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Declaration of conformity51

1 Foreword

These operating instructions must be read by operating personnel and those responsible for machine maintenance before initial use and serves as a supplement to the training documentation.

Damage caused by failure to follow the instructions herein will not be covered by the warranty. The user of this machine is legally bound to observe the accident prevention regulations of the country in question.

Furthermore, these operating instructions shall be treated confidentially. Only authorized persons shall be allowed access to it. It shall only be entrusted to third parties on written permission from WINTERSTEIGER.

All documents are protected under copyright. Distribution, reproduction and utilization of documents and parts thereof, as well as communication of its contents, are not permitted unless authorized expressly and in writing.

Infringements are liable to prosecution and will result in damage claims. WINTERSTEIGER shall retain all rights to exercise industrial property rights.

1.1 Proper use

The machine was manufactured exclusively for normal use during ski service work (intended usage). Any other use is considered inappropriate. The manufacturer is not liable for any damage resulting from inappropriate use. The user takes full responsibility in such cases.

Appropriate usage also includes following the operating, maintenance and service stipulations set out by the manufacturer. The applicable accident prevention regulations and other generally accepted safety and occupational health regulations shall also be adhered to.

In case of unauthorized changes to the machine, the manufacturer will not be liable for any resulting damage.

We constantly try to improve our products and therefore reserve the right to make any changes or improvements we feel are appropriate. We are, however, not obligated to extend these changes or improvements to already delivered machines or devices.

All images, dimensions and weight specifications in the operating instructions are non-binding.

Original operating instructions

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2 General information

2.1 Explanation of the symbols used in the manual



DANGER indicates a hazard with a high degree of risk, which, if not prevented, will cause death or serious injury.



WARNING indicates a hazard with a medium degree of risk, which, if not prevented, could cause death or serious injury.



CAUTION describes a hazard with a low degree of risk, which, if not prevented, could result in a slight or moderate injury.



This exclamation mark indicates possible damage to / destruction of the product, the process and/or its surrounding area.



This symbol indicates special information on practical work or a general recommendation.

This operating manual is a component part of the machine. Therefore, suppliers of new and second hand machines are required to confirm in writing that this operating manual was supplied with the machine. This operating manual helps users to familiarize themselves with the machine and to work with it.

The service/maintenance section contains tips on how to keep the machine fully operational for many years. The operating manual also points out (potential) dangers.

2.1.1 Explanation of abbreviations

The following abbreviations are used in these operating instructions:

SEG = Side edge grinding aggregate

2.2 Safety information

2.2.1 Safety basics

- This machine is constructed using state-of-the-art technology according to accepted safety regulations. However, dangers for the user or third parties as well as damages to the machine and other objects can occur if:
 - the device is used by untrained or unauthorized personnel,
 - the device is used for inappropriate purposes,
 - the device is not properly maintained or repaired.

2.2.2 General safety information

- Disconnect the power each time that the location is changed or when manipulating the machine.
- Only use the machine in dry rooms.
- Set the machine on an even surface.
- Setup the machine in such a way that the main switch can be activated at any time.
- The service door key is to be kept by the person responsible for the machine.
- Ensure that the supply voltage is correct. See the type label for the connected load. Check whether these specifications match the power supply voltage.
- The machine may only be operated with original WINTERSTEIGER parts and expendable items. Any use of foreign material shall be at the risk of the owner/operator and will invalidate the machine warranty. This applies especially to the grinding emulsions and machine cleaners.
- Good ventilation and exhaust must be provided due to the high humidity, which is generated by the grinding process!
- A non-slip floor (rubber mats) reduces the risk of slipping in the vicinity of the machine.
- Note the resultant risk of tripping over the foot pedal when emptying the coolant tank.

2.2.3 Transport safety information

- During transportation work, a safety helmet, safety shoes and protective gloves must be worn.
- Never step beneath suspended loads.
- For transportation to the installation location, only appropriate, standardised and checked lifting devices (fork-lift truck, mobile crane, gantry crane) and load-securing devices (round slings, sling bands, slinging rope, chains) shall be used.
- Always observe the maximum lifting loads when selecting the lifting equipment and the lifting accessories!
- Dimensions and weights can be found in the technical data.
- Always ensure that the machine is transported without hitting or bumping into anything.
- Follow the pictograms on the packaging.
- Report any transit damage and/or missing parts to the supplier without delay.
- Only attach transportation crates and transport cradles at the attachment points marked.
- Always secure transport loads against drops and overturns!
- Remove the transport safeguards only after installation!

2.2.4 Safety information for the operator (owner)

- In addition to the accident prevention and occupational protection regulations applicable in the country of use and operating location, please also be aware of the applicable professional rules for safety and technically appropriate operation.
- The owner/operator must ensure that operating personnel wear personal protection equipment.
- First-aid equipment (first-aid kit, etc.) should always be within reach! Make information about the location and the operation of fire extinguishing equipment available. Fire alarms and fire fighting options must be available.
- The owner/operator of the machine must not make any changes, additions or modifications to the machine that may affect safety without authorization from WINTERSTEIGER.
- Only use trained or authorized personnel. The persons responsible for operating, setting up, maintaining and servicing the machine shall be clearly specified. Appoint a machine manager who has responsibility for the machine and the staff. Persons who are being trained or instructed in any way or who are undergoing a general apprenticeship may only work on the machine under constant supervision from experienced, trained personnel.

2.2.5 Safety information for operating personnel (user)

- The operating manual must always be within reach at the machine's installation site.
- Any applicable accident prevention specifications and other generally accepted safety and medical regulations are to be obeyed.
- The machine shall only be used if it is in a technically sound condition and is used appropriately and safely, under consideration of the dangers and under observance of this operating manual. Faults that may affect safety must be immediately repaired!
- The operator is obligated to wear personal protective equipment!
- When working with the machine, wear only tightly fitting clothing. Cover long hair with a hair net or other suitable protection.
- Follow the activation and deactivation processes and observe the emergency-off procedure in accordance with the operating manual for all work related to operating, refitting and setting the machine and its safety equipment.
- Please observe the mandatory safety measures for inspection, maintenance and repair of the machine!
- The warning and information signs on the machine provide important information on operating the machine in a safe manner. This information shall be followed for your safety.
- The machine may be operated only with completely attached guards and covers.

2.2.6 Operating safety

- The machine may only be operated by trained personnel.
- The machine must not be operated by several people at the same time.
- The machine may be put into operation only when assembled and ready for operation.
- The machine must be operated only if all protection devices and safety-related equipment, such as detachable safeguards and covers, are available and are functioning!
- Check the machine for visible damage and defects at least once per shift! Report any changes (including changes to operational behavior) to the responsible person/office immediately! Immediately stop and secure the machine!
- Never leave the machine unattended during operation!
- On leaving the machine, the operating personnel must always switch it off and secure it against being turned on by unauthorized persons.
- Do not operate the machine near flammable materials!
- Please wear appropriate work clothes:
 - long sleeved outerwear
 - long trousers
 - protective gloves made from suitable material
 - protective goggles
 - hair net
- Do not touch rotating parts during operation!
- Do not reach into running equipment!

2.2.7 Safety information for maintenance, servicing and troubleshooting

- Please adhere to the mandatory periods or periods listed in the operating instructions for recurring tests/inspections.
- All maintenance and servicing activities are only permitted if the main switch is switched off. Manual contacts with the running machines are banned! This can result in serious accidents. The machine must only be switched on while these activities take place during permissible operating modes and by adhering to special safety measures.
- Dispose of operating agents, auxiliary materials and replacement parts safely and in an environmentally-friendly way.
- Workshop equipment suitable for the task is essential for carrying out maintenance and repair work. Clean oil, operating agents, dirt etc. from the machine, and from connections and threaded joints in particular, before maintenance/repairs. Aggressive detergents must not be used. When carrying out maintenance and servicing work, all screw connections which have been undone must be screwed tight again with the required torques.

2.2.8 Safety when working with electricity

- Ensure that the supply voltage is correct. See the type label for the connected load. Check whether these specifications match the power supply voltage.
- Use only the approved mains cable provided by WINTERSTEIGER to connect the machine to an earthed wall socket.
- In the event of an electrical system malfunction, switch off the machine immediately using the main switch.
- Work on the machine's electrical system must be carried out by a qualified electrician in line with accepted practices! Only qualified electricians are permitted access to the machine's electrical systems and may perform work on them. Always keep the switch cabinets locked when they are unattended.
- Proper earthing of the electrical system must be ensured by means of a protective earth conductor.

2.2.9 Safety when working with pneumatics

- Work on pneumatic equipment may only be carried out by qualified, skilled personnel with special knowledge and experience in this field.
- Regularly check all lines, hoses and connections for leakage and visible external damage! Damaged parts must be replaced immediately.
- Sections of the system and pressure lines which are to be opened must be depressurized before repair work is begun.
- Hands must be kept away from the machine components after the compressor has been switched on. The generated service pressure can cause the pneumatic cylinders to shift in the basic position when air flows into the pneumatic cylinder.

2.3 Warnings



Regular checks must be made to ensure that the warning labels are still attached to the machine. Illegible or missing warning labels must be replaced immediately. Available from WINTERSTEIGER; please quote the order number.



Wear protective goggles!
Order number: 78-150-095



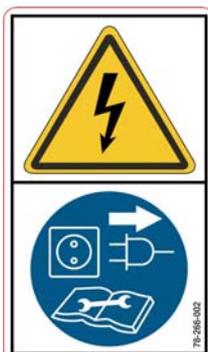
Wear gloves!
Order number: 78-150-678



Wear protection: close-fitting protective clothing



The operating manual and the safety information must be read and observed before commissioning the machine.
Order number: 78-266-001
Order number for CSA version: 78-166-001

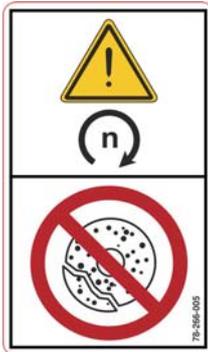


Disconnect the power before opening the device.
Order number: 78-266-002
Order number for CSA version: 78-166-002



Mixing ratio:
see data on emulsion container!

Order number: 78-266-013



Pay attention to the permissible rpm of the grinding tool before changing the grinding wheel!

Order number: 78-266-005

Order number for CSA version: 78-166-005



Danger of imbalance! Stationary stone may not be sprayed with water!

Order number: 78-266-021

Order number for CSA version: 78-166-021



Optional version Optima SBI

The abrasive belt must be relaxed while the machine is stationary!

Order number: 78-266-022

Order number for CSA version: 78-166-022



Optional SEG

Make sure the machine is stationary before opening the safety device!

Order number: 78-266-008

Order number for CSA version: 78-166-008

2.4 Safety devices

- Do not remove any safety devices or covers during operation.
- The coolant tank must be pushed into the machine housing as far as the limit stop.

2.5 Intended use

The machine is exclusively designed for base grinding, base structuring and base edge grinding (intended use). Any other use is considered inappropriate.



Failure to observe these instructions releases WINTERSTEIGER from any and all liability for damage incurred.

2.6 Function

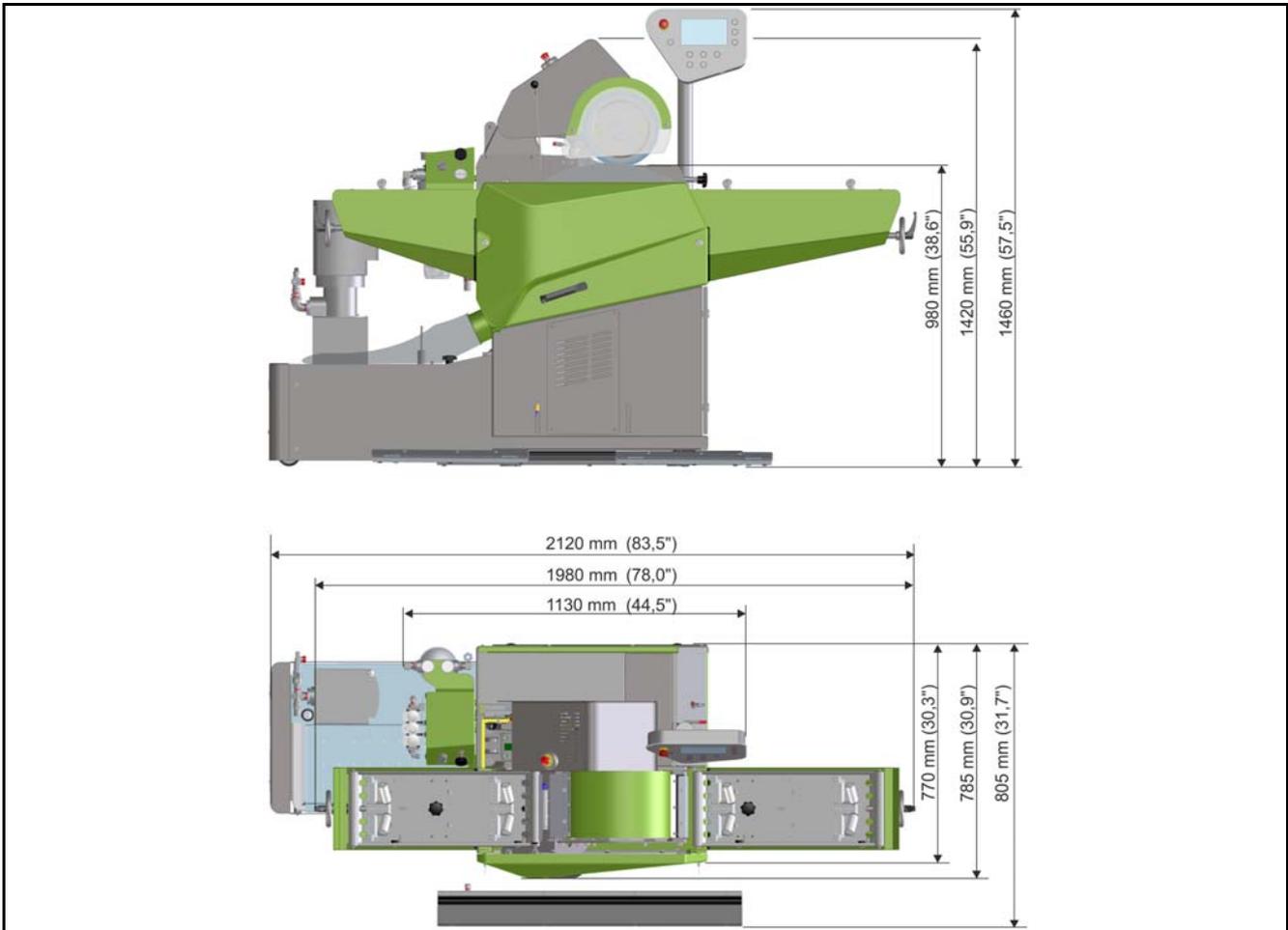
- Ski - entry by hand, with the tip or end ahead.
- Stone grinding for absolutely flat and fibre-free base.
- In the case of skis with bindings, the ski brakes must be fixed in the folded-up position and the skis provided with a binding bridge.
- Uniform transport of the ski with automatic feed.

3 Technical specifications

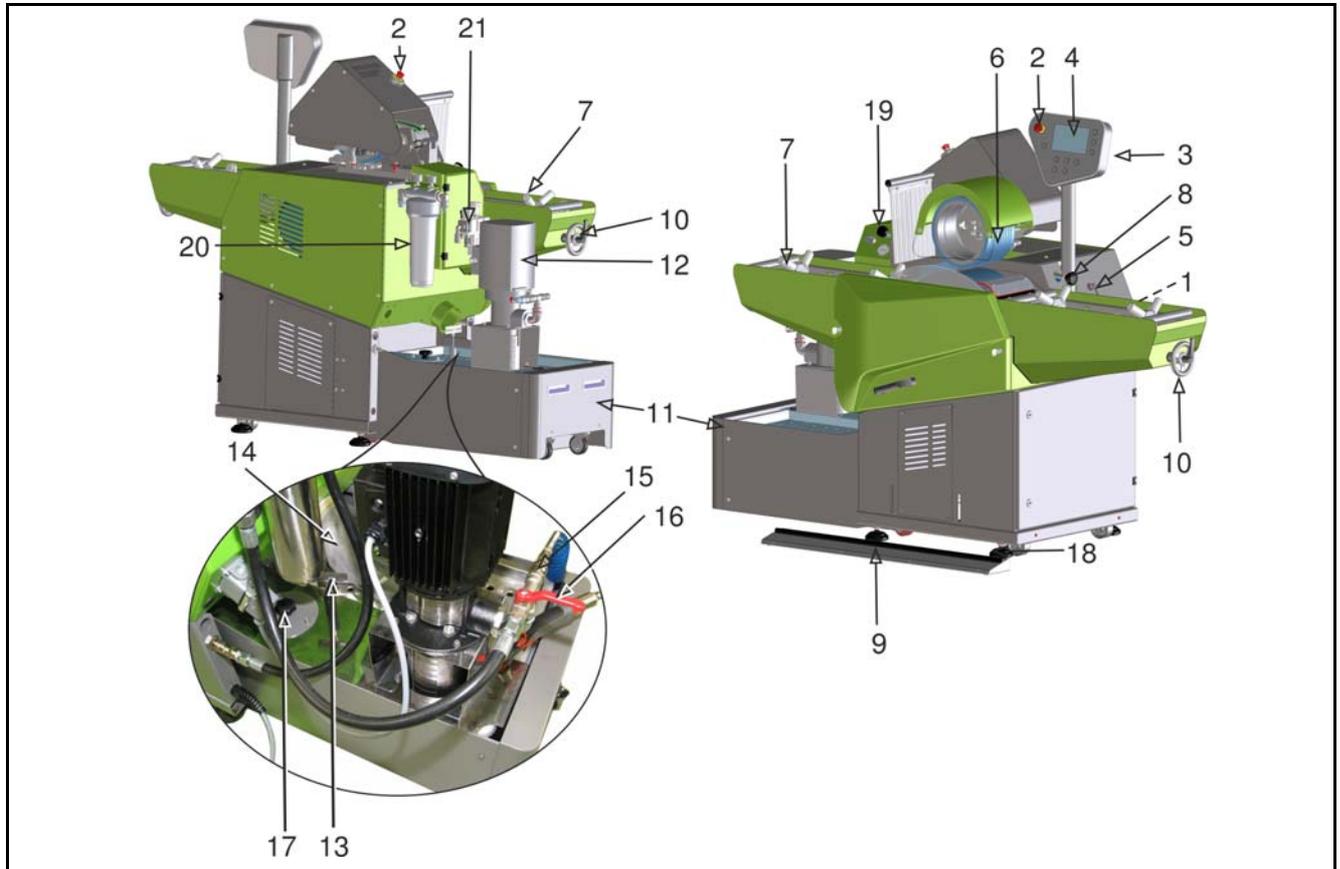
Type: Omega RS150 - stone aggregate	
Rated voltage, frequency, power, rated current, fuses min.-max.:	3/N AC 400-415 V; 50 Hz; 3.7 kW; 10.8 A; 16-20 A (CE) 3 AC 208-220 V; 50/60 Hz; 3.7 kW; 17.0 A; 20-20 A (CSA) 3 AC 208-220 V; 50/60 Hz; 3.7 kW; 17.2 A; 20-20 A (CSA)
Weight (tank empty):	452 kg (996 lbs)
The correct connection voltage is displayed on the type label!	
Dimensions	
Dimensions:	See illustration
Water tank volume:	80 liters (21 gal)
Stone aggregate	
Stone rpm:	up to 1300 rpm
Grinding speed:	250 - 1000 rpm
Grinding stone:	Ø 350 mm x 150 mm wide usable till Ø 290 mm
Dressing speed Racing:	3 - 35 mm/sek
Diamond feed racing:	0.01 mm
Feed	
Feed speed infinite:	5 - 18 m/min
Feed grinding force:	50 - 500 N
Display	
Screen:	Touchscreen monitor
Buffer battery:	3V lithium button cell, type CR2032 Order number 15-480-105
Interface	
USB interface 2.0:	Software update, data backup
Other data	
Permissible ambient temperature Humidity	+ 10 to +30°C (+50 to +86°F) 5 - 80%
Compressed air requirement Pneumatic controled feed (Optional)	Min. 50 l/min at 6 bar
Noise emission stone aggregate averaged sound pressure level (Lp) at the workplace for an ordinary grinding process.	Lp 78.8 dB(A)
The declared values can vary depending of the used equipment and the settings of the grinding parameters!	

We reserve the right to make technical modifications.

3.1 Machine dimensions



3.2 Machine overview



- | | |
|--|---|
| 1) Main switch | 12) Coolant pump |
| 2) Emergency stop button | 13) Level display |
| 3) Operating panel | 14) Filter bag |
| 4) Touch-screen monitor | 15) Cleaning hose coupling |
| 5) Regulation of stone aggregate coolant | 16) Central stopcock coolant |
| 6) Feed roller | 17) Bar magnet (Option) |
| 7) Centering for definite symmetric structures | 18) Adjustable feet |
| 8) Height adjustment of feed rollers | 19) Grinding force adjustment |
| 9) Feed lifting device | 20) Fine filter (Option) |
| 10) Ski rest | 21) Maintenance unit, connection for compressed air |
| 11) Coolant tank | |

4 Start-up

4.1 Transportation

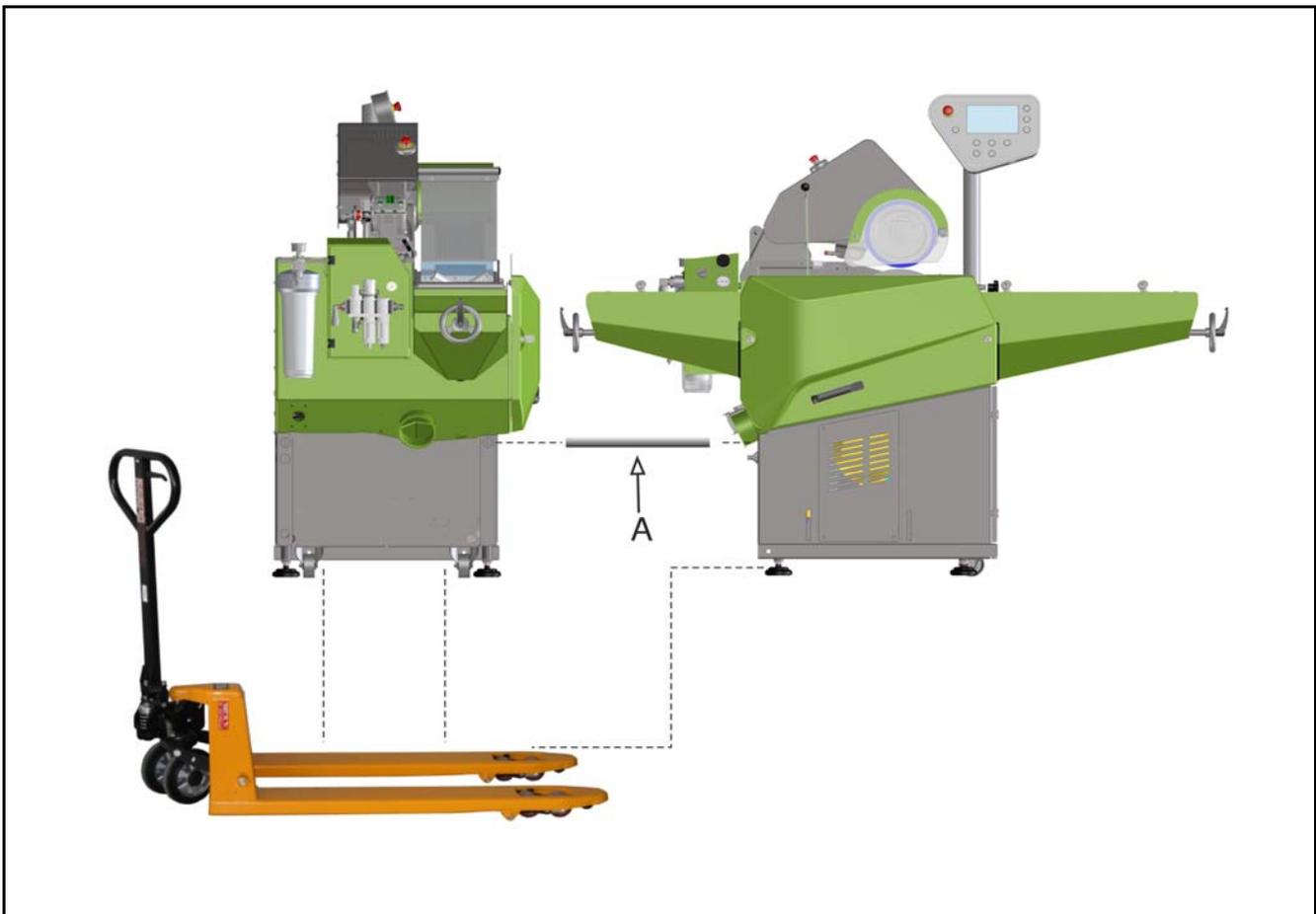


Pay attention to the notes regarding safety ([see chapt. 2.2.3 Transport safety information, page 8](#))!

- Disconnect all energies used (e.g. electrical connection, compressed air etc.) before transport.
- Maneuver by hand using suitable support rods [A].

 **The support rods are only suitable for maneuvering the machine by hand. On no account for lifting the machine!**

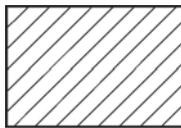
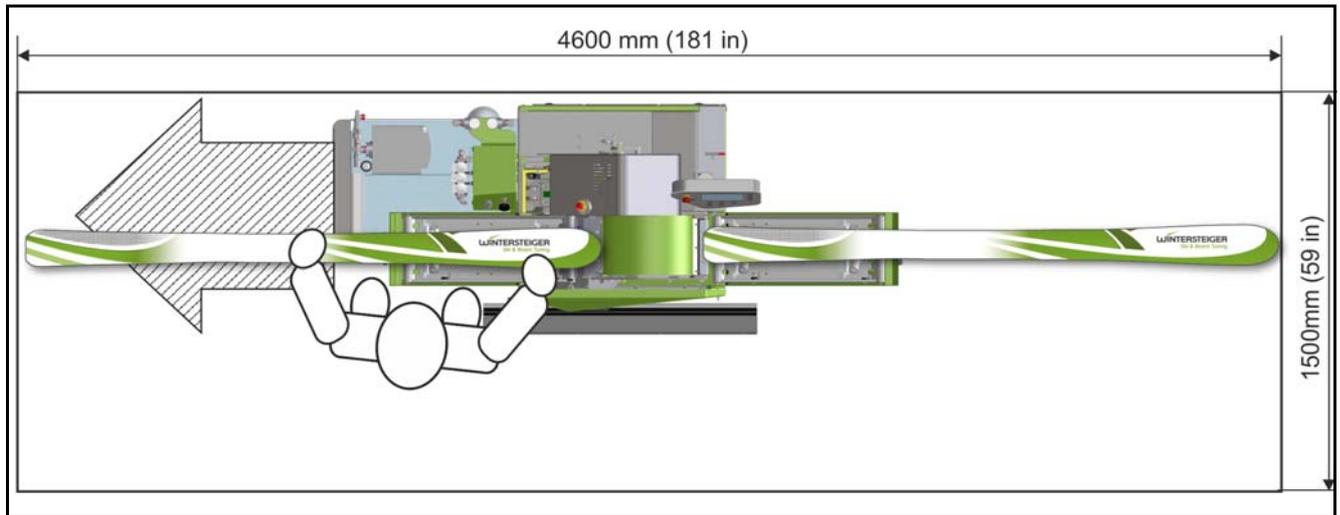
- Transportation of the machines using forklift, lifting gear etc., see following graphic.



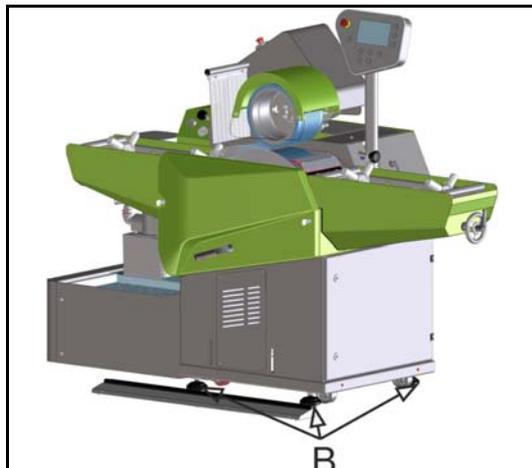
4.2 Installation

The machine must be installed by a WINTERSTEIGER engineer!

- Check the machine location for flatness and for adequate bearing capacity. When in doubt, perform a static analysis.
- Inspect the machine for transportation damage. Possible damage must be reported immediately to the manufacturer.
- The working area is in front of the machine.



The **RESTRICTED AREA** may not be entered during the grinding process because the ski could be ejected if the feed friction is not adequate.
Mount a film wrapping, if possible!



- Level the machine horizontally and vertically using the adjustable feet [B] with a spirit level!
- Remove the transport retainers!

4.3 Connecting the electrical and pneumatic energy supply



If possible, the energy supply should be from above! This prevents potential tripping points over cables and lines!

- Installation only by a qualified electrician!
- Ensure that the supply voltage is correct. The machine voltage can be read from the rating plate.
- Check correct running direction by switching on the motor or pump for a short time. See arrow next to the contact wheel, feed arm or pump.



**Ensure that the supply voltage is correct.
See the type label for the connected load.**

A qualified electrician must be employed to connect the device to the mains supply!

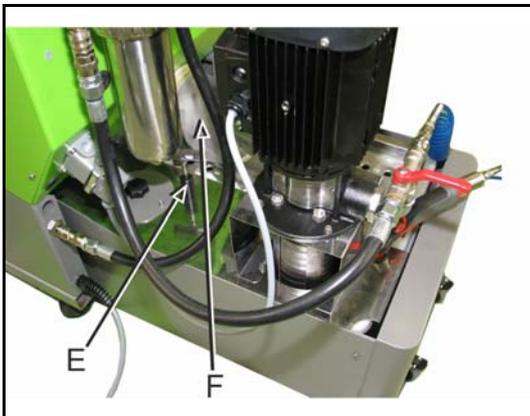
As frequency converters are used together with power filters to control the speed, note that the use of residual current monitors is not recommended.

However, if for reasons of safety an earth fault circuit interrupter is stipulated as mandatory, only universal-current earth-leakage circuit breakers of type "B" (e.g.: ABB series F804, Doepke DFS 4B, or similar devices) with a rated residual current of 300 mA may be used.

Earth-leakage circuit breaker of type "B+" must not be used.

If a plug connection is impermissible in the supply line, the machine must be permanently connected.

4.4 Filling the coolant tank



- A water connection nearby simplifies coolant replacement and replenishment.
- If coolant tank according to information on the emulsion tank to prevent corrosion.



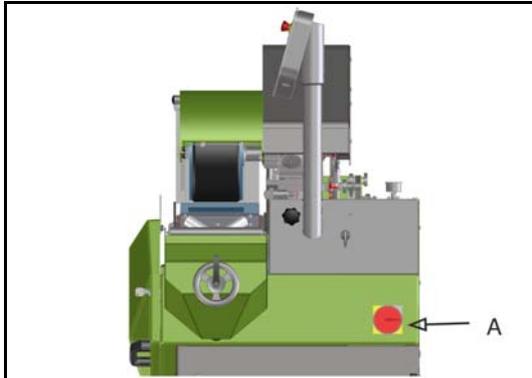
Danger of corrosion!

Use only a water/emulsion mixture!

Under no circumstances may the machine be operated or cleaned with water only!

- Please observe the coolant fill level according to the marker at the fill level indicator [E].
- To avoid loss of coolant, push the coolant tank fully into the machine!
- Fasten filter pad or filter bag [F] at the discharge port.

5 Description of controls



- A: **Main switch**
Switches the entire power supply of the machine on and off.

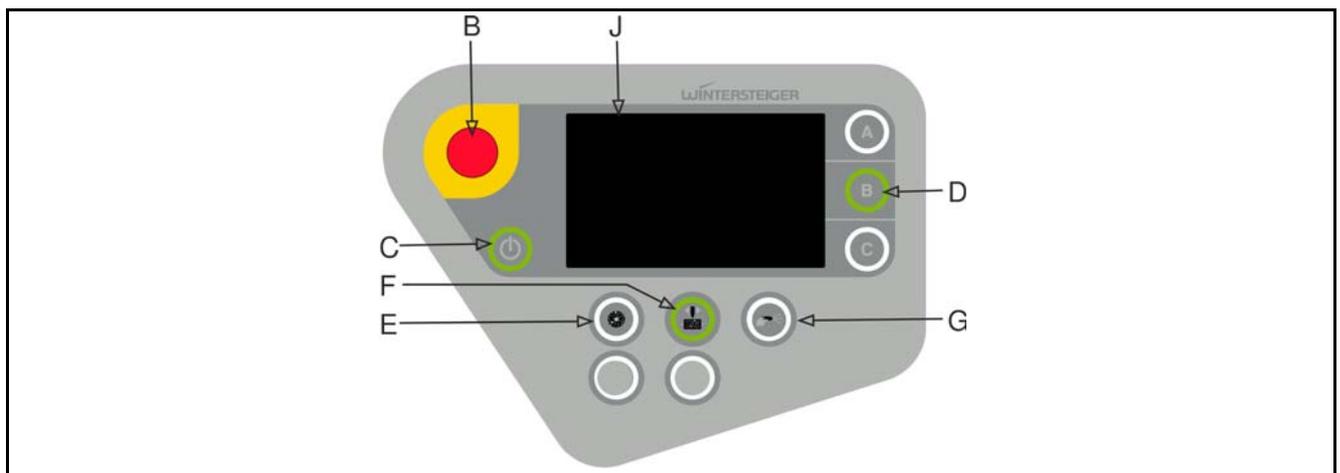
5.1 Operating panel

5.1.1 General status information of the illuminated ring button

- Lights up green - function active
- Increasing flash frequency green - acceleration of the aggregate
- Decreasing flash frequency green - slowing down of the aggregate
- Lights up red - malfunction
- Lights up yellow briefly - button was pressed in an impermissible state



For individual flares refer to the description of individual buttons!



B: Emergency stop button

Switches the machine off if a dangerous situation occurs.



The button remains locked in the pressed position. By turning the button clockwise, it unlocks again and returns to the original position.

C:  **Power button**

Switching the machine on and off.
On switching on, the main screen is visible on the touch screen monitor.
On switching off, it changes to the standby screen.

D:  **Program selection button**

The buttons [A/B/C] can be used to select three preset grinding programs.
The active grinding program is shown by a green illuminated ring.

In the Professional Mode

If the selected grinding program is changed, the illuminated ring changes to yellow. If a grinding program that is not assigned to one of the program selection buttons, is loaded, none of the program selection buttons light up.

By pressing the "Functions" button on the grinding stone main screen, the spin dry, facing and constant dressing functions are assigned to the three buttons ([see chapt. 8.1.1 Functions, page 28](#)).

E:  **Stone aggregate button**

Switching the stone aggregate on and off.

F:  **Dress grinding stone button**

Depending on the grinding program selected, the structure is applied on the grinding stone.

If the button is pressed while the grinding stone aggregate is switched off, the "Spin dry grinding stone" function will be activated.

 **If the structure does not comply with the structure applied to the grinding stone, the "Dress grinding stone" button flashes yellow!**
In order to transfer the structure provided in the program to the grinding stone, the same must be dressed.

G:  **Clean button**

Switching the cleaning pump on and off for the cleaning operation.

The button is active only on the standby screen! Press Power button.

During the cleaning operation, block coolant supply with the central stopcock beforehand.

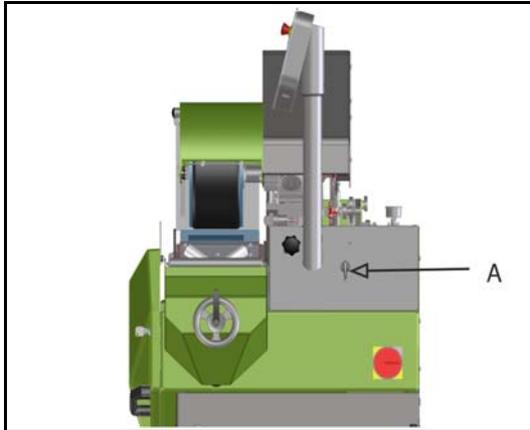
 **On switching on a grinding aggregate, coolant supply starts automatically and the illuminated ring of the "Clean" button lights up green.**

H: Touchscreen monitor

The touchscreen functions ensure optimum machine operation. A slight finger touch is enough to activate the desired field.

 **Never use sharp objects such as pens, knives or other similar items. As an option, a stylus designed especially for touch-screens can be ordered from WINTERSTEIGER (order no. 7000-0811-V01).**

5.2 Spraying stone aggregate



A: Coolant supply stopcock - grinding stone:

- The coolant volume supply for the high pressure nozzle of the grinding stone is controlled with this lever.

The coolant supply for the grinding stone high-pressure nozzle should as far as possible be opened completely in order to achieve a cleaning effect on the grinding stone.



If coolant supply is inadequate, optimum cleaning of the grinding stone and adequate cooling of the steel edge cannot be achieved.



B: Central stopcock for cleaning:

- This lever is used to block the coolant supply to the grinding aggregates.

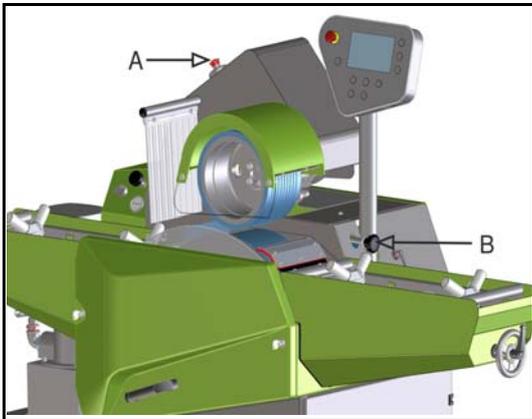
C: Cleaning hose coupling:

- Close central stopcock [C] during cleaning!



Only the relevant ball valve should be opened to ensure a sufficient coolant supply for the aggregate used.

5.3 Automatic feed



A: Emergency stop button

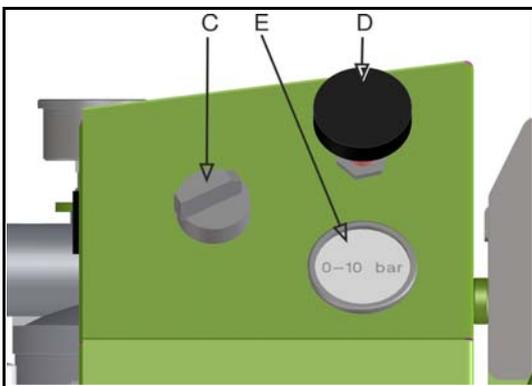
- Switches the machine off if a dangerous situation occurs.



The button remains locked in the pressed position. Turning the button clockwise will unlock it again so that it returns to the original position.

B: Height adjustment of feed rollers:

- Setting distance between feed roller and grinding stone 2 to 4 mm.



C: Swiveling the feed arm



Risk of injury!

The feed arm may only be swiveled while the aggregate is at a standstill!

- By activating the switch [B] the feed arm can be lifted or lowered.

D: Balancing pressure feed arm

The floating position of the feed arm is regulated with the pressure regulator [C]. The basic setting is about 2 bar.

E: Pressure manometer

The balancing pressure is shown on the manometer.

F: Grinding force

- The grinding force is set in the grinding programm.

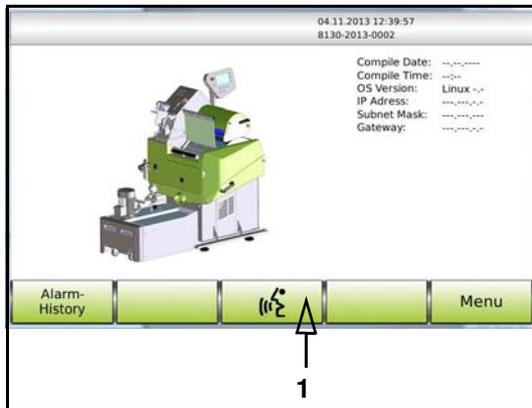


In principle, following applies to the grinding force:
High grinding force - high material removal - tendency towards hollow grind.
Less grinding force - less material removal - clean, flat grind.



6 Before grinding operation

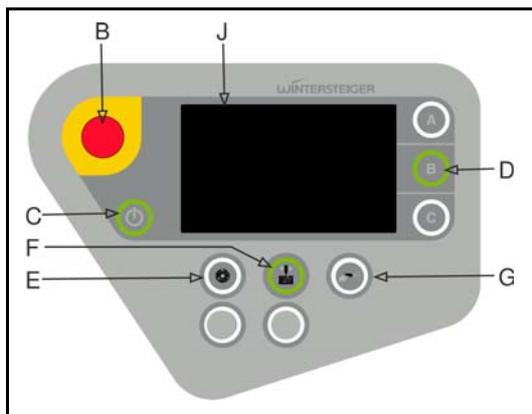
6.1 Standby screen



- Switch on the main switch.
The standby screen appears after the system has booted or after pressing the emergency stop button.

The language can be changed by pressing the symbol [1].

- i** It is only possible to switch the cleaning pump on and off using the button [G] for cleaning the machine with the cleaning hose in this screen.
However, the emergency stop button must be unlocked!



- Press the Power button [C] to go to the main screen.
- Select one of the preset grinding programs by pressing one of the program selection buttons [D]. The illuminated ring of the selected program selection button lights up green.

- i** If the structure does not correspond to the structure applied at the grinding stone, the "Dress stone" button will flash yellow!
The grinding stone must be newly dressed for the selected program.

6.2 Main screen



The grinding program last selected is displayed with the most important grinding parameters on the main screen.

- Program name
- Mode Easy or Professional
- Stone rpm
- Feed speed
- Grinding force
- Structure preview

Changes to the grinding parameters and pre-assignments of own grinding programs to the program selection buttons are only possible in Professional Mode.

6.3 Preparing equipment for grinding

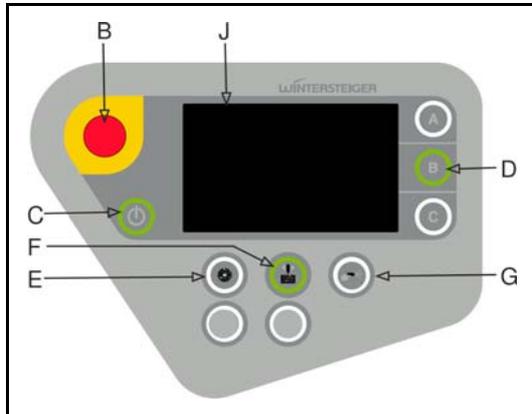
Ski

Use dummy sole and binding bridge for ski with binding. Pay attention to parallel support of the binding bridge.

XC ski

A binding bridge for cross-country skis must be used for cross-country skis.

7 Working with the machine



CAUTION Risk of injury!

Never remain in the restricted area during grinding. Always wear gloves made from suitable material and protective goggles. Close the safeguard before starting the machine.

- Switch on main switch.
The standby screen appears after the system has booted.
- Press the Power button [C] to go to the main screen.
- Position feed over the corresponding aggregate.
Only relevant to machine type Omega SBI!
- Select the desired grinding program using the program selection buttons [D].
- Set suggested grinding force at feed.
- Start grinding aggregate.

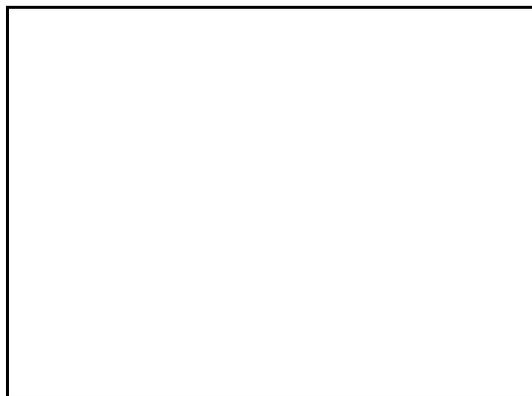
i If the "Dress grinding stone" button is flashing, it is necessary to dress the grinding stone for the selected grinding program!

- Regulate the coolant supply, if necessary.
- Lift feed roller by operating the foot pedal [1].
- Hold equipment with the tip below the feed roller and then lower feed roller slowly with the foot pedal.

CAUTION Risk of injury!

Keep a safe distance to the feed roller and the grinding aggregate!

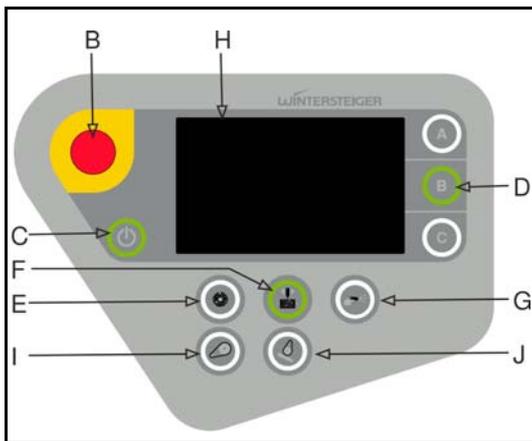
The equipment must be guided manually during the grinding process.



8 Easy- Professional mode

8.1 Main screen Easy Mode

In Easy Mode, top service is achieved with few settings and easy operation.



Smooth grinding operation is ensured on selecting the desired grinding program with the program selection button [D].



However, if special grinding programs, structures and grinding parameters are required, you must change to Professional Mode.

The change to Professional Mode is secured with a password entry.

8.1.1 Functions



- Press the "Functions" button on the main screen.
- The function is performed on pressing one of the program selection buttons [D].

Dry-clean

The grinding stone should be spin-dried after it has not been used for longer periods or after cleaning the machine.

Face

The grinding stone is faced with a fine crossed structure. This has the advantage that the same starting basis is present for the structure that will be applied afterwards.

Continuous dressing

The grinding stone is dressed 10 times with the preset parameters.

E.G. Is executed after grinding stone change.

8.1.2 Information concerning input fields



When an input field is pressed, a numeric keypad or the keyboard, which can be used to enter the required values, appears on the screen.

- The value can be increased or decreased with the arrows on the numeric keypad.
- The "x" button is used to exit the window without accepting the changed values. The minimum/maximum possible input value of each input field is also shown.
- Each input must be confirmed with "ENTER".

8.1.3 Entering the password for the Professional Mode



- Press the "Easy Mode" button on the main screen. The password screen is shown.
- Enter the valid password on the numeric keypad and confirm with the "ENTER" button in order to go to the Professional Mode main screen.

Change to Easy Mode takes place by pressing the "Prof. Mode" button.

8.1.4 Loading grinding parameter



By pressing the "Prog." button a list with the grinding programs opens.

Program name gray

List entries displayed in gray are preset grinding programs by WINTERSTEIGER.

These programs can be changed, however saving with the same name is not possible.

Program name black

List entries displayed in black are new and additionally created grinding programs.

Changing, saving and deleting these programs is not possible.

Program name green

A list entry displayed in green shows the currently loaded grinding program.

Program name red

A list entry displayed in red shows the currently loaded grinding program, which was changed but not yet saved.

Program name blue

List entries in blue are write-protected customer programs.

- Select the desired program by touching the respective line.
- Program information can be saved via the input field by pressing the program name line on the main screen.
- By entering the password in the password window, the grinding program can be write-protected or the write-protection can be cancelled.



8.1.5 Saving grinding program



- Press the "Save" button on the main screen.

The adjoining message is displayed on the screen to ensure that possible changes in the previous program are not lost.

- The changed parameters and settings are imported by pressing the "Save" button.
- An input field opens on pressing the "Save As" button. Enter the desired name and confirm with the "ENTER" button.
- The process can be cancelled with the "Cancel" button.

You then go back to the main screen.

8.2 Main screen grinding stone in Professional Mode

In the Professional Mode, the program parameters are changed, new programs are compiled and assigned to the Easy Mode.



Entering the password takes you to the Professional Mode.

In the Professional Mode, input fields grinding stone speed, feed speed and grinding force are open for changes on the main screen.

Moreover, additional grinding and structure parameters can be changed and saved.

8.3 Changing the stone grinding program



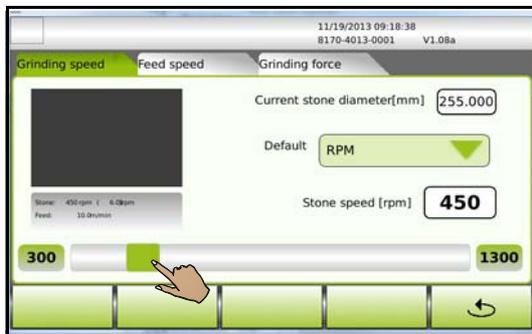
You must be in the Professional Mode to make the necessary changes (see [chapt. 8.1.3 Entering the password for the Professional Mode, page 29](#)).

- Load the grinding program to be changed.

The most important grinding parameters grinding speed, feed speed and grinding force can be changed directly on the main screen.

Effects of the changed grinding parameters on the structure are immediately displayed on the structure screen.

8.3.1 Grinding speed



- Press the "Grinding speed" input field on the main screen.
- By adjusting the slider, the grinding speed can be adjusted infinitely variable. The input area is visible to the left and right of the slider. Additionally, input can take place by pressing the "Grinding speed" input field via the numeric keypad.

i The cutting speed in meters per second is displayed on the main screen below the grinding speed.

Current stone diameter

- This input field displays the current stone diameter. If this value (in mm) does not correspond to the stone diameter, this must be corrected.

Specification RPM

On selecting "RPM", the grinding speed remains constant regardless of the grinding stone diameter. Peripheral speed thus changes according to the diameter of the grinding stone (the larger the grinding stone the more is material removal, the smaller the grinding stone the lesser is material removal).

Specification RPM (DM=255)

On selecting "RPM (DM=255)", the grinding speed is adjusted on the basis of the grinding stone diameter. The peripheral speed of the grinding stone and material removal thus remain constant.

8.3.2 Feed speed



- Press the "Feed speed" input field on the main screen.
- By adjusting the slider, feed speed can be adjusted infinitely variable. The input area is visible to the left and right of the slider. Additionally, input can take place by pressing the "Feed speed" input field via the numeric keypad.

8.3.3 Grinding force



Input of grinding force is only used for information and is not accepted by the feed. Grinding force of the feed must be set manually!

- Press the "Grinding force" input field on the main screen.
- By adjusting the slider, grinding force can be adjusted infinitely variable. The input area is visible to the left and right of the slider. Additionally, input can take place by pressing the "Grinding force" input field via the numeric keypad.

8.4 Changing the structure parameters



You must be in the Professional Mode to make the necessary changes ([see chapt. 8.1.3 Entering the password for the Professional Mode, page 29](#)).

- Load the grinding program to be changed.
- Press the structure pattern on the main screen.

8.4.1 Structure types

Four types of structure can be selected as standard.

Additional structures are available for the present Racing option.

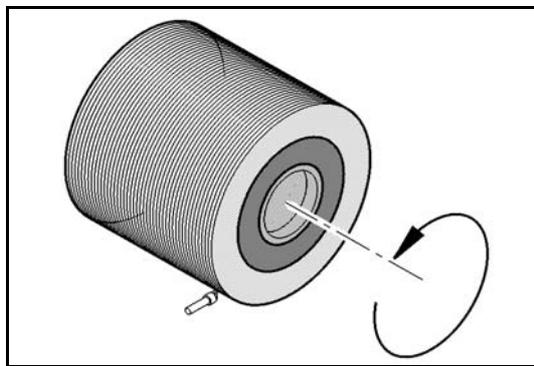
Structure linear (Standard)	Structure arrow (racing option)
Structure straight cross hatched (Standard)	Structure linear arrow (racing option)
Structure cross hatched left (Standard)	Structure wave (racing option)
Structure cross hatched right (Standard)	Structure chevron (racing option)

8.4.2 Structure screen



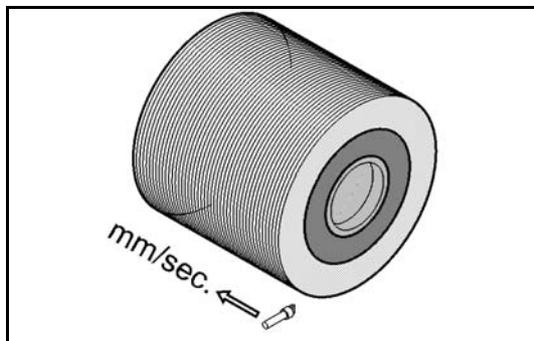
- Press the structure pattern to open the structure pool.

i Display of structure parameters on the structure screen depends on the selected structure.



Dressing rpm

- The speed of the stone for the dressing process will be set in the "Dressing rpm" input field. The input range is between 600 and 1300 rpm.



Dressing speed

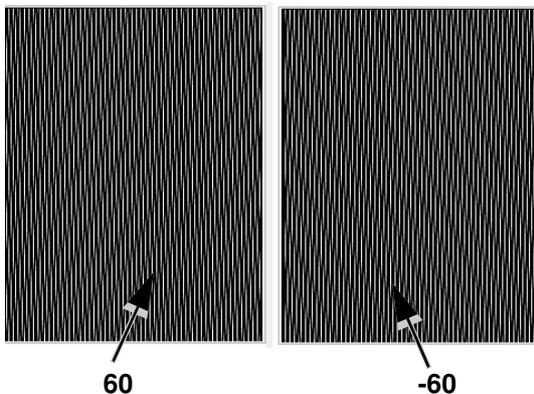
- The speed of the dressing diamond will be set in the "Dressing speed" input field.

Standard dressing unit

The input range is between 3 and 25 mm/sec.

Racing dressing unit

The input range is between 3 and 35 mm/sec.



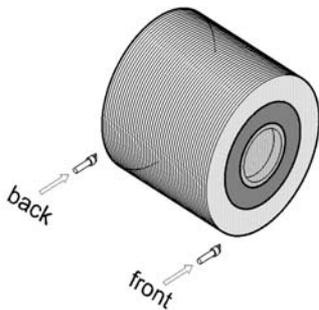
Structure inclination

- The inclination number for the crossed structure is changed in this input field.

e.g.:

- Positive values: Structure progresses to right
- Negative values: Structure progresses to left
- Value 0: straight, cross hatched structure

i This value has no degree information! The actual inclination is also influenced by the dressing rpm, dressing speed, grinding speed and feed speed.



Diamond feed diamond (standard diamond feed)

- The structure depth is entered in the "Diamond feed front" input field in steps of 1 to 3 feeds.
1 feed corresponds to 0.02 mm.

Diamond feed diamond (racing option)

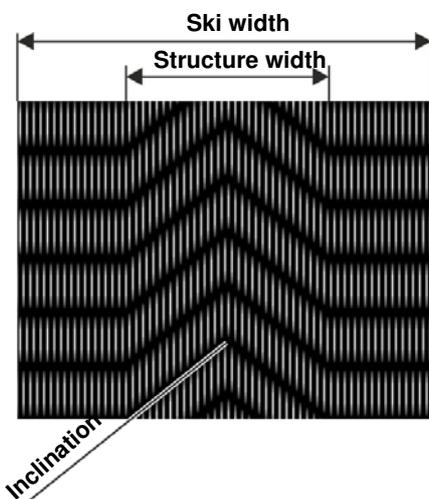
- The structure depth is entered in the "Diamond feed front" input field in steps of 1 to 6 feeds.
1 feed corresponds to 0.01 mm.
- The structure depth is entered in the "Diamond feed diamond rear" input field in steps of 0 to 1 diamond feeds.
0 = no diamond feed
1 = corresponds 0.01 mm.

Structure width

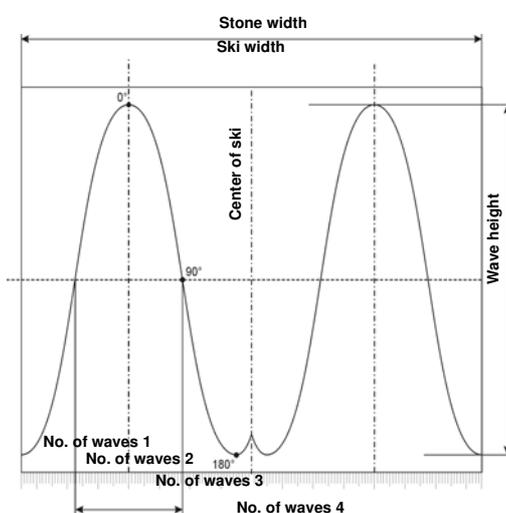
- i** This parameter is only active for the selection "Structure linear arrow" and Chevron.

The structure width parameter refers to the width of the "V" or arrow - see graphic.

- i** The structure changes into a "V" or an arrow structure depending on the inclination (positive or negative value).



- i** The following parameters are only active if wave structure is selected!



Wave height

- The wave height can be changed in this input field. Upon entering a negative value e.g.: -100, the wave will be mirrored around the horizontal axis.

- i** The wave height at the ski will also be influenced by the feed speed and the grinding speed.

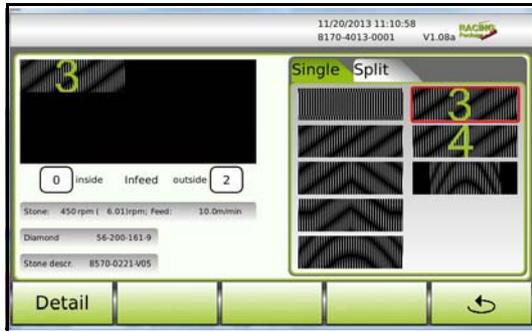
Number of waves

- This input field is used to change the number of waves across the stone width.

Wave offset

- The wave form is moved off-center in this input field.

8.4.3 Structure pool



The structure pool contains a large number of structural variations which can be accepted by tapping.

- **Single**
The single structure is transferred over the entire stone width. Priority use for snowboards.
- **Split**
Split selection, different structure types per stone half. In this way, you can pre-grind the ski on a stone half in order to carry out fine grinding on the other half.



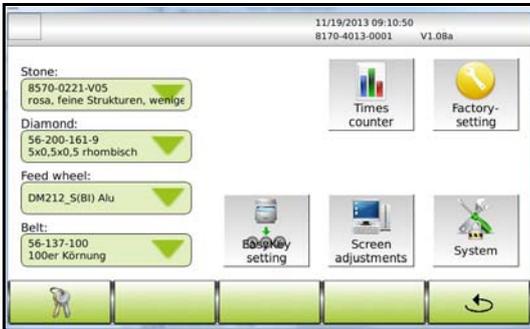
For an existing racing option, additional structures like e.g. arrow, wave or Chevron are available in the structure pool!

- The corresponding structure is accepted in the program by selecting a structure. The associated structure parameters can be adapted individually.



In case of a structural change, the "Dress grinding stone" button blinks yellow after exiting the structure screen. In order to transfer the structure to the grinding stone, the same must be dressed.

9 General settings



- The "Menu" window opens on pressing the "Menu" button on the main screen.



The menu items "Easy Key" and "Manufacturer values" are only available in the Professional mode.

The grinding stone, diamond, feed roller and (belt) data are used for information.

To get information when other components are saved in the grinding program, component selection must be kept up-to-date.

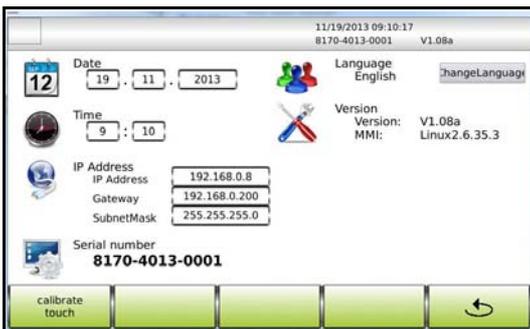
9.1 Easy Keys setting



In this window, the desired grinding programs are assigned to the program selection buttons (Easy Keys).

- Press the "Easy Keys" button in the "Menu" window.
- A list of available grinding programs opens on pressing a button.
- By selecting a grinding program, this is accepted in the program selection button.

9.2 Screen settings



- Press the "Screen setting" button in the "Menu" window.

Date - time

- Touch the field to be changed.
- Enter the desired number on the numeric keypad and confirm this with "ENTER".

Language

- A list of available languages opens on pressing the "Language" button.
- The entire menu navigation is changed to the selected language.

IP address / gateway / subnet mask

These settings are only relevant for the remote diagnosis option.



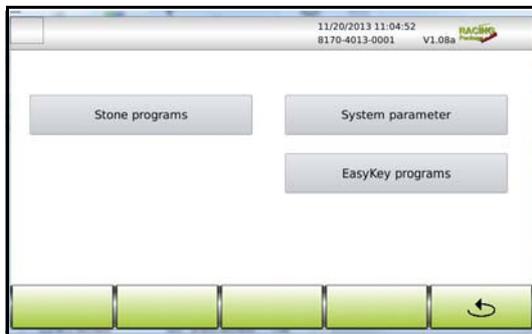
Make changes only after consulting WINTERSTEIGER customer care!

9.3 Times - counter



- In the "Menu" window, press the "Times - Counter" button. Operating hours of the aggregate are displayed on this screen.

9.4 Manufacturer's values



- Press the "Manufacturer values" button in the "Menu" window.

Programs

- The original WINTERSTEIGER grinding programs are re-generated on pressing a button.



This is necessary, e.g. for a module extension or software update!

System parameters

- All system parameters are re-generated on pressing the button.

EasyKey programs

- On pressing the button, the original EasyKey programs are saved to the program selection button A/B/C.

9.5 System

- System settings can be made only by a WINTERSTEIGER service technician.

10 Troubleshooting - Malfunctions



Risk of injury!

Before working on the machine, switch the machine off at the main switch and secure it against being switched on again! The machine may be operated only with completely attached guards and covers.

Work on the machine's electrical system may only be carried out by a qualified electrician in line with accepted practices!

10.1 Alarm messages on the touch screen monitor

If a malfunction occurs, an alarm message is displayed in the top line of the screen. You can press the alarm line to open the alarm window. After resolving the malfunction, the message disappears.

10.2 Mechanical malfunctions: Stone aggregate

Error, issue	Cause	Elimination
Stone grinding quality not okay		
Vibrations at grinding stone or chatter marks on grinding stone	The grinding stone is not balanced The grinding stone is loose The grinding stone is stuck	Replace grinding stone Retighten Dress grinding stone 1 - 2 times and check spraying
	The grinding stone was sprayed with coolant when stationary	When cleaning the machine with the cleaning hose, stop the supply of coolant using the central stopcock After cleaning, have the grinding stone spin dried
Grinding stone sticks rapidly	Ball valves for belt and/or SEG also open The pump does not provide enough pressure Filter cartridge blocked (optional)	If grinding stone, close ball valves for belt and/or SEG Check coolant level Clean: - sieve in the water tank - the nozzles Clean filter cartridge (see chapt. 12.3.1 Clean filter cartridge, page 46)
Fiber-like or burnt base	Stone speed too fast Insufficient coolant supply Coolant very dirty	Reduce stone speed Check coolant level in the tank, check lines and spraying nozzles, replace filter sock Replace coolant
Cracks visible at ski base	Structure depth of diamond too great Vibrations at grinding stone	Reduce structure depth (3->2, 2->1) Dress stone several times

Error, issue	Cause	Elimination
Notching the grinding stone	Too high a grinding force	Set grinding force lower
Grinding stone is not clean during dressing	The diamond polisher is used up	Install new diamond polisher
Structure not visible	Diamond polisher with too wide needles in use	Use diamond polisher with narrower needles
Ski is ground on one side or structure uneven over ski width	Feed roller and grinding stone are not parallel Support roller dirty Diamond cross section too small (diamond is worn excessively during structuring)	Grind feed roller parallel Clean support roller Use diamond polisher with larger diamond cross section
Spraying not functioning or uneven	Nozzles are blocked Not enough water in tank Pump is blocked	Clean nozzles with compressed air Replenish water Disassemble pump, clean and assemble in the order of disassembly
Electrical system		
Machine fails to start		Check the fuses and fault-current circuit breakers at the mains fuse box Check the power cable
Machine fails to start (humming noise)		Fuse failed in supply line Wire in supply line interrupted Switch defective
Machine switches off during operation, can no longer be started	The main switch switches off upon power failure	Switch on the main switch
Aggregate failure (belt motor, feed, plunger pump)	Motor protection has triggered	Switch off main switch Pull out power plug Switch on corresponding motor protection switch

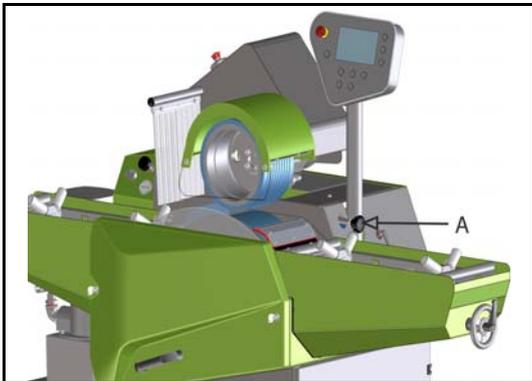
11 Maintenance



Before carrying out maintenance, setting, repair or cleaning work, ensure that the machine is switched off and disconnected from the mains supply. When carrying out work in an area which is not in close vicinity to the controls, we recommend that the main switch is locked.

11.1 Feed maintenance

11.1.1 Feed roller face grinding



The rubber-coated feed rollers must be face ground again in case of significant wear, in order to achieve an optimum adhesion on the ski and snowboard.



Wear protective goggles!

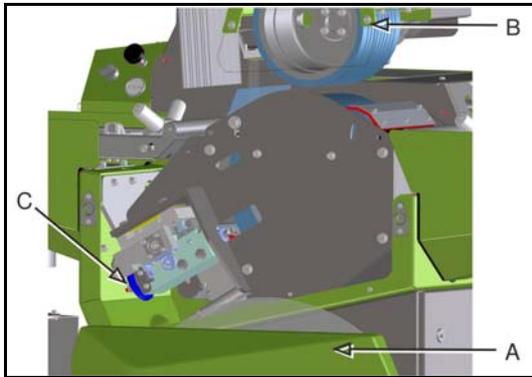
- Dress grinding stone with a rough linear structure.
- Close cooling water supply.
- Slowly lower feed roller to the grinding stone using the handwheel [A]. Grind in rubber until the wheel is level again.
- Use handwheel to lift feed roller again.
The distance between the feed roller and grinding stone should always be between 2 and 4 mm.



Regularly advance the adjustable spacer plate to the feed rollers!

11.2 Servicing stone aggregate

11.2.1 Replacing the grinding stone



The grinding stone is only supplied with the holder and electronically balanced. Grinding tools different from those supplied by us in type and scope may not be used! Always wear gloves made from suitable material when replacing the grinding stone!

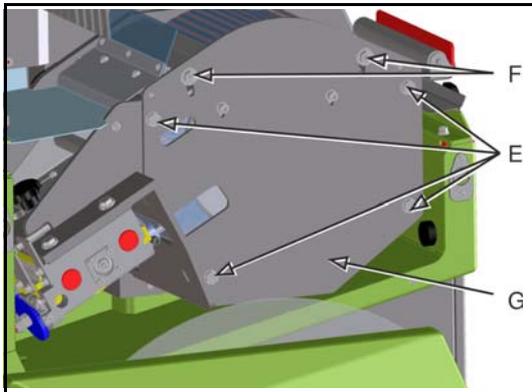


Move into grinding stone/diamond change position before changing the grinding stone!

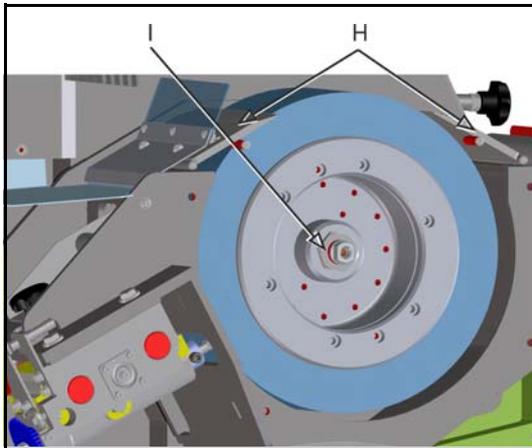


WARNING Risk of injury!

Before working on the machine, switch the machine off at the main switch and secure it against being switched on again!



- 1) Remove guard [A].
- 2) Raise feed unit [B].
- 3) Rotate the diamond polisher with ratchet wheel [C] back. Check whether the diamond polisher is still in order, if not replace.
- 4) Move stone spraying system [D] all the way back.
- 5) Remove 4 screws [E] and 2 nuts [F] from the stone box lid [G].
- 6) Remove the stone box lid [G] and the stone cover [H].
- 7) Loosen the nut [I] with a wrench (size 55) while holding the shaft in place with second wrench (size 24).
- 8) Detach the grinding stone.



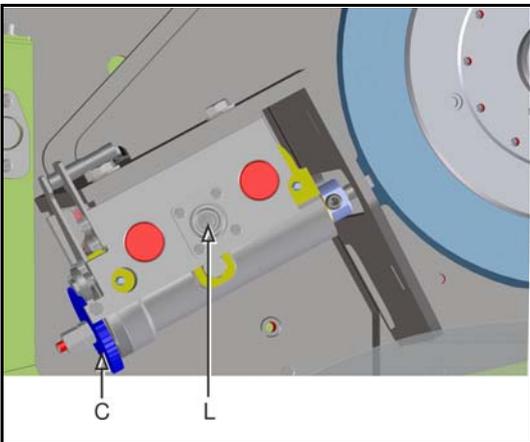
Clean and grease the drive shaft.



Make sure to inspect new stone for transport damages.

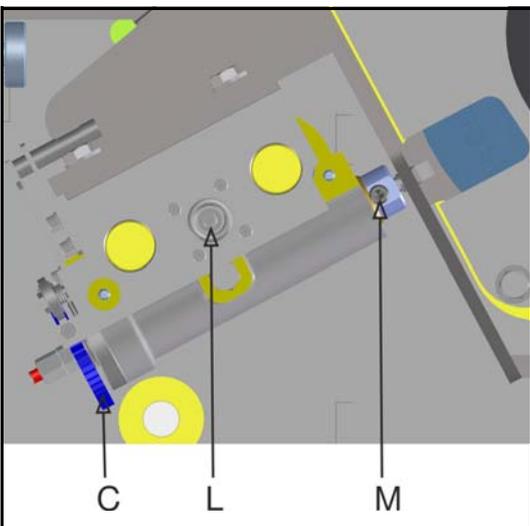
- 9) Slide the new grinding stone onto the drive shaft.
- 10) Screw nut [I] on grinding stone and tighten.
- 11) Reattach stone cover [H] and stone box lid [G].
- 12) Fasten stone box lid [G] with 4 screws [E].
- 13) Mount stone cover [H] as close as possible to the stone (approx. 1-2 mm), in order to prevent too much water from escaping and tighten with 2 nuts [F].

- 14) Adjust the distance from the stone spraying system [D] to the grinding stone to approx. 1-3 mm.
- 15) Set distance between feed roller and grinding stone to approx. 2 mm.
- 16) Move diamond polisher with ratchet wheel [C] forwards to the grinding stone (distance between stone and polisher approx. 2 mm).
- 17) Turn the dressing block inwards with hexagon socket wrench (size 4) [L] until the diamond is positioned above the grinding stone.
- 18) Rotate the stone slowly by hand.
Turn diamond forward with ratchet wheel [C] until it is in slight contact with the grinding stone.
- 19) Fit guard [A].
- 20) Switch on machine.
- 21) Perform test run in accordance with legal regulations, then dress grinding stone until the grinding stone is concentric (at least 5 times).



i After the grinding stone has been replaced, check and if necessary, correct the stone diameter!

11.2.2 Replacing the diamond polisher



i The grinding stone/diamond must be moved into the changing position before the diamond change!

WARNING Risk of injury!

Before working on the machine, switch the machine off at the main switch and secure it against being switched on again!

- 1) Remove guard [A].
- 2) Rotate the diamond polisher with ratchet wheel [C] back.
- 3) Loosen hexagon socket screw [M], pull the diamond polisher out and clean the drill hole. Re-insert the new diamond with well-greased shaft up to the stop and tighten.

! The screw must press onto the plane surface of the diamond shaft.

- 4) Move diamond polisher with ratchet wheel [C] forwards to the grinding stone (distance between stone and polisher approx. 2 mm).
- 5) Turn the dressing block inwards with hexagon socket wrench (size 4) [L] until the diamond is positioned above the grinding stone.
- 6) Rotate the stone slowly by hand.
Turn diamond forward with ratchet wheel [C] until it is in slight contact with the grinding stone.
- 7) Fit guard [A].

- 8) Switch on machine and then dress grinding stone at least 5 times in order to attain an optimum structure pattern.



After the diamond has been replaced, check and if necessary, correct the stone diameter!

11.2.3 Execute test run in accordance with legal regulations



Before the first use and after each remount, each grinding tool with an outside diameter of more than 100 mm must be tested in idle with the maximum permissible circumferential speed in the presence of an expert person. The test run must last 1 minute on all grinding machines. The test run can only be executed after all safety devices are installed and nobody is present in the danger zone. The grinding tool can only be used after a successful test run.

The following must also be observed for grinding tools:

- Protect from blows and impacts.
- Store dry and frost-free at constant temperatures if possible.
- Make sure you inspect the grinding tools for transportation damage prior to installation.
- Do not use unbalanced grinding tools (vibrations!).

12 Maintenance

12.1 General

Check all screws and adjusting screws regularly to ensure that they are tight.
Test the emergency stop button on the feed regularly for proper functioning.



Risk of injury!

Before carrying out maintenance, setting, repair or cleaning work, ensure that the machine is switched off and disconnected from the mains supply. When carrying out work in an area which is not in close vicinity to the controls, we recommend that the main switch is locked.

12.2 General information for the correct handling of solid cooling lubricants

The solid cooling lubricants contain a high number of different chemicals so that they can fulfil their tasks (cooling, lubrication, removal of chippings, corrosion prevention). This makes the maintenance and care of the solid cooling lubricants very important.

Organizational measures



Please take special care of the cleanliness of the solid cooling lubricant emulsion to prevent the development of nitrosamines and microbial growth!

Among others, please adhere to the following measures:

- Prevent the presence of organic and anorganic food, cigarette butts, corrosion protection materials, etc.
- Avoid the invasion of foreign oils into the solid cooling lubricant systems.
- Avoid the intrusion of impurities and contaminants, which contain secondary amines or which release those in significant quantities (above 0.2% in solid cooling lubricant concentrate). This includes detergents, certain corrosion protection materials, system cleaners.
- The following analyses and measurements must be performed. The TRGS 611 is the legal basis for the listed limit values in Austria and Germany. The limit values in other countries must be applied in accordance with the local laws.

Tests	Measurement frequencies	Limit value
KSS concentration	weekly	according to manufacturer's information
Nitrate content of the preparation water	from time to time	max. 50 mg/l
pH value	weekly	8,5 - 9,0
Nitrite	weekly	max. 20 mg/l
Microbial count (recommended)	monthly	10 ⁶ germs
Total hardness	as required	app. 16°d

As part of the FLUIDMANAGEMENT, WINTERSTEIGER offers an analysis case for monitoring and measuring solid cooling lubricants as well as the documentation of the measurement results. This allows you to immediately implement counteractive measures if the limit values are exceeded and you can extend the frequencies for the coolant change significantly beyond the 4 weeks. In addition, the WINTERSTEIGER-Fluidmanagement includes accessories (high performance lubrication spray, system cleaner, machine foam cleaner, preservatives, skin protection sets), which are adapted to the emulsion and therefore largely prevent the introduction of contaminants.

Immediately implement counteractive measures or change the grinding coolant if the limit values are exceeded. **The emulsion must be changed after app. 1,000 pairs of skis or after 4 weeks at the latest if WINTERSTEIGER-Fluidmanagement is not used.** Drain the coolant system and clean it with a system cleaner after the end of the season and during longer standstills of the machine.

Safety measures

Appropriate protective clothing (e.g. protective gloves, protective goggles, fluid repellent protective clothing) should be used because the solid cooling lubricants have, among others, a skin irritation effect. A preventive skin protection (barrier cream) should be used if skin contact cannot be avoided. Avoid eye contact with cooling lubricants!

Disposal

Do not drain into the sewage water system! Adequate disposal is required in accordance with the manufacturer's safety data sheet information and with the local laws.

12.3 Base machine - coolant tank maintenance

Item No.	Maintenance work	Daily	Weekly	Monthly	Annually	Notes
Cleaning						
1) ¹	Complete machine	x				Danger of corrosion: Do not use tap water without emulsion to clean the machine - always use the cleaning hose for cleaning
2)	Operating panel	x				With a moist cloth when the machine is switched off or as required - do not use cleaning agents
3)	Support rollers and centering rollers (optional)		x			
Cooling system						
4)	Check fill level	x				If required, more frequently
5)	Filter pad or filter bag	x				Check daily, if necessary empty and clean
6)	Clean the bar magnet (optional)		x			Remove the bar magnet from the coolant tank and clean using a cloth (more frequently if required)
7)	Clean filter cartridge (optional)		x			see chapt. 12.3.1 Clean filter cartridge, page 46

Item No.	Maintenance work	Daily	Weekly	Monthly	Annually	Notes
8)	Coolant change			x		see chapt. 12.2 General information for the correct handling of solid cooling lubricants, page 44 ATTENTION: Dispose of emulsion according to national regulations. Do not release into sewage system or water bodies.
Lubrication - Caution: Clean the greasing nipple before greasing!						
9)	Oil moving parts		x			High-performance lubrication spray 55-645-350
10)	Lubricate feed guide (only in case of machine type Omega SBI!)			x		1 grease gun shot
Testing						
11)	Check compressor container and maintenance unit for condensate and drain if necessary (optional pneumatic grinding force)		x			see chapt. 12.3.2 Emptying the water separator (optional pneumatic grinding force), page 47

1 **Danger of corrosion:** Do not use tap water to clean the machine! For cleaning, always use the cleaning hose and the coolant! Cleaning of the machine with a high pressure cleaner is not permitted! No liability or warranty will be assumed for consequential damage if you fail to observe this.

12.3.1 Clean filter cartridge



A fine filter can optionally be fitted in order to attain an optimum cleaning of the cooling lubricant.

If the pressure difference is greater than 1 bar between the plunger pump pressure gauge [A] and fine filter pressure gauge [B] during operation, the filter cartridge must be cleaned.

- Switch off the machine at the main switch.
- Unscrew filter housing and clean filter cartridge with clear water.

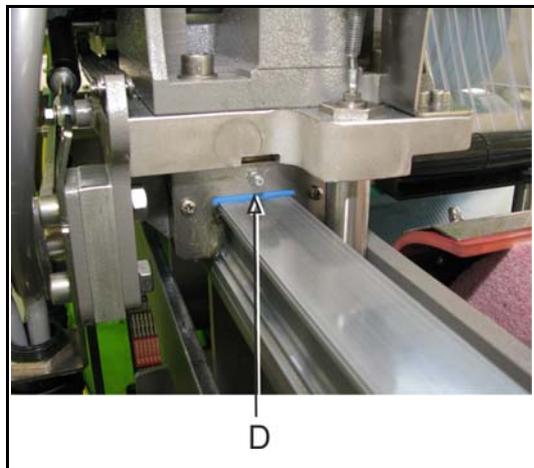
12.3.2 Emptying the water separator (optional pneumatic grinding force)



Check the water separator for condensate once a week.

- Turn the knurled nut [C] to drain condensate.

12.3.3 Lubricating the feed guide



i Only concerns machine type Omega SBI!

- Move feed as far as the limit stop on the grinding stone side.
- Clean lubricating nipple [D] and lubricate with a grease gun shot.

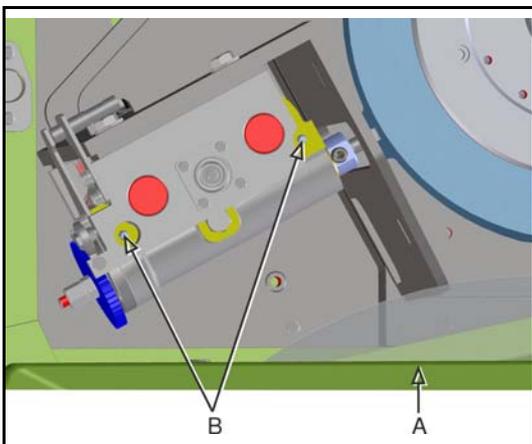
12.4 Maintenance: Stone aggregate

12.4.1 Maintenance schedule

Item No.	Maintenance work	Daily	Weekly	Monthly	Annually	Notes
Cleaning						
1) ¹	Complete stone aggregate	x				Danger of corrosion: Do not use tap water without emulsion to clean the machine - always use the cleaning hose for cleaning
Lubrication - Caution: Clean the greasing nipple before greasing!						
2)	Oil moving parts		x			High-performance lubrication spray 55-645-350
3)	Grease dressing unit guide			x		1 grease gun shot per lubricating nipple (see chapt. 12.4.2 Lubricating the dressing unit, page 48)
Testing						
4)	Check drive belt tension			x		You should be able to force through the drive belt approx. 10 mm by applying a force of approx. 2.5 kg (see chapt. 12.4.3 Checking the drive belt tension, page 49).

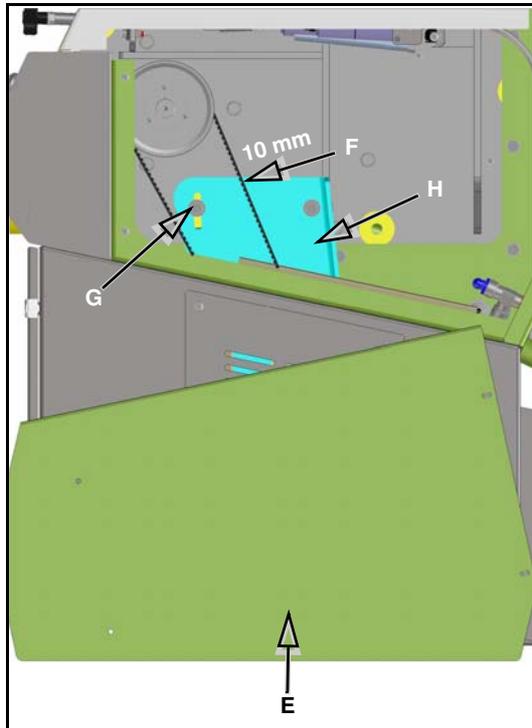
- 1) **Danger of corrosion:** Do not use tap water to clean the machine! For cleaning, always use the cleaning hose and the coolant!
Cleaning of the machine with a high pressure cleaner is not permitted! No liability or warranty will be assumed for consequential damage if you fail to observe this.

12.4.2 Lubricating the dressing unit



- Remove guard [A].
- Clean lubricating nipple [B] and lubricate with a grease gun shot.
- Fit guard [A].

12.4.3 Checking the drive belt tension



- Remove guard [E].
- You should be able to force through the drive belt [F] approx. 10 mm by applying a force of approx. 2.5 kg.

Tensioning the drive belts

- Loosen screws [G].
- Turn motor bracket [H] until the required tension is present.
- Tighten screws [G].
- Remove guard [E].

13 Shut-down and disposal

**WARNING****Risk of injury!**

Disconnect the machine from the mains supply or any external drive prior to shutting down and dismantling. Use only suitable tools for dismantling.



When shutting down the machine dismantle and dispose of all machine parts properly. Clean all oily and greasy components prior to disposal.

Oil and grease should never be allowed to pollute the environment.

Ensure that all disposal regulations specific to your country are adhered to!

- Dismantle the machine properly into its individual components.
- Clean oily and greasy components.
- Dispose of components by material group (steel, plastic, electrical and electronic components, etc.).
- Dispose of oil and grease in an environmentally friendly manner.

**CE Konformitätserklärung
Declaration of Conformity
Certificat de conformité
Declaración de conformidad
Dichiarazione di conformità**



Hiermit erklären wir, dass das Produkt
We hereby declare that this product
Par la présente nous certifions que le dit produit
Por la presente declaramos que el producto
Con la presente dichiariamo che il prodotto

Omega B, Omega S, Omega SBI

No.:

Ski- und Snowboardscheifmaschine

Ski and snowboard grinding machine

folgender(-en) einschlägigen Bestimmung(en) entspricht:
conforms to the following regulations:
correspond à la (aux) spécification(s) suivante(s):
corresponde a la(s) siguiente(s) directiva(s) competente(s):
è conforme alla(e) seguente(i) disposizione(i):

EG-Maschinenrichtlinie 2006/42/EG

EG-EMV-Richtlinie 2004/108/EG

EG-Niederspannungsrichtlinie 2006/95/EG

Dokumentations-Bevollmächtigte:

Person authorised to compile the technical file:

Personne autorisée à constituer le dossier technique:

Persona facultada para elaborar el expediente técnico:

Persona autorizzata a costituire il fascicolo tecnico:

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Vorstand