures:

- HV 207 Swivel arm: for grinding sickle-shaped cutter knives
- HV 203 Universal grinding arm: for grinding linear and sickle-shaped cutter knives
- HV 205-1 Circular knife grinding attachment: for grinding circular knives 80–250 mm
- HV 205-2 Circular knife grinding attachment: for grinding circular knives 250–470 mm
- HV 201 Dressing tool: for dressing the cup grinding wheel

### 2 Finned brushes (all versions))

For deburring and polishing linear and sickle-shaped cutter knives as well as hand knives.

### 3 Wet-grinding belt (all versions)

Enables tapered and convex grinding. Cutter knives are ground in corresponding clamping devices. Hand knives are ground without fixtures.

Fixtures:

- HV 261 Belt-grinding attachment: for grinding sickle-shaped cutter knives.
- HV 262 Universal belt-grinding unit: for grinding sickle-shaped and linear cutter knives

## 4. Transport

---



**When transporting, observe the local applicable safety and accident prevention regulations.**

**Only transport the grinding machine with the machine feet facing downwards.**

### 4.1 Transport aids

For transporting and for setting up of the grinding machine, only use adequately dimensioned transportaids.

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

Note the machine's center of gravity when transporting. The center of gravity (CoG) is shown in figure 3-1 and 3-2.

### 4.2 Transport damage

If damage is detected after unloading and/or when accepting delivery, notify KNECHT Maschinenbau GmbH and the forwarding agent immediately. Promptly refer to an independent specialist as needed.

Remove the packaging and shipping straps. Remove the shipping straps on the grinding machine. Dispose of packaging in an environment-friendly manner.

### 4.3 Transport to another installation site

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

A permissible electrical connection must be provided at the new installation site.

The grinding machine must be firmly and securely fixed in place.



**Work on the electrical unit is only to be carried out by an authorized specialist. Observe the locally applicable safety and accident prevention regulations.**

# 5. Installation

---

## 5.1 Selection of qualified personnel



We recommend having installation work on the grinding machine carried out by the trained KNECHT personnel.

We are not liable for any damage resulting from improper installation.

## 5.2 Installation site

When determining the installation site, bear in mind the space required for installation as well as maintenance and repair work on the grinding machine (see section 3.2).

## 5.3 Supply connections

The grinding machine is provided ready to connect with the corresponding connection cable.



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

## 5.4 Settings

KNECHT Maschinenbau GmbH will configure the various components as well as the electrical system before delivery.

**ATTENTION**

Unauthorized alterations to the preset values are not permitted and can damage the grinding machine.



# 5. Installation

---

## 5.5 Initial start-up of the grinding machine

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

Level out any floor unevenness by turning the machine feet. Align the machine using a spirit level.

Have an authorized electrician install the current supply on-site.

Completely install and inspect the protective equipment before commissioning.



CAUTION

**Have all protective equipment checked for proper functioning by authorized trained personnel before commissioning the machine.**

# 6. Commissioning



All work must be performed by authorized trained personnel.

Observe the locally applicable safety and accident prevention regulations.

There is a risk that hands, hair, and clothing may be pulled in while the grinding machine is switched on.

Serious injury may result. Wear personal protective equipment.



Figure 6-1 Filling the water tank

Fill water tank (6-1/1) with approx. 15 liters of water.

Connect plug with the on-site outlet (3x 400V, 16 A).

Turn "Grinding motor" switch (3-5/2) to "ON" position. The grinding wheel, wet-grinding belt and finned brush start rotating.



Figure 6-2 Checking the direction of rotation

Check the direction of rotation of the finned brush.

The direction arrow (6-2/1) indicates the direction of rotation of the wet-grinding belt and finned brush.

If the finned brush is rotating in the right direction, then the direction of rotation of the grinding wheel and of the wet-grinding belt is also correct.

If the direction is rotating in the wrong direction, have the phase reversed by a qualified electrician.

**ATTENTION**

If the direction of rotation is incorrect, the grinding wheel, finned brush and contact disc may come loose.

# 7. Operation

---

## 7.1 General grinding fundamentals

To sharpen the cutting edge which has become blunt, the metal must be removed from the knife.

To do so, grind the knife up to the cutting edge until a small burr appears. Carefully remove the burr with the finned brush by applying moderate pressure. To do so, the knife is guided approx. 6 – 10 times over the finned brush, alternating between left and right (left – right – left – right – left).

As it is not only the sharp cutting edges, but also the long service lives that define a blade, the cutting edge angle is another important indicator of a blade's performance.

The smaller the cutting edge angle, the higher its theoretical service life. In practice, however, it seems that a cutting edge angle that is too small results in the cutting edge breaking off and thus becoming blunt.

The cutting edge angle is therefore between 25° and 35°. For cutting edge angles below 15°, the cutting edge is so unstable that it snaps with the smallest resistance.

For a cutting edge angle of more than 40°, the cutting edge is stable but it loses sharpness very fast.

The cutting edge profile is an additional criterion for the characteristics of the cutting edge.

There are three different ground surfaces:



Convex ground surfaces are usually found on cutter knives and hand knives, tapered and concave ground surfaces mainly on circular knives.

In essence: The profile and cutting edge angle stipulated by the manufacturer must be maintained.

# 7. Operation

---

## 7.2 Switching on the grinding machine

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

The grinding wheel, wet-grinding belt and finned brush start rotating.

## 7.3 HV 207 Swivel arm (optional, S 200 S | S 200 T)



CAUTION

**Serious cuts may occur when handling cutter knives. Only transport cutter knives using transport devices intended for this purpose.**

**Protective gloves and safety shoes must be worn.**



Figure 7-1 HV 207 Swivel arm

To grind sickle-shaped cutter knives, mount the HV 207 Swivel arm (7-1/1) on the machine onto which the grinding plate is clamped with the knife.

The swivel arm can be used to grind precise angles with simple operation and minimal effort.

Cutter knives are pre-ground here and reground as necessary.

### NOTE

**More information on this can be found in the technical documentation for the HV 207 Swivel arm.**

# 7. Operation

---

## 7.4 HV 261 Belt-grinding unit (optional, all versions)



Serious cuts may occur when handling cutter knives. Only transport cutter knives using transport devices intended for this purpose.

Protective gloves and safety shoes must be worn.



Figure 7-2 HV 261 Belt-grinding unit

To grind sickle-shaped cutter knives, mount the HV 261 Belt-grinding unit (7-2/1) on the machine onto which the grinding plate is clamped with the knife.

The belt-grinding unit can be used to grind precise angles with simple operation and minimal effort. Cutter knives with normal wear are ground here.

Cutter knives pre-ground on the grinding wheel receive their final grinding here.

### NOTE

More information on this can be found in the technical documentation for the HV 261 Belt-grinding unit.

# 7. Operation

---

## 7.5 HV 203 Universal grinding arm (optional S 200 S | S 200 T)



CAUTION

Serious cuts may occur when handling cutter knives. Only transport cutter knives using transport devices intended for this purpose.

Protective gloves and safety shoes must be worn.



Figure 7-3 HV 203 Universal grinding arm

To grind linear and sickle-shaped cutter knives, mount the HV 203 Universal grinding arm (7-3/1) on the machine onto which the grinding plate is clamped with the knife.

The universal grinding arm can be used to grind precise angles with simple operation and minimal effort.

Cutter knives are pre-ground here and reground as necessary.

### NOTE

More information on this can be found in the technical documentation for the HV 203 Universal grinding arm.

# 7. Operation

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## 7.6 HV 262 Universal belt-grinding unit (optional, all versions)



Serious cuts may occur when handling cutter knives. Only transport cutter knives using transport devices intended for this purpose.

Protective gloves and safety shoes must be worn.

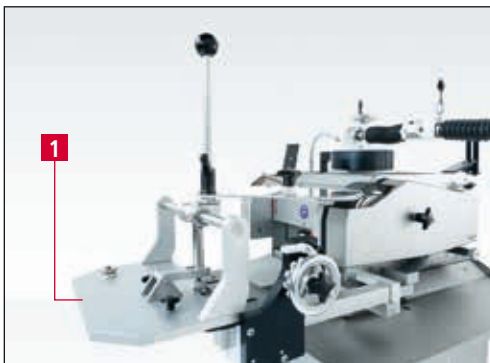


Figure 7-4 HV 262 Universal belt-grinding unit

To grind linear and sickle-shaped cutter knives, mount the HV 262 Universal belt-grinding unit (7-4/1) on the machine onto which the grinding plate is clamped with the knife.

The universal belt-grinding unit can be used to grind precise angles with simple operation and minimal effort. Cutter knives with normal wear are ground here.

Cutter knives pre-ground on the grinding wheel receive their final grinding here.

### NOTE

**More information on this can be found in the technical documentation for the HV 262 Universal belt-grinding unit.**

# 7. Operation

## 7.7 Deburring cutter knives with the finned brush



**CAUTION**

There is a risk that hands, hair, and clothing may be pulled in while the grinding machine is switched on.

Never hold the cutting edge against the running direction of the finned brush. Serious injury may result!

Polishing creates grinding particles that could enter the eyes. Wear safety glasses.



**Figure 7-5** Applying the polishing paste

The burr created on the knife during the grinding process is removed by the finned brush. This will help the cutter knife retain its final sharpness.

Before deburring/polishing, briefly hold the polishing paste (7-5/1) against the running finned brush (7-5/2).



**Figure 7-6** Deburring and polishing cutter knives

To deburr and polish, unclamp the cutter knife from the grinding device and guide it along the finned brush (7-6/1) at a steep angle.

Alternately polish the upper and lower side of the knife until the burr is removed.



# 7. Operation

## 7.8 Grinding hand knives on the wet-grinding belt



There is a risk that hands, hair, and clothing may be pulled in while the grinding machine is switched on.

Never hold the cutting edge against the running direction of the wet-grinding belt. Serious injury may result!

Polishing releases grinding particles that could enter the eyes. Wear safety glasses.



Figure 7-7 Grinding hand knives

Lay the hand knife flat onto the wet-grinding belt (7-7/1).

The cutting edge should run an angle to the grinding belt, not perpendicular. Press the knife onto the grinding belt with your free hand. The stronger the pressure, the more convex the grind will be.

Pull both sides of the hand knife over the grinding belt alternately until a small burr is created over the entire cutting edge length.



Figure 7-8 Deburring and polishing hand knives

Deburr and polish the knife on the finned brush (7-8/1). This will help the hand knife retain its final sharpness.

Gently remove the burr using moderate pressure. To do so, the hand knife is guided approx. 6–10 times over the polishing wheel, alternating between left and right (left – right – left – right – left).

# 7. Operation

## 7.9 Dressing the grinding wheel (S 200 S | S 200 T)



Dressing creates grinding particles (small fragments of abrasive grit and grinding wheel dust) that could enter the eyes. Wear safety glasses.



Figure 7-9 HV 201 Dressing tool

The HV 201 Dressing tool (7-9/1) is located to the bottom left at the machine base.

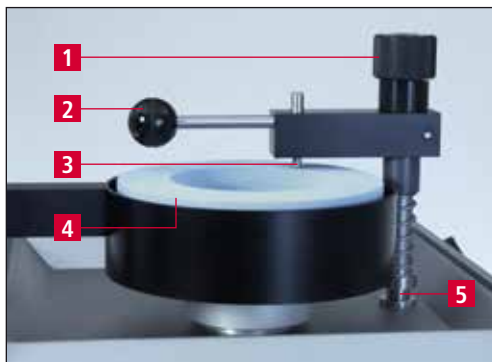


Figure 7-10 Dressing the grinding wheel

It is used to dress uneven, or unevenly ground, grinding wheels.

To attach the dressing tool (7-9/1), place it on the mount (7-10/5) and fasten with the flat wrench (SW 10) provided. The height of the adjusting nut (7-10/1) can be adjusted.

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

When the dressing 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 rotating grinding wheel. Repeat the process until the grinding wheel is level.

After dressing, round off the outer edge of the grinding wheel using the dressing stone provided.

Last, remove the dressing tool and adjust the grinding wheel guard (see chapter 7.10).

# 7. Operation

## 7.10 Adjusting the grinding wheel guard (S 200 S | S 200 T)



Figure 7-11 Adjusting the grinding wheel guard

To adjust the grinding wheel guard (7-11/1), loosen the star handle (7-11/2) by turning counter-clockwise.

Then slide the grinding wheel guard so that its upper edge is approx. 5 mm below the grinding wheel edge.

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

## 7.11 Changing the grinding wheel (S 200 S | S 200 T)



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



Figure 7-12 Changing the grinding wheels

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

Loosen the screw (7-12/1) with the hexagon screwdriver provided (SW 5, located in tool box) and remove the grinding wheel.

Clean the contact surface of the grinding wheel on the clamping flange using a cloth.

The new grinding wheel is mounted in reverse order.

### ATTENTION

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

Incorrect grinding wheels can overheat the cutting edges when grinding and cause blade fractures (grinding cracks).

# 7. Operation

## 7.12 Changing the wet-grinding belt



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

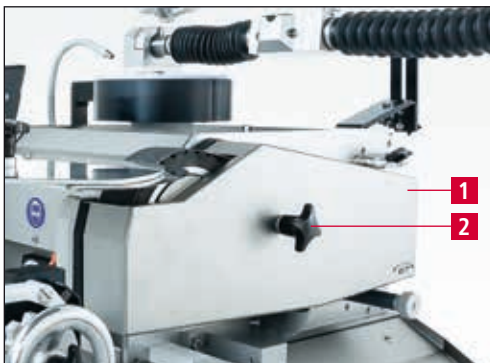


Figure 7-13 Opening the belt protection hood

Loosen the star handle (7-13/2) by turning counter-clockwise and open belt protection hood (7-13/1).

The power supply is automatically disconnected. The grinding belt is released by the belt relief mechanism.



Figure 7-14 Changing the wet-grinding belt

Remove the used grinding belt. Place the new grinding belt over the contact disc and guide pulley.

Ensure that the grinding belt **passes under the** water nozzle (7-14/1).

Turn the grinding belt by hand and check to see if it is not grinding anywhere.

Then close the belt protection hood again completely.

### ATTENTION

**Note the running 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 overheat the blades when grinding and cause blade fractures (grinding cracks).**

# 7. Operation

---

## NOTE

When the belt protection hood is open, the power supply is disconnected. Machine cannot be switched on.

If the belt protection hood is opened while the machine is in operation, it switches off automatically.

## 7.13 Adjusting the belt movement



Figure 7-15 Belt adjustment

If the grinding belt is not running in the center of the contact disc, it can be aligned with the belt adjustment (7-15/1).

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

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

# 7. Operation

## 7.14 Changing the finned brush

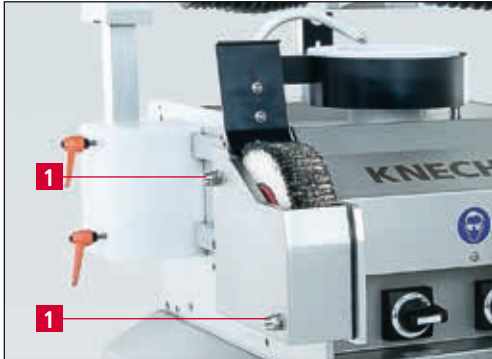


Figure 7-16 Loosening the cap nuts

To change the finned brush, loosen the cap nuts (7-16/1) counter-clockwise using the flat wrench (SW 17) provided.

Remove the polishing protection hood and clean it under running water.

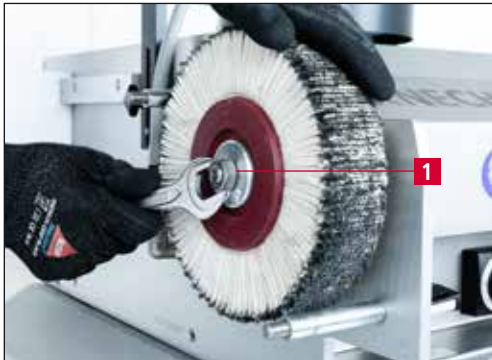


Figure 7-17 Changing the finned brush

Open the clamping nut (7-17/1) counter-clockwise using the flat wrench (SW 22) provided. Pull the used finned brush from the grinding spindle and replace it with a new one.

Then mount the complete guard again in reverse order.

Verify that all parts are functioning properly!

### ATTENTION

**Only original finned brushes approved by Knecht Maschinenbau GmbH may be used.**

**Incorrect finned brushes can cause cutting tools to be deburred insufficiently and damage the cutting edges.**



**Do not switch on the machine with the protection hood removed!**

**Serious injury may result!**

# 7. Operation

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## 7.15 HV 205-1 Circular knife grinding attachment (optional, S 200 S | S 200 T)



CAUTION

Serious cuts may occur when handling circular knives. Only transport circular knives using transport devices intended for this purpose.

Protective gloves and safety shoes must be worn.



**Figure 7-18** HV 205-1 Circular knife grinding attachment

To grind circular knives 80–250 mm, mount the HV 205-1 Circular knife grinding attachment (7-18/1) on the machine.

Circular knives are clamped onto the knife holding fixture using the corresponding flanges.

### NOTE

More information on this can be found in the technical documentation for the HV 205-1 / HV 205-2 Circular knife grinding attachment.

## 7. Operation

---

### 7.16 HV 205-2 Circular knife grinding attachment (optional, S 200 S | S 200 T)



CAUTION

Serious cuts may occur when handling circular knives. Only transport circular knives using transport devices intended for this purpose.

Protective gloves and safety shoes must be worn.



**Figure 7-19** HV 205-2 Circular knife grinding machine

To grind circular knives 250–470 mm, mount the HV 205-2 Circular knife grinding attachment (7-19/1) on the machine.

Circular knives are clamped onto the knife holding fixture using the corresponding flanges.

#### NOTE

More information on this can be found in the technical documentation for the HV 205-1 / HV 205-2 Circular knife grinding attachment.



## 8. Care and maintenance



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

### 8.1 Cleaning

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

After cleaning the grinding machine, we recommend the following products for machine care (see also lubricant table in chapter 8.1.1).

Coolant must be replaced weekly. The water tank must be cleaned each time the coolant is changed.

#### ATTENTION

**Do not spray the grinding machine with water. Do not allow the finned brush to get wet.**

#### 8.1.1 Lubricant table

Lubrication work	Interflon	Würth	SHELL	EXXON Mobil
Cleaning and care of machine parts	Dry clean stainless steel	Stainless steel care spray	Risella 917	Marcol 82
Lubricate threads and sliding surfaces	Fin Grease	Multi-purpose grease	Gadus S2	Ronex MP

### 8.2 Maintenance plan (one-shift operation)

Interval	Assembly	Maintenance task
Daily	All machine surfaces	Clean with soft cloth and care spray.
Weekly	Star handle threads	Lubricate with multi-purpose grease.
	Guideways	Clean and lubricate with multi-purpose grease.
	Water tank	Replace coolant and clean water tank
Annually		Contact the service department of KNECHT Maschinenbau GmbH.

# 9. Disassembly and disposal

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## 9.1 Disassembly

All operating materials must be disposed of properly.

Secure moving parts against slippage.

Disassembly must be conducted by a qualified specialist.

## 9.2 Disposal

After the machine has reached the end of its service life, it must be disposed of by a qualified specialist. In exceptional situations, and after consultation with KNECHT Maschinenbau GmbH, the machine may be returned.

Operating materials (e.g. grinding wheels, grinding belts, finned brushes, etc.) must be disposed of correctly.

# 10. Service, spare parts and accessories

---

## 10.1 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

## 10.2 Service

### **Service line:**

For address, see postal address

service@knecht.eu

## 10.3 Spare parts

If you need spare parts, please use the spare parts list provided with the machine. Please place your order using the format described below.

### **When ordering, please always provide: (example)**

Machine model	(S2005)
Machine number	(10190168200T)
Designation of assembly	(deflection roller assembly)
Position number	(1)
Drawing number (article number)	(013C-03-0000)
Quantity	(1 pc.)

We are always happy to answer any questions.

# 10. Service, spare parts and accessories

## 10.4 Accessories

### 10.4.1 Abrasives used, etc.

Designation	Dimensions	Grain	Article number	Note
Grinding wheel H6V2709	d.200 x 60 x d.50	80	412B-10-0492	
Grinding wheel L/M6V51	d.200 x 60 x d.50	120	412B-11-0491	Installed on delivery
Grinding wheel 60C120H8V30	d.200 x 60 x d.50	120		For heavy material removal
Wet-grinding belt	1250 x 60	80	412A-42-0523	
	1250 x 60	100	412A-43-0524	
	1250 x 60	120	412A-44-0525	Installed on delivery
	1250 x 60	240	412A-46-0526	
Wet-grinding belt, compact grain	1250 x 60	180	412A-50-0180	
Finned brush	d.200 x 50 x d.17		412J-02-0510	Installed on delivery
Polishing paste	1200 g		412R-01-0501	Included in delivery
Dressing diamond 1.5 carat	d.10 x 60		312A-01-2328	Installed on delivery

### ATTENTION

**Only original abrasives of KNECHT Maschinenbau GmbH can be used.**

**KNECHT Maschinenbau GmbH is not liable in the event that other abrasives are used.**

If you require abrasives or other accessories, please contact our sales staff and distributors, or KNECHT Maschinenbau GmbH directly.

Thank you for choosing Knecht!

# 11. Annex

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## 11.1 EC Declaration of Conformity

in accordance with EC Directive 2006/42/EC

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2014/30/EC

We hereby declare that the machine designated as follows, due to its construction and design, as well as the version we introduced on the market, complies with the relevant basic safety and health requirements of the applicable EU Directive.

If the machine is modified in a manner that we haven't approved, this declaration shall no longer be valid.

<b>Machine designation:</b>	Universal Wet-Sharpening Machine
<b>Model designation:</b>	S 200
<b>Applicable conforming standards, in particular:</b>	DIN EN 12100-1 DIN EN 12100-2 DIN EN 60204-1 ISO 13857 DIN EN 349
<b>Responsible for documentation:</b>	Peter Heine (B. Eng. Mechanical Engineering BA) Tel. +49-7527-928-15 p.heine@knecht.eu
<b>Manufacturer:</b>	KNECHT Maschinenbau GmbH Witschwender Straße 26 88368 Bergatreute Germany

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

The validity of the declaration expires in the event of changes to legislation.

Bergatreute, June 8, 2021

KNECHT Maschinenbau GmbH

  
Manfred Knecht  
Managing Director

  
Markus Knecht  
Managing Director

**KNECHT Maschinenbau GmbH**

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