

Operating Instructions

S 200 S | S 200 BS

Universal Wet-Sharpening Machine



Includes S 200 T | S 200 BT

Operating Instructions

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

Includes S 200 T | S 200 BT Table model

Manufacturer

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Documents for machine operator

Operating Instructions

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1. Important notes

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 written in places where special attention must be paid to prevent damage or destruction of the grinding machine or its surroundings.



"NOTICE" refers to user tips and especially useful information.

1. Important notes

1.3 Warning and mandatory 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 power supply.

Voltage-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 can enter the eyes.

Wearing eye protection is mandatory when carrying out such work.

1.3.2 General warning and mandatory signs

The following general mandatory signs must be observed:



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 knives. Use the protective equipment provided by the knife manufacturer. Protective gloves and safety shoes must be worn.

1. Important notes

1.4 Rating plate and machine serial number

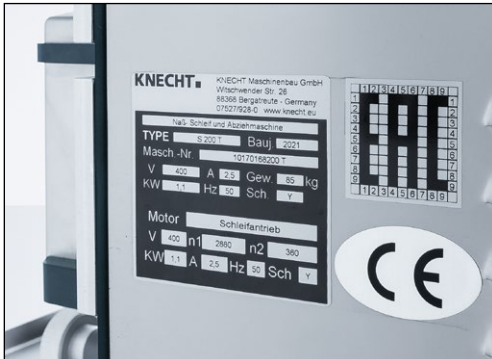


Figure 1-1 Rating plate

The rating plate (1-1) is located on the rear panel of the machine.



Figure 1-2 Machine serial number

The machine serial number (1-2) is located on the rating plate (1-1) and on the left side wall underneath the finned 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 brackets.

Example: (6-2/1) means picture 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 rotates in the correct direction, the rotating direction of the grinding wheel and the wet-grinding belt is also correct.

If the direction of rotation of the finned brush is not correct, 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 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. Nevertheless, its use may result in danger to life and limb of the user or third parties, or damage to the grinding machine or other property.

The grinding machine may be used only:

- for its intended purpose
- in a safe and secure condition.

Malfunctions that may impair safety are to be eliminated immediately.

2. Safety

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. boning 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 or use beyond this is not considered as intended. KNECHT Maschinenbau GmbH is not liable for any damage resulting from this. The risk is borne solely by the user.

Intended use also includes observing all instructions in the operating manual.

ATTENTION

Improper use of the grinding machine exists, for example, if:

- **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,
- failure to observe the instructions with regard to transportation, commissioning, operation, maintenance and repair of the grinding machine,

2. Safety

- 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. If externally purchased parts are used, it is not guaranteed that they have been designed and manufactured to meet the requirements in terms of stress and safety.

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 only be removed after the grinding machine has come to a complete stop and has been secured against restarting.

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!

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

2. Safety

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

In the area of the grinding wheel, wet-grinding belt and finned 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 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.

Remove power plug. Secure repair area as necessary.

2. Safety

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

Do not make any changes, additions or conversions to the grinding machine without the approval of the manufacturer. This also applies to the installation and setup of safety devices.

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

Immediately replace machine parts that are not in perfect condition.

Use only original replacement and wear parts. If externally purchased parts are used, it is not guaranteed that they have been designed and manufactured to meet the requirements in terms of stress and safety.

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 food areas.

2.4.13 Relocation of the grinding machine

Disconnect the grinding machine from any external power supply, even in the event of a minor change of location. Before restarting the grinding machine, connect it properly to the power supply.

For loading work, use only lifting equipment and load-bearing devices with sufficient lifting capacity. Appoint a qualified instructor for the lifting operation.

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

Only lift the grinding machine properly with lifting gear as specified in the operating instructions. Only use a suitable transport vehicle with sufficient load-bearing capacity. Secure the load reliably. Use suitable attachment points.

When restarting the machine, proceed only in accordance with the operating instructions.

3. Description

3.1 Intended use

The S200 Universal Wet-Sharpener 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
Power output*	_____	1.15 kW
Power consumption*	_____	1.61 kW
Current consumption*	_____	2.79 A
Back-up fuse	_____	16 A
Measured A-weighted emission sound pressure level at the 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 power 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 S200 S | S200 BS (floor model)

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

3. Description

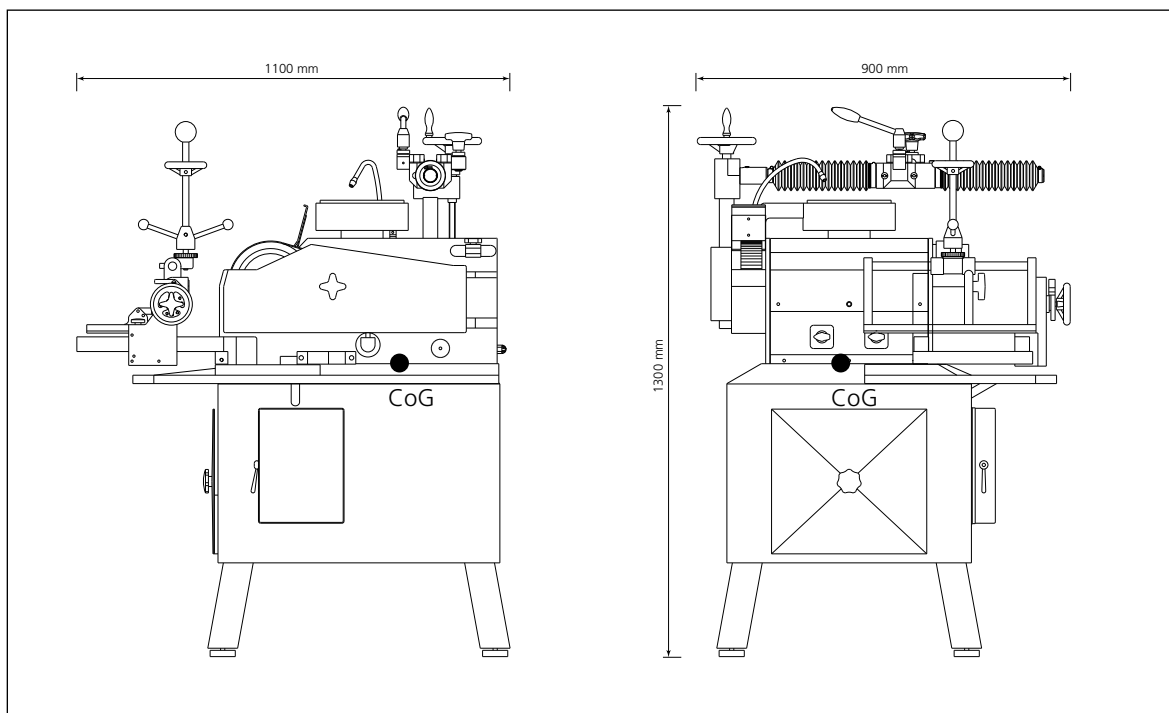


Figure 3-1 Dimensions in mm (S200 S floor model)

3.2.3 S200 T | S200 BT (table model)

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

Width _____ approx. 900 mm

Depth _____ approx. 1000 mm

Space requirement (W x D) _____ approx. 1500 x 1500 mm

Weight _____ max. 104 kg

3. Description

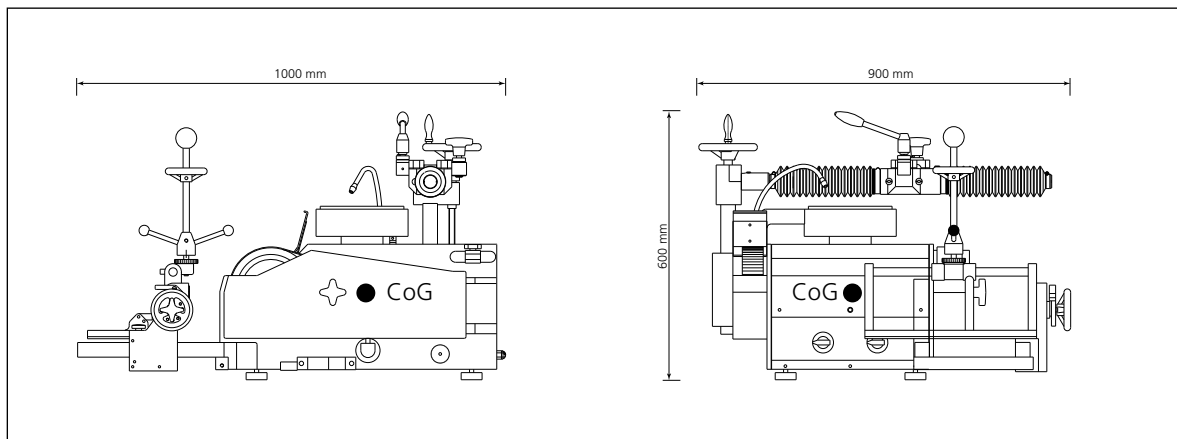


Figure 3-2 Dimensions in mm (S200 T table model)

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 brush without the use of fixtures.

3. Description

3.4 Description of the assemblies

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

- S200 S (floor model with grinding wheel)
- S200 BS (floor model without grinding wheel)
- S200 T (table model with grinding wheel)
- S200 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.



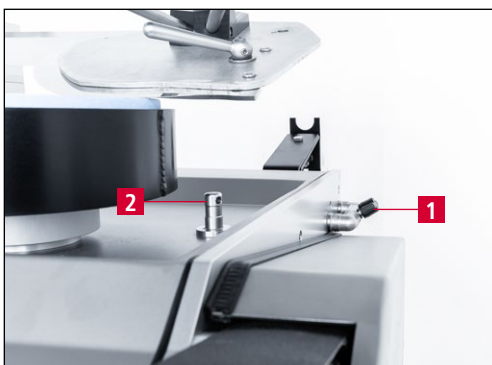
Figure 3-3 General view of grinding machine (S200 S floor model | HV203 | HV 262)

- 1 Finned brush
- 2 Control panel
- 3 HV 201 Dressing tool for grinding wheel (Chapter 3.4.9)
- 4 HV203 Universal Grinding Arm (Chapter 3.4.4)

3. Description

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

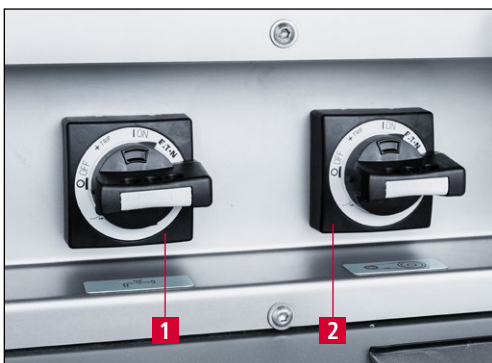
3.4.1 Coolant dosing unit for wet-grinding belt



- 1 Coolant dosing unit for wet-grinding belt
- 2 Holding fixture 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

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

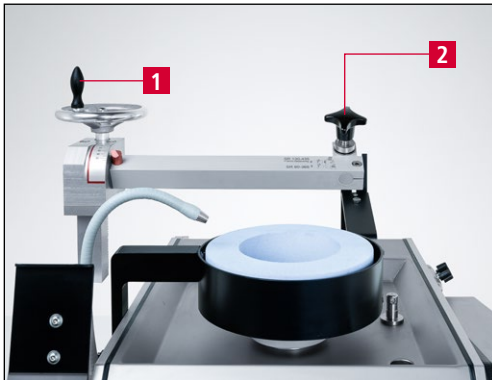


Figure 3-6 HV 207 Swivel Arm

- 1 Hand wheel for angle adjustment
- 2 Swivel arm

3.4.4 HV203 Universal Grinding Arm (optional, S 200 S | S 200 T)



Figure 3-7 HV203 Universal Grinding Arm

- 1 Hand wheel for angle adjustment
- 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)

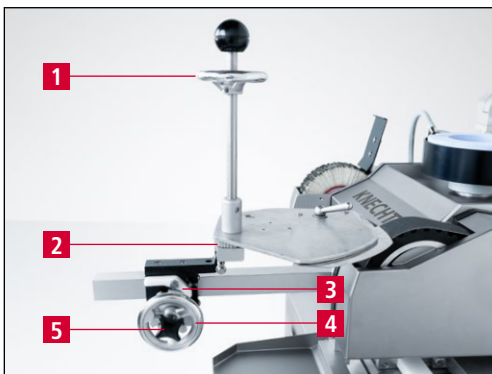
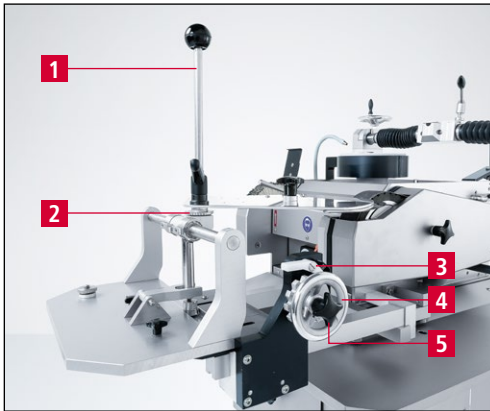


Figure 3-8 HV 261 Belt Grinding Attachment

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

3. Description

3.4.6 HV 262 Universal Belt Grinding Attachment (optional, all versions)



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

Figure 3-9 HV 262 Universal Belt Grinding Attachment

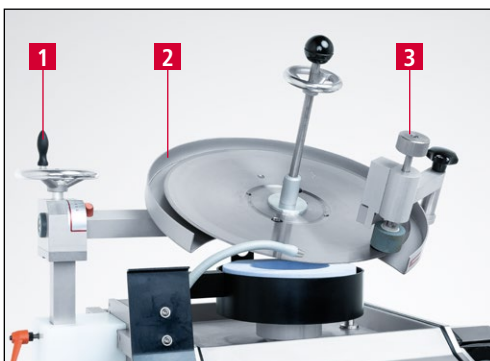
3.4.7 HV 205-1 Circular Knife Grinding Attachment (optional, S 200 S | S 200 T) for circular knives, 80–250 mm



- 1 Hand wheel for angle adjustment
- 2 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

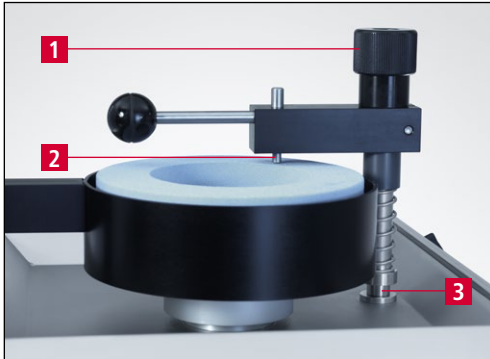


- 1 Hand wheel for angle adjustment
- 2 Blade guard
- 3 Deburring unit

Figure 3-11 HV 205-2 Circular Knife Grinding Attachment

3. Description

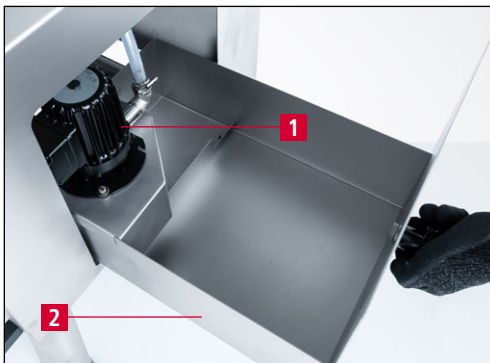
3.4.9 HV 201 Dressing tool (S 200 S | S 200 T)



- 1 Adjusting nut
- 2 Dressing diamond
- 3 Holding fixture for HV 201 Dressing tool

Figure 3-12 HV 201 Dressing tool

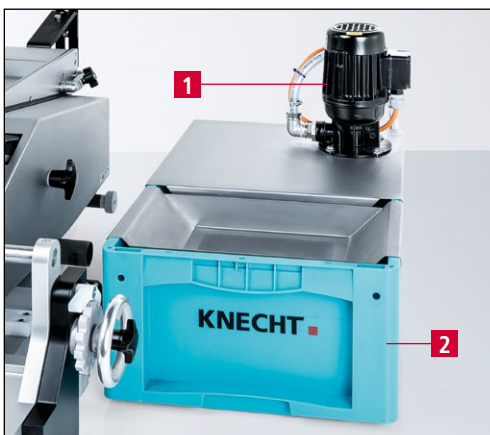
3.4.10 Coolant unit (S 200 S | S 200 BS)



- 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 (S200 S floor model | HV203 | HV 262)

1 Cup grinding wheel (S200 S | S200 T)

It quickly removes a lot of material. Badly damaged cutter knives can be easily repaired on it. Tapered cutting edges, e.g. on circular knives, are ground on 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 brush (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 Attachment: 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 transport aids.

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 during acceptance of the delivery, immediately inform KNECHT Maschinenbau GmbH and the forwarding agent. If necessary, an independent expert must be called in immediately.

Remove packaging and fastening 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 Chapter 3.2).

A permissible electrical connection must be provided at the new installation site. The grinding machine must stand firmly and securely.



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 the 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 Chapter 3.2).

5.3 Supply connections

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



Ensure that the power supply is connected correctly.

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.

Compensate uneven floors by turning the machine feet (Figure 3-3/9) with an AF 19 mm open-end wrench. Align the machine using a spirit level.

Have the power supply installed on site by a qualified electrician.

Completely install and inspect the protective equipment before commissioning.



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

6. Commissioning



All work may only be carried out by authorized specialist personnel.

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

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

Serious injuries are possible. Wear personal protective equipment.

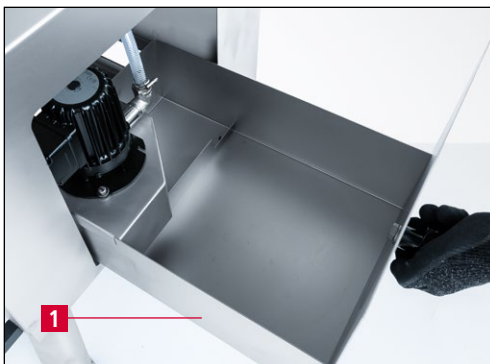


Figure 6-1 Filling the water tank

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

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

Turn the "Grinding motor" switch (3-5/2) to the "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 rotates in the correct direction, the rotating direction of the grinding wheel and the wet-grinding belt is also correct.

If the direction of rotation of the finned brush is not correct, have the phase reversed by a qualified electrician.

ATTENTION

If the direction of rotation is incorrect, the grinding wheel, finned brush and contact wheel 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.

The burr is gently removed with the finned brush under moderate pressure. To do this, move the knife from the knife handle to the knife tip alternately to the left and right over the finned brush (left – right – left – right – left, etc.). Repeat the process approx. 6–10 times until the knife edge is burr-free and smooth.

As it is not only the sharp cutting edge, but also the long service life 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 cutting edge



Tapered cutting edge



Concave cutting edge

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 Switch 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 cutting injuries 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 Attachment (optional, all versions)



Serious cutting injuries 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 Attachment

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

The belt grinding attachment 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 Attachment.

7. Operation

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



CAUTION

Serious cutting injuries 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.

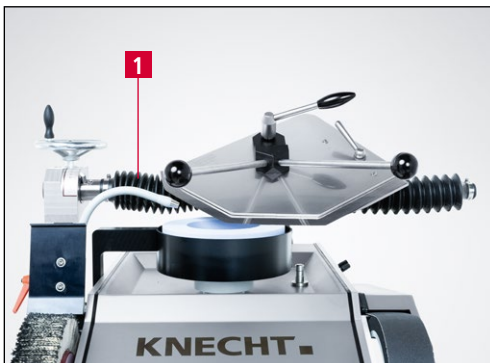


Figure 7-3 HV 203 Universal Grinding Arm

To grind linear and sickle-shaped cutter knives, mount the HV203 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

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



CAUTION

Serious cutting injuries 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.

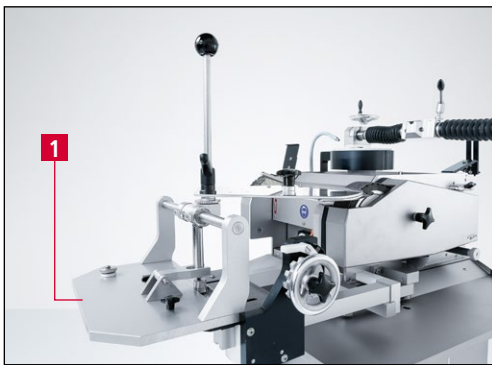


Figure 7-4 HV 262 Universal Belt Grinding Attachment

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

The universal belt grinding attachment 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 Attachment.

7. Operation

7.7 Deburring and polishing cutter knives on 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 injuries are possible!

Deburring and polishing create abrasive particles that can 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 injuries are possible!

Grinding, polishing and deburring create abrasive particles that can enter the eyes. Wear safety glasses.



Figure 7-7 Grinding hand knives

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

The cutting edge should not run across, but at an angle to the grinding belt. With your free hand press the knife onto the grinding belt. The stronger the pressure, the more convex the grinding.

Move both sides of the hand knife alternately over the grinding belt until a small burr has formed over the entire length of the cutting edge.



Figure 7-8 Deburring and polishing hand knives

The knife is deburred and polished on the finned brush (7-8/1). This gives the hand knife its final sharpness.

To deburr/polish, place the knife on the finned brush (7-8/1) at an angle of approx. 30°. The cutting edge should not run across, but at an angle to the finned brush.

The burr is gently removed under moderate pressure.

To do this, move the knife from the knife handle to the knife tip alternately to the left and right over the finned brush (left – right – left – right – left, etc.). Repeat the process approx. 6–10 times until the knife edge is burr-free and smooth.

NOTE

The cutting edge should not run across, but at an angle to the finned brush.

7. Operation

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



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

Dressing creates abrasive particles that can enter the eyes. Wear safety glasses.

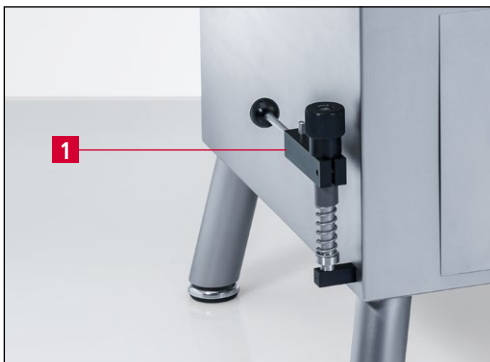


Figure 7-9 HV 201 Dressing tool

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

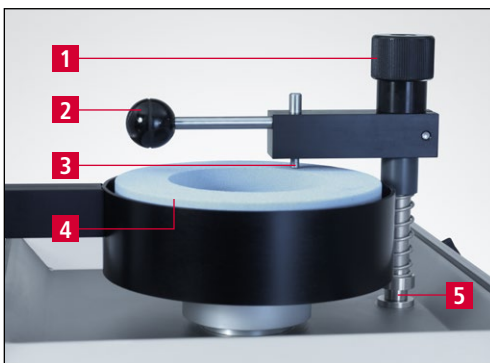


Figure 7-10 Dressing the grinding wheel

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

To mount the dressing tool (7-9/1), it is placed on the holding fixture (7-10/5) and fastened using the provided open-end wrench AF 10 mm. Its height can be adjusted using the adjusting nut (7-10/1).

Switch on the grinding machine (see Chapter 7.2) and turn 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 itself free, turn the adjusting nut (7-10/1) a quarter revolution clockwise and move the dressing tool over the rotating grinding wheel. Repeat the process until the grinding wheel is flat.

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

Finally, 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 counterclockwise.

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

Finally, tighten the star handle (7-11/2) clockwise.

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 wheel

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

Loosen the screw (7-12/1) using the provided hexagon screwdriver AF 5 mm and remove the grinding wheel.

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

The new grinding wheel is mounted in reverse order.

ATTENTION

Only original abrasives from KNECHT Maschinenbau GmbH are permitted to be used.

KNECHT Maschinenbau GmbH assumes no responsibility for the use of non-original abrasives.

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.

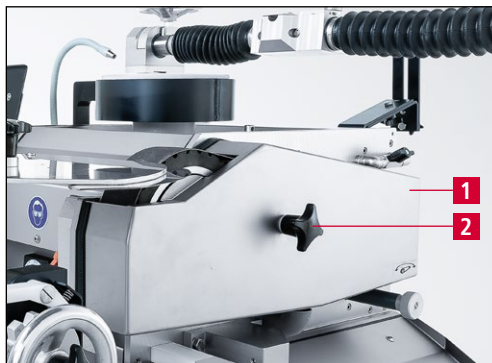


Figure 7-13 Opening the belt protection hood

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

The power supply is automatically interrupted. The grinding belt is released by the belt release mechanism.

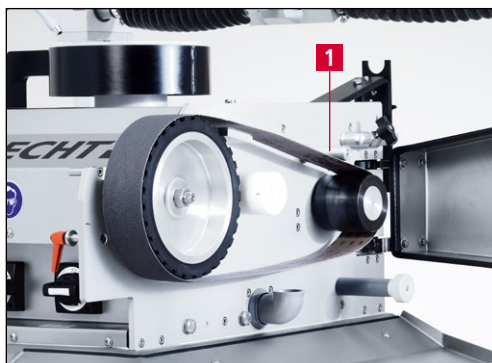


Figure 7-14 Changing the wet-grinding belt

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

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

Turn the grinding belt by hand and check that it does not rub anywhere.

Then close the belt protection hood completely again.

ATTENTION

Observe the running direction arrows on the inside of the grinding belt!

Only original abrasives from KNECHT Maschinenbau GmbH are permitted to be used.

KNECHT Maschinenbau GmbH assumes no responsibility for the use of non-original abrasives.

7. Operation

ATTENTION

Incorrect grinding belts can overheat the cutting edges during grinding and lead to knife breakage (grinding cracks).

NOTE

The power supply is interrupted when the belt protection hood is open. The machine cannot be switched on.

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

7.13 Adjusting the belt movement

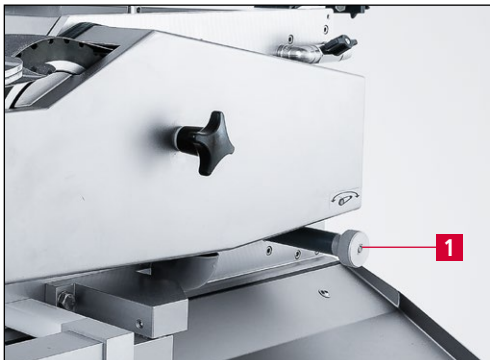


Figure 7-15 Belt adjustment

If the grinding belt does not run centrally on the contact wheel, it can be aligned with the belt adjustment (7-15/1).

Turning the belt adjustment (7-15/1) counterclockwise causes the grinding belt to move to the left.

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

7. Operation

7.14 Changing the finned brush

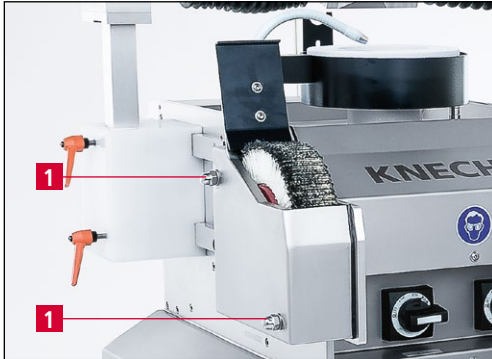


Figure 7-16 Loosening the cap nuts

To change the finned brush, loosen the cap nuts (7-16/1) counterclockwise using the provided open end wrench AF 17 mm.

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) counterclockwise using the provided open-end wrench AF 22 mm. Pull the used finned brush off the grinding spindle and replace it with a new one.

Then completely reassemble the polishing protection hood in reverse order.

Carry out a function check!

ATTENTION

Only original abrasives from KNECHT Maschinenbau GmbH are permitted to be used.

KNECHT Maschinenbau GmbH assumes no responsibility for the use of non-original abrasives.

Incorrect finned brushes can lead to insufficiently deburred cutting tools and damage the cutting edges.



Do not switch on the machine with the protective hoods removed!

Serious injuries are possible!

7. Operation

7.15 HV 205-1 Circular Knife Grinding Attachment (optional, S 200 S | S 200 T)



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

CAUTION

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, the HV 205-1 Circular Knife Grinding Attachment (7-18/1) is mounted on the machine.

The 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)



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

CAUTION

Protective gloves and safety shoes must be worn.



Figure 7-19 HV 205-2 Circular Knife Grinding Attachment

To grind circular knives 250–470 mm, the HV205-2 Circular Knife Grinding Attachment (7-19/1) is mounted on the machine.

The 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

The machine must be cleaned after each grinding operation, otherwise the grinding abrasion dries and is difficult to remove.

After cleaning the grinding machine, we recommend the products listed below for care of the machine (see also the table of cleaning agents and lubricants in Chapter 8.1.1).

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

ATTENTION

The grinding machine must not be sprayed with water. Do not allow the finned brush to get wet.

8.1.1 Cleaning agent and lubricant table

Cleaning / 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
Lubrication of 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 a 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

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 with all grinding attachments by a qualified specialist company. 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 Wear and 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 type	(S2005)
Machine number	(10190168200T)
Designation of assembly	(deflection roller assembly)
Item number (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	Notes
Grinding wheel H6V2709	d.200x60xd.50	80	412B-10-0492	
Grinding wheel L/M6V51	d.200x60xd.50	120	412B-11-0491	Installed on delivery
Grinding wheel 60C120H8V30	d.200x60xd.50	120	412B-95-0120	For heavy material removal
Wet-grinding belt	1250x60	80	412A-42-0523	
	1250x60	100	412A-43-0524	
	1250x60	120	412A-44-0525	Installed on delivery
	1250x60	240	412A-46-0526	
Wet-grinding belt Compact grain	1250x60	180	412A-50-0180	
Finned brush	d.200x50xd.17		412J-02-0510	Installed on delivery
Polishing paste	1200g		412R-01-0501	Included in scope of delivery
Dressing diamond 1.5 carat	d.10x60		312A-01-2328	Installed on delivery

ATTENTION

Only original abrasives, wear and spare parts from KNECHT Maschinenbau GmbH are permitted to be used.

KNECHT Maschinenbau GmbH assumes no responsibility for the use of non-original parts.

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. Appendix

11.1 EU Declaration of Conformity in accordance with Directive 2006/42/EC

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

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.

In case of a modification of the machine not agreed with us, this declaration loses its validity.


Machine designation:	Universal Wet-Sharpening Machine
Model designation:	S200
Machine number:	from no. 11060271200
Applicable harmonized standards, in particular:	DIN EN 12100-1 DIN EN 12100-2 DIN EN 60204-1 ISO 13857 DIN EN 349
Responsible for documentation:	Andreas Doerr (State-certified technician) Phone +49-7527-928-81 a.doerr@knecht.eu
Manufacturer:	KNECHT Maschinenbau GmbH Witschwender Strasse 26 88368 Bergatreute Germany

A 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.

The validity of the declaration expires in the event of changes to the legal requirements.

Bergatreute, November 6, 2024

KNECHT Maschinenbau GmbH


Markus Knecht
CEO

