



*Original instructions in English*

# **OPERATING INSTRUCTIONS**

## **BMG-555**

VERSION 1.5







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## 1. Introduction

Before use, operators must be provided with information, instruction and training for the use of the machine and the substances for which it is to be used, including the safe method of removal and disposal of the material collected. All persons who are working with or maintaining this machine must read the manual carefully and understand it fully. In case you sell the unit, hand it on to the next owner. Keep this manual always with the machine, to enable it to be referred to at any time. Any other work not covered by this operating manual must not be carried out.

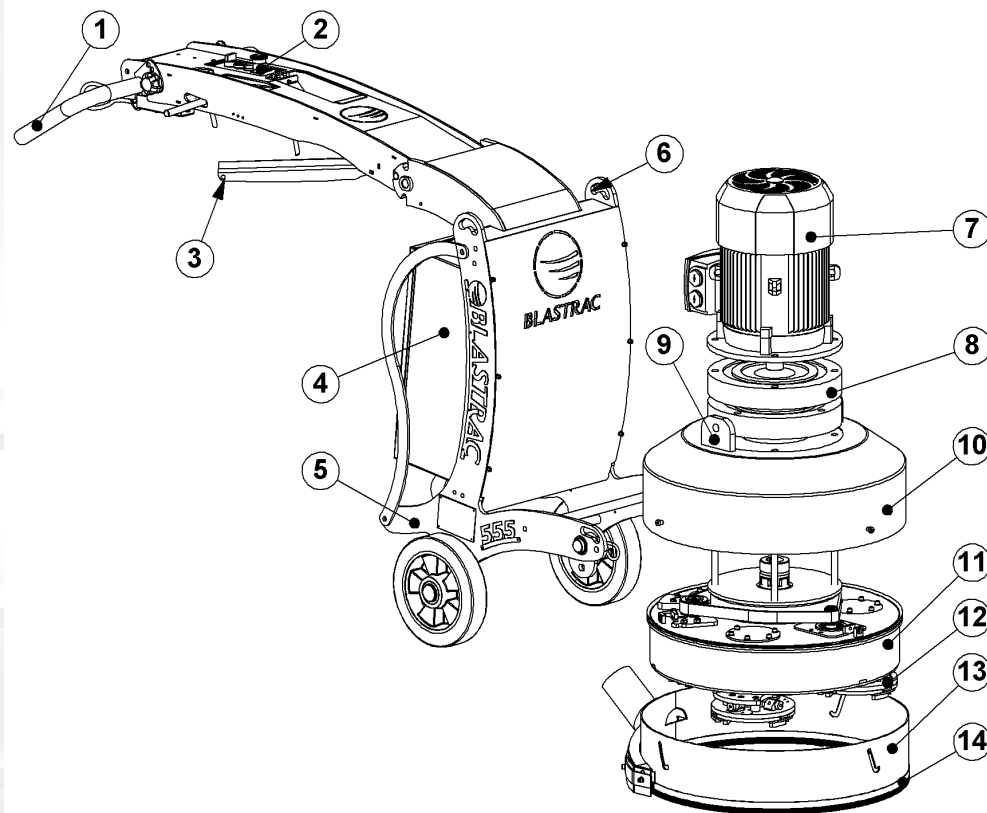
This machine is designed for industrial use by professionals. **Only authorized and trained personnel may operate this machine.** This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge. **Blastrac** offers a course on the use of the machine in order to make the operating and maintenance personnel familiar with all elements of the machine. Always use common sense when working with machines.

## 2. Machine description

The BMG-555 is an electrical driven planetary grinding machine. This is a three headed machine for levelling, grinding and polishing of floors. The 3 planetary rotating discs are  $\varnothing$  185 mm. It can be used for dry and wet applications.

The BMG-555 can be used on almost any floor to plane, to make ready for coatings, or to remove coatings or glue residues. The machine may not be used without an adequate dust extraction system.

A specially designed Blastrac dust collection system ensures dust-free operation of the machine and clean air at the workspace. This machine may not be used on wood.



1	Steer handle	6	Hinge points	11	Planetary system
2	Control box or Keypad	7	Grinding motor	12	Grinding buffer
3	Swing arm for dust hose	8	Fill up block	13	Dust floating shroud
4	Electric control box	9	Frame mounting eyes	14	Brush for shroud

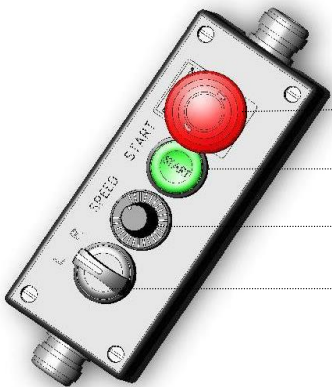


5	Frame	10	Dust cover		
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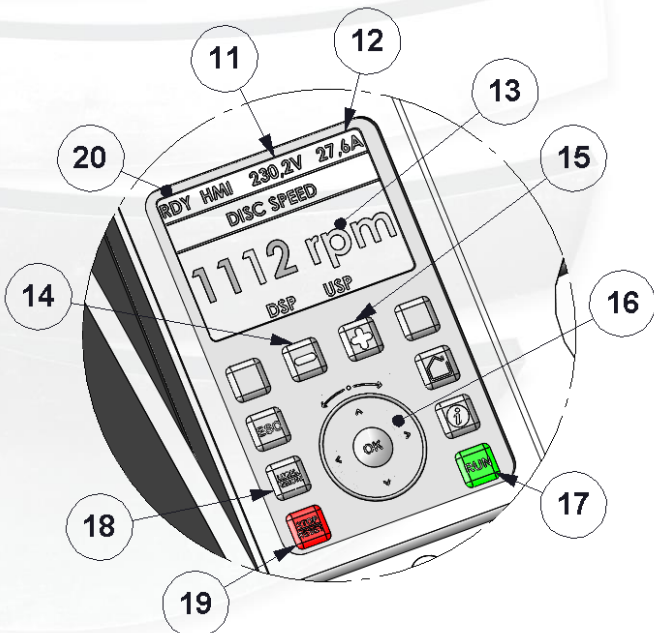
Key for dead man's switch
Dead man's switch
Cord for dead man's switch
Lever for adjusting steering handle

### Control box



- Stop button (Red)
- Start button (Green)
- Speed regulator (Option)
- Selection switch for left-hand or right-hand turning of the motor.

### Keypad



11	Main voltage indication
12	Ampere of grinding motor
13	Speed of the grinding discs
14	Grinding speed DOWN button
15	Grinding speed UP button
16	Down / Up grinding speed (by scrolling)
17	START grinding button
18	Change the turning direction of grinding discs button
19	STOP grinding button
20	RDY = Ready STO = EM-Stop activated



## 3. General Safety Rules



### Warning!

**Read all safety warnings and all instructions.** Failure to follow the warnings and instructions may result in electric shock, fire, explosions and / or serious injuries.

Only authorized and trained personnel may operate this machine. This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.

It is the responsibility of the user to analyse the surface to be treated. The surface may not contain any substances which could pose a fire-, explosion- or health risk when treated. The user should make a risk assessment on the basis of the information obtained about the surface to be treated and take proper precautions for the work to be performed.

In case of any inappropriate usage, improper operation or repair, the producer shall be exempt from liability.

### 3.1 Work area safety

- a) Do not use the machine in rain, damp or wet locations.
- b) Avoid dangerous environments: do not work in the presence of explosive atmospheres, in the presence of flammable liquids, gases or dust. Remove materials or debris that may be ignited by sparks.
- c) In some cases sparks could be created by grinding.
- d) **The surface to be treated must be swept, make sure to remove all stones, screws etc..**  
Any stones, screws, bolts, pieces of wire etc. could cause serious damage if it gets inside the machine!
- e) Do not use on wood.
- f) Make sure there is enough ambient light on the work area. Cluttered or dark areas invite accidents.
- g) Keep children and bystanders away while operating the machine. They are likely not to foresee the potential dangers of the machine. Distractions could cause you to lose control of the machine.
- h) Persons who are not operating the machine must not be permitted to stay in the surrounding area of at least 5 meter from the machine.
- i) Never use the machine when the surface is not clear and if there is a risk of stumbling or tripping.
- j) Make sure that there are no cables or hoses in the driving direction of the machine.
- k) Make sure that there is nothing standing or situated on the surface to be treated.
- l) Make sure the machine can travel over all inequalities on the surface, small inequalities like weld seams or floor joints are no barriers for the machine.
- m) **Never stay in the rain with the machine**
- n) Check if there are any obstacles that can snag the cables when the machine is moving.
- o) Remove reinforcing steel or other objects protruding from the surface in order to prevent damage to the machine.
- p) Secure the work area around the machine in public areas providing an adequate safety distance from the machine. Use a red and white safety chain and danger sign to enclose the work area.
- q) **Warning!**

**Make sure that the surface to be treated does not contain dangerous materials such as:**  
- **combustible or explosive dusts or substances.**  
- **carcinogenic or pathogenic substances.**

**In these cases, additional safety measures should be used. Always mind the local safety requirements. Contact your dealer for additional options.**

### 3.2 Electrical safety

- a) Use only extension cables for extending the main cable that are sized and marked in accordance with the overall power consumption of the machine. Do not use damaged extension cables.
- b) Electrical cables must be rolled entirely off of the reels.
- c) Any damage to the electric cables and/or electrical components is not permitted.
- d) The voltage on the identification plate must comply with the power supply.
- e) Use an electrical power supply connection with earth connection and earth leakage circuit breaker.
- f) The circuit breaker of the power supply must have a 'D' characteristic. Circuit breakers with a 'C' or 'B' characteristic can give problems when switching the motor on.
- g) **Keep the machine original; The machine is always equipped with an earthed connection, do not change this** and always use earthed cables with an earthed plug.
- h) Inspect and test the electrical components regularly. The electrical components have to satisfy with the requirements set out in the harmonised norm EN60204-1.
- i) Always call a skilled electrician or your distributor when you have questions about the safety of the electrical components.



- j) Work on electrical equipment or operating materials may only be undertaken by a skilled electrician or by trained persons under the guidance and supervision of a skilled electrician as well as in accordance with the electrical engineering regulations.
- k) Always use tools that are insulated against voltages.
- l) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the machine. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- m) The main power switch on the machine must be in the "Off" position before connecting to the power supply. (Only if there is a main switch present on the electrobox.)
- n) Be careful with water on the treated surface. Electrical cables must not come into contact with water.
- o) During a long standstill of the machine, pull out the main plug.
- p) If the machine is to be operated using power from a generator, the generator must be operated in accordance with the current legal regulations and directives in force. (this applies to the protective earth conductor in particular) in order to ensure that all safety devices are functioning and to eliminate possible damage to electrical components.

### 3.3 Personal safety

- a) **Always wear Personal Protective Equipment while working with the machine.**
  - Dust mask class FFP3 or higher
  - Hearing protection
  - Safety glasses with lateral protection
  - Protecting gloves
  - Safety shoes
- b) Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.
- c) Stay alert, watch what you are doing and use common sense when operating the machine.
- d) The cord of the deadman switch key should always be fastened on your arm or on to your clothing.
- e) Pull out the key of the deadman switch before any inspections, adjustments and/or maintenance work is started.
- f) Always seek professional medical attention immediately in case of injury.
- g) All persons surrounding the machine should wear Personal Protective Equipment.

### 3.4 Machine safety general

- a) Safety functions and operating functions must work correct.
- b) No loose bolts and nuts permitted.
- c) Never operate machine without the guards and/or safety devices in place.
- d) Never change anything on the safety devices on the machine!
- e) The machine, specially the handle grips must be free of fats/oils and has to be dry.
- f) If the length of the brushes is, due to wear, less than 5mm or they are extremely deformed, the brushes have to be replaced. Check the Service Manual for the order numbers.
- g) All repair work has to be done by qualified Blastrac personnel, this guarantees a safe and reliable machine.
- h) **Always use original Blastrac spare parts, grinding discs, grinding wings and polishing pads.** This will ensure the best performance. Only original parts meet the factory specifications and quality. Otherwise Blastrac BV cannot guarantee the safety of the machine. The part numbers can be found in the Service Manual.
- i) If **safety-critical changes** occur to the machine or its working method, the machine must be **shut down immediately!** The cause of the fault must be established, and rectified.
- j) In the event of **operational malfunctions** the machine must be **shut down immediately** and secured!
- k) Do not use the unit when it is damaged.
- l) Do not **open** or **remove protective guards** while driving gears are running.
- m) Do not stand on the machine. Do not add extra weight on the machine.
- n) Do not place anything on the grinding motor. Make sure that the motor has enough airflow to cool.

### 3.5 Maintenance safety

- a) Pull out the main plug before starting inspections and repairing on the machine.
- b) Wait for standstill of all drives before any inspections, adjustments and/or maintenance work is started.
- c) Block the machine in stable position before doing any maintenance work.
- d) Failures due to inadequate or incorrect maintenance may generate very **high repair costs** and long standstill periods of the machine. **Regular** maintenance therefore is imperative.
- e) Operational safety and service life of the machine depends, among other things, on proper maintenance.



- f) Prevent premature wear by keeping the machine as dust free as possible. Clean the machine for this reason regularly with a dust collector and non-aggressive materials, especially the upper drive. Never use a high pressure water cleaner to clean the machine.
- g) It is advisable to stock all spare parts or wear parts that cannot be supplied quickly. As a rule, production standstill periods are more expensive than the cost for the corresponding spare part.
- h) Do not use any **aggressive** cleaning materials! Use lint-free **cleaning cloths!**
- i) For the electrical parts, use a tool that is insulated against voltages.
- j) To allow the user to carry out maintenance operations, the machine must be disassembled, cleaned and inspected as far as reasonably possible, without causing hazards for the maintenance staff or other people.
- k) The suitable precautions include decontamination before disassembling the machine, adequate filtered ventilation of the exhaust air from the room in which it is disassembled, cleaning of the maintenance area and suitable personal protection equipment.

### 3.6 Safety regarding dustcollectors

- a) Always use a Blastrac dust cleaner to ensure a dust-free operation of the machine and clean air at the workspace. Also the airflow helps to cool the machine and prevents overheating.
- b) Read the operating instructions of the dust collector before using it.
- c) The dust container/bag of the dustcollector must be emptied regularly. Comply with the local waste treatment regulations considering the removed material.
- d) The dust hose must be connected properly with a hose clamp and industrial tape.
- e) The dust hose must be undamaged and free of obstructions.
- f) Always switch on the dust collector first!

### 3.7 Grinding safety

- a) The machine contains rotating parts, which are protected with a sliding cover. Always leave the diamond disc on the floor while the motor is turning.
- b) The flexible coupling can become worn out with use, because of this there can be higher vibrations than normal. Check for this reason the flexible coupling for deformation and damage before every use.
- c) Do not let the machine rest on the diamond disc or coupling when it is not in use, this will cause deformation to the flexible coupling.
- d) Make sure the brush seals are in good condition, this to avoid dust.
- e) Make sure the diamond disc is not damaged or worn out.
- f) Always pull out the main plug before u start changing the wings or disks.
- g) When mounting or removing a diamond disc; lay down the machine so it is lying on the handle. Make sure the machine will not fall back down. A second person can hold the handle down to make sure it will not fall back down.
- h) For changing the disks/wings u should wear Personal Protective Equipment like a dust mask, safety goggles, gloves, protective shoes, and close fitting protective clothing. Use the vacuum cleaner to prevent excessive dust.
- i) **Caution!** The grinding disks / wings will heat up during grinding, don't risk getting burned, always wear protective gloves when handling them.
- j) **The machine contains rotating parts; because of this never pull the machine backwards with a turning motor.**
- k) Be careful with the machine and pull or let down the machine slowly, big shocks can damage the electrical parts.
- l) Make sure the floating shroud is in transport mode when you transport the machine.
- m) Clean the brush-sealing directly after wet grinding. It will be very hard to clean the brush-sealing when the dust-water mixture has dried up and hardened.
- n) **Be careful**, the workfloor can get slippery when grinding wet.
- o) Keep all electrical cables and connections away from water.

### 3.8 Transport safety

- a) Be aware of your surroundings and machine operating level. Do not side hill, do not run on steep incline, this could cause machine to tip over.
- b) The weight of the BMG-555 is 298 / 282 kg. Use a crane or lift when transporting the machine, use the lifting eyes of the machine.
- c) Before every use check the lifting eyes/lugs and welds for: deformation, damages, cracks, corrosion and wear.
- d) Only lift the machine as shown in the picture below.

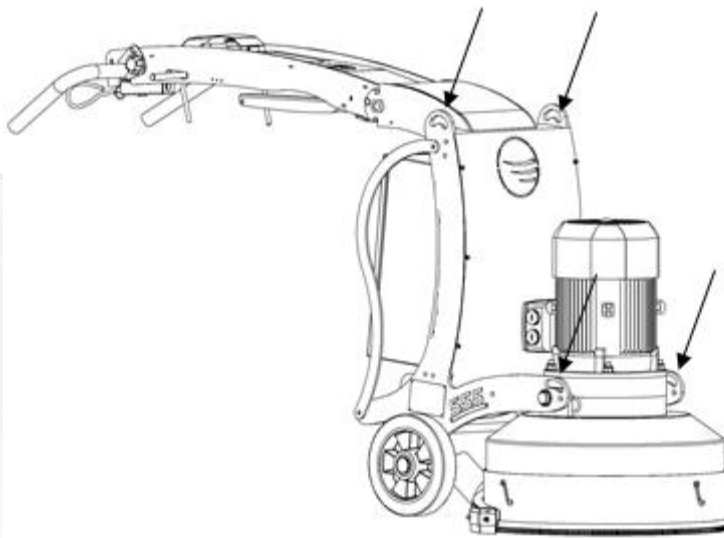




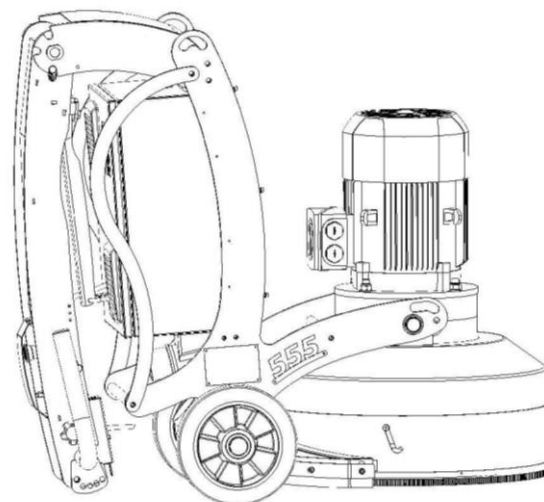
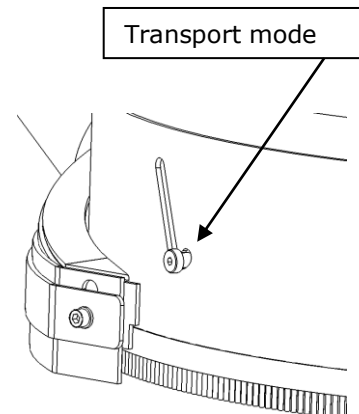
- e) When lifting the machine from the ground, always use the lowest lifting speed. The cables must first be tensioned at this speed; they must not be slack when the machine is lifted from the ground.
- f) During hoisting make sure to be at a safe distance from the machine with the most optimal view on the machine and working environment.
- g) Never stand directly below the machine.
- h) When transporting the machine do so in such a manner that damage due to the effects of the use of force or incorrect loading and unloading is avoided.
- i) The lifting eyes can also be used to fasten the machine on a pallet or during transport.
- j) Always drive backwards when driving up to a ramp or grade, and forwards when driving off the ramp.
- k) Chock wheels for transport and keep control handle in neutral position.
- l) Don't leave the machine unsecured on jobsites.
- m) Park the machine always on a flat horizontal and levelled surface.
- n) Make sure the floating shroud is in transport mode when you transport the machine.**
- o) Make sure the electrical cable and dust hose are disconnected.
- p) Store the cleaned and dry machine in a humid free room. Protect the electrical motor from moisture, heat dust and shocks.
- q) Never use the machine for lifting persons or items.

- It is not allowed to lift the machine without appropriate appliances as a lift or crane, lift the machine with a rope on the lifting eyes as shown in imagine shown below.

Make sure the floating shroud is in transport mode when you transport the machine.



Lifting points for crane or lift



Folded in for transport



### 3.9 Signs on the machine

The following stickers are placed on the machine. Meanings of these symbols are:



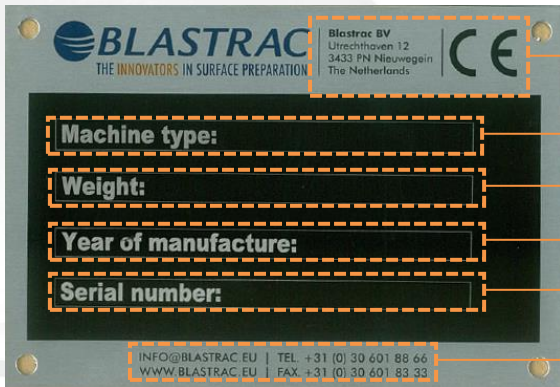
! Danger Hazardous voltage in motor even when solid state controller is OFF. Disconnect main power before servicing motor, controller or associated wiring.



Lifting point.

	Wear a dust mask class FFP2 or higher.
	Hearing protection is obliged.
	Safety glasses with lateral protection are obliged.
	CE-mark on this machine.
	Wear protecting gloves.
	Safety shoes obliged.
	Consult the manual before operating the machine.

Type plate:



	Name, address and CE mark.
	The machine type.
	The net weight of the machine in kilogram.
	The year of manufacture.
	The serial number of the machine.
	Email address, Website, Telephone & fax number.

EU Declaration of Conformity:





## 4. Initial operation

Before using the machine it is important to inspect the machine.

It is not permitted to use the machine if the safety is not checked according to the checkpoints described below.

Before switching on the machine make sure that no-one can be endangered when the machine starts up!

### 4.1 Checkpoints power supply

- Use only extension cables for extending the main cable that are sized and marked in accordance with the overall power consumption of the machine.
- Electrical cables must be fully unwind of them reels.
- No damage is permitted for electrical cables.
- Use an electrical power supply connection with earth connecting.
- Make sure the power supply is in accordance with the machine specifications.
- The main power switch on the machine must be in the "Off" position before connecting to the power supply. (Only if there is a main switch present on the electrobox.)
- If the machine is to be operated using power from a generator, the generator must be operated in accordance with the current legal regulations and directives in force. (this applies to the protective earth conductor in particular) in order to ensure that all safety devices are functioning and to eliminate possible damage to electrical components.

### 4.2 Checkpoints of machine

- Safety functions and operating functions must work correct.
- Check the diamond wings for damages and/or wear.
- Check all screws and other fasteners for tightness. No loose bolts and/or nuts are permitted.
- Check the electrical components, cables and connections for wear and/or damages.
- Dust hose connection must be reliable: use hose clamps and industrial tape.
- Dust hoses must be undamaged and free of obstructions
- Make sure that the dust bin / bigbag is empty and connected properly.

### 4.3 Manual moving of the machine

To move the machine press down the handgrips of the machine until the front part rises from the ground. It can now be pushed around on its wheels.

The machine should only be moved around when the dust hose and power supply cable are disconnected.

**WARNING!** Always make sure all rotating parts have come to a complete standstill before moving around the machine.

Be careful! Make sure nobodies feet get under the wheels. Wear appropriate safety shoes when you drive the machine to or from the work area.

### DIAMAG

When using DIAMAG adapter plates, you can replace the diamond wings without using any tools! Because of the specially designed heat resistant magnets and fixation pins, the diamond tools are fixed onto the plate, but can still very simply be replaced by hand.

Contact your Blastrac distributor for more information or check **WWW.DIAMAG.EU**





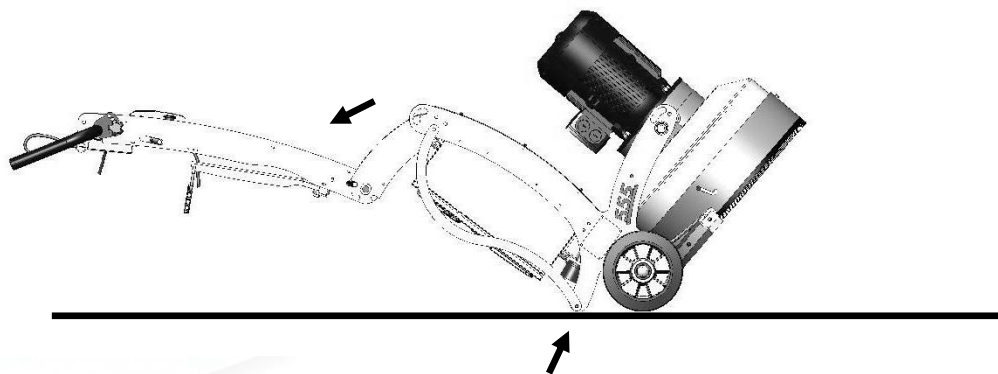
## 4.4 Changing the wings

**Warning!** Always wear Personal Protective Equipment!  
The dust can be hazardous to the health! Wear a dustmask!  
The wings can get hot! Don't risk burning your hands! Wear protective gloves!

- Pull out the mains plug before you start
- Always wear gloves and a **dust mask** of at least **class FFP3**
- Use the vacuum cleaner in order to work as dust free as possible



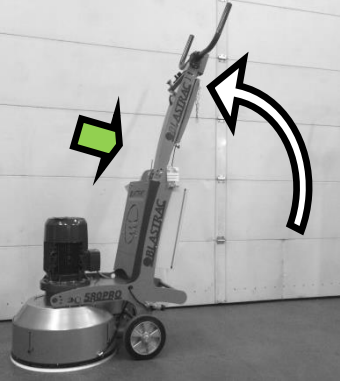
Make sure all moving parts of the machine have come to a complete standstill before changing the wings.



Correct position for changing tools.



Remove the key of the dead man's switch, press the red stop button, and unplug the machine from the power supply.  
This is to prevent unintentional start-up of the machine.

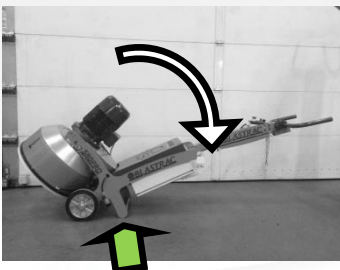


Before you tilt the machine back, make sure the electrical cable and dust hose cannot get damaged when you tilt the machine back.

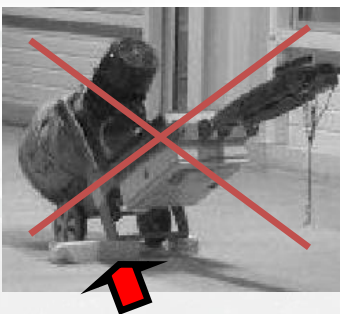


Take the locking pin out.  
Put the steering handle in its most upright position.  
Put the locking pin back in.

**WARNING!**  
This is an unstable position of the machine.  
Danger of tipping if the handle is not raised.



Tilt the machine back and lay down the machine so it is laying on the metal support underneath the electrical box.  
Make sure the machine will not fall back down. A second person can hold the handle down, to make sure the machine will not fall back down.



If there is a risk of damaging the floor-coating when tilting the machine back, you can place a piece of cloth, a sheet, a thin wooden board or something similar underneath the metal supports.  
**WARNING!** Danger of injury.  
Do not let the machine rest on thick wedges or thick wooden beams. This can cause the machine to fall back down!

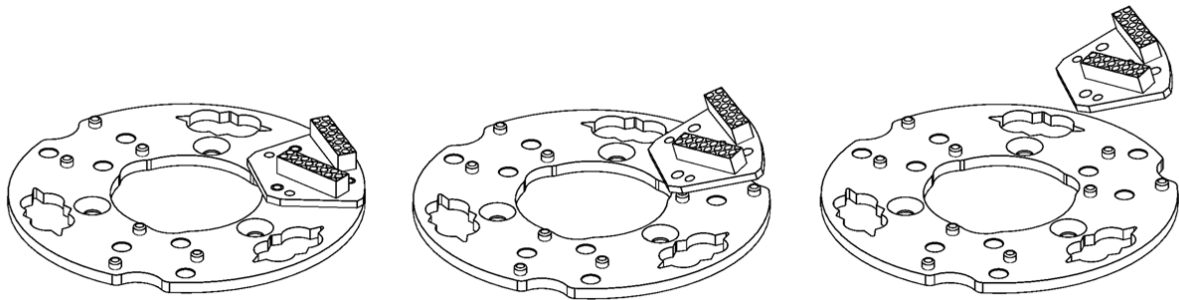


Use the vacuum cleaner to remove excessive dust.  
A tool (spatula, screwdriver) makes it easier to release the plate off the velcro.



## Removing the diamond wings

- Read chapter 3 Safety first, and wear personal protective equipment.
- Lay down the machine so it is laying on the metal support underneath the electrical box. Make sure the machine will not fall back down. A second person can hold the handle down, to make sure the machine will not fall back down.
- Remove all the dust using the vacuum cleaner.
- Grab the diamond wings at the place where the gap in the Diamag plate is and roll the wing over so the wing can be taken off of the plate. (See picture below)



## Mounting the diamond wings

- Read chapter 3 Safety first, and wear personal protective equipment.
- Lay down the machine so it is laying on the metal support underneath the electrical box. Make sure the machine will not fall back down. A second person can hold the handle down, to make sure the machine will not fall back down.
- Clean the Diamag plates using the vacuum cleaner so the diamond wings will connect well to the plate. Dirt between the plates and wings can be the cause of uneven grinding results.
- Place the diamond wings one by one on the Diamag plates.

## 4.5 Before start-up

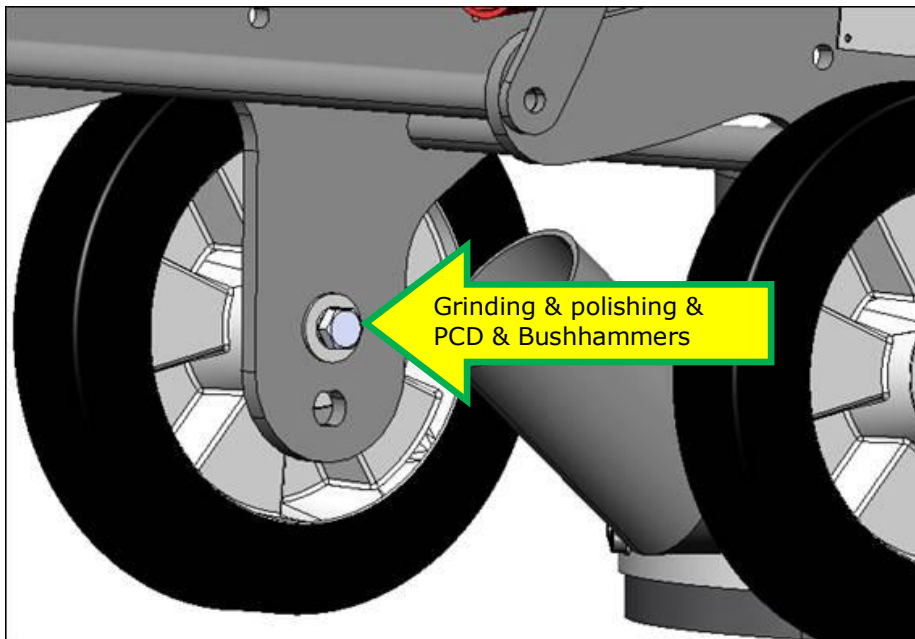
Before start-up the operating personnel must be familiar with the safety regulations given in this manual.

- Put the grinding machine and the dust collector on to the surface to be processed.
- Fit the appropriate diamond grinding wings that are required for this particular process. Please read **chapter 4.4** of this manual.
- Connect the machine and the dust collector to the electricity supply point, these electric supply points should be protected and equipped with an earth connection and earth leakage circuit breaker. In case of doubt ask the local safety officer.
- Check the dust hose for damages and obstructions. Make sure the dust bin of the dust collector unit is empty. Observe the local regulations regarding waste disposal.
- Connect the grinding machine and the dust collector unit with the flexible dust hose. Use hose clamps at the connections.
- Before grinding, clean the surface to be treated. There should not be any trash, stones, cloths, or oil on the surface.
- Remove all objects from the surface that can damage the machine. Remove reinforcing steel or other objects protruding from the surface in order to prevent damage to the machine, the seals or diamond wings.



## 4.6 Wheel height

The wheels of the BMG-555 can be set to 2 different heights for different applications.



Grinding & polishing & PCD & Bushhammers  
(Upper holes)

Starwheel cutters  
(Lower holes)



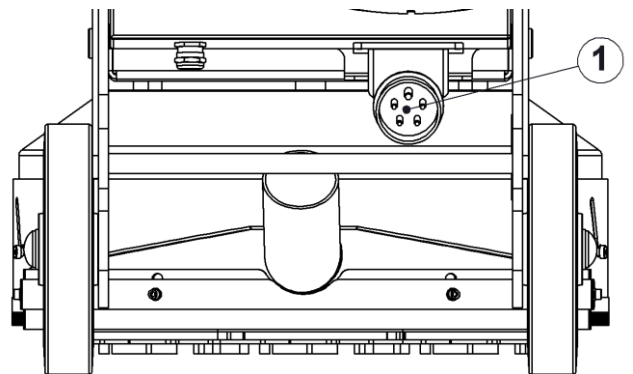
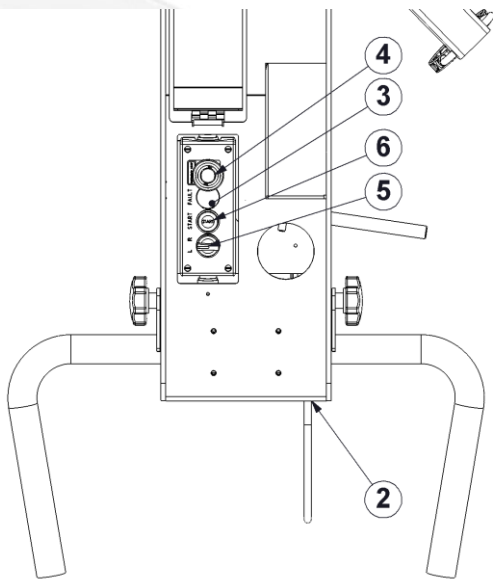
## 5. Operating

When operating the BMG-555, the following additional safety instructions must be followed closely. Before switching on the machine make sure that no-one can be endangered when the machine starts up.

### For machines without speed regulation control box:

#### 5.1 Switching on the machine

- Turn on the dust collector before switching on the machine and connect the dust hose to the machine.
- Make sure the electric component box is closed.
- Connect the power supply to the connector (1)
- Stand behind the machine and hold the handle tight.
- Fasten the cord of the deadman switch (2) on to your arm or fasten it on to your clothing.
- Check the fault light (3) on the operating panel to make sure there is no fault.
- Be sure that the emergency switch (4) is turned up.
- Turn the Left/Right button (5) to one of the positions.
- To start the machine, push the green Start button (6).



#### 5.2 Turning the machine off

- Push the red (emergency) button (4) on the electrical box.
- Wait until the machine stops rotating.
- Pull out the cord of the deadman switch (2)
- Pull the power supply out of the connector (1)
- Shut down the dust collector.





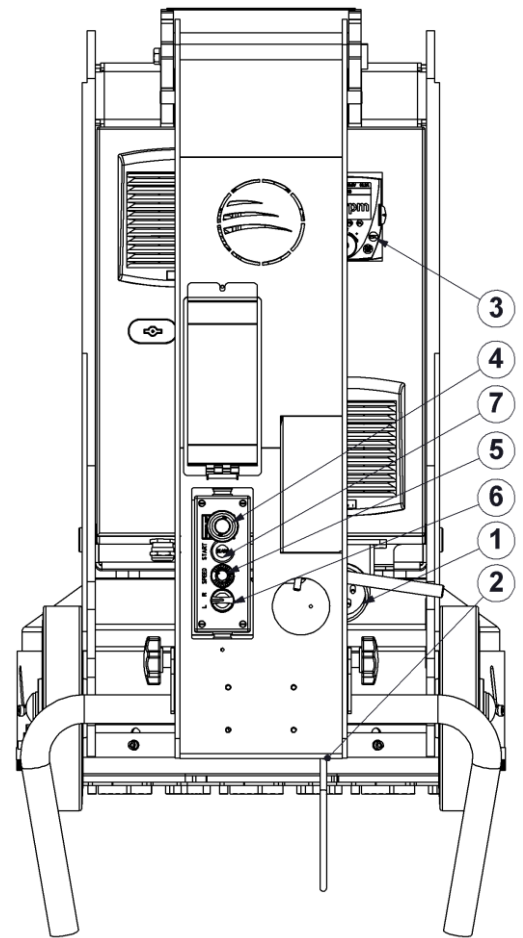
## For machines with speed regulation control box:

### 5.3 Switching the machine on

- Turn on the dust collector before switching on the machine and connect the dust hose to the machine.
- Make sure the electric component box is closed
- Connect the power supply to the connector (1)
- Turn the main switch to the right.
- Stand behind the machine and hold the handle tight.
- Put the cord of the deadman switch (2) on to your arm or put it on to your clothing.
- Check the display (3) to make sure there are not any faults or warnings.
- Be sure that the emergency switch (4) is turned up.
- Turn the speed regulation button (5) counter clockwise so the machine will turn as slow as possible.
- Turn the Left/Right button (6) to one of the positions.
- To start the machine, push the green Start button (7).
- Raise if necessary the speed of the machine with the speed regulation button (5)

### 5.4 Turning the machine off

- Push the red (emergency) button (4) on the electrical box.
- Wait until the machine stops rotating.
- Pull out the cord of the deadman switch (2)
- Turn the main switch (2) to the left
- Pull the power supply out of the connector (1)
- Shut down the dust collector.



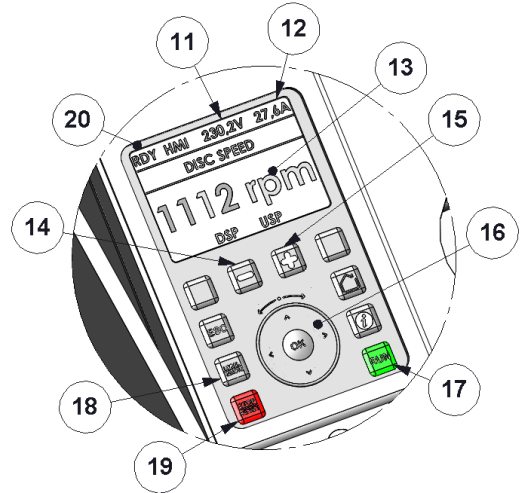
In case of emergency or operating trouble, like vibrations or strong noises, switch the machine off immediately!



## For machines with keypad control:

### 5.5 Switch on the machine

- Turn on the dust collector before switching on the machine and connect the dust hose to the machine.
- Make sure the electric component box is closed.
- Connect the power supply to the connector.
- Turn on the main power switch and check the Power supply failure indicator (For 3x230V version only).
- Stand behind the machine and hold the handle tight.
- Fasten the cord of the deadman switch on to your arm or fasten it on to your clothing.
- Check the display of the keypad to make sure there are not any faults or warnings and no EM-stop is activated (20). RDY = Ready, STO = EM-Stop activated. STO could mean the Emergency stop button or the deadman switch is activated.
- Be sure that the red stop-switch is turned up.
- To start the machine, push the green Start button (17).
- The machine will start at lowest speed of tools.
- Raise the speed of the machine by scrolling the speed regulation button (16) or Push the UP SPEED-button (15) if necessary.
- Scroll the speed regulation button (16) counter clockwise or use the DOWN SPEED-button (14) so the machine will turn as slow as possible.
- Push the CHANGE TURNING DIRECTION-button (18) to change from Left or Right turning.



### 5.6 Switch off the machine

- Push the red stop-button (19) on the control panel.
- Wait until the machine stops rotating.
- Pull out the cord of the deadman switch (8)
- Pull the power supply out of the connector.
- Shut down the dust collector.

In case of emergency or operating trouble, like vibrations or strong noises, switch the machine off immediately!

This can be done by the red stop-button (19) or the red emergency button.



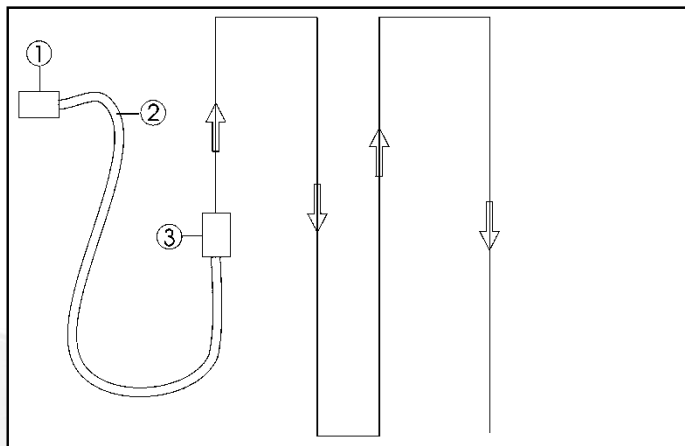
## 5.7 Operating during grinding

This machine will always have an even grinding result because of the planetary system. However it is advised to keep the machine constantly in movement for an optimum grinding result.

For soft floors it is recommended to work on high disc speed, for hard floors and the first steps of polishing it is recommended to grind with low speed of the tools.

**Contact our experts at Blastrac for the correct application of the different tools and their corresponding working speeds.**

Carry out grinding in parallel tracks in such way that the dust hose and electric cable do not become twisted. The next figure shows the recommended grind paths leading away from the dust collector.



1	Dust collector
2	Dust hose and electric cable
3	Grinding machine

The advancing speed depends on the material of the surface to be treated and the desired profiling.

Regularly check the contents of the dust collector. Always wear a dust mask of at least class FFP3 when emptying the dust bin or changing the dustbag /bigbag. Observe and obey the local waste disposal regulations!

Make sure that no vehicles, such as forklift trucks and other equipment run over the electric cable and the dust hose.

For soft floors it is recommended to work with hard bonded diamond tools, for hard floors it is recommended to grind with soft bonded diamond tools.

## 5.8 Wet grinding

The BMG-555 can also be used for wet grinding.

Be careful, the workfloor can get slippery when grinding wet. Keep all electrical cables and connections away from water.

**IMPORTANT NOTE:** Do not use the vacuum cleaner when grinding wet!

Clean the brush-sealing directly after wet grinding. It will be very hard to clean the brush-sealing when the dust-water mixture has dried up and hardened.



## 6. Maintenance

Pay attention to Chapter 3 "**Safety**" during maintenance and repair works.

Failures due to inadequate or incorrect maintenance may generate very **high repair costs** and long standstill periods of the machine. **Regular** maintenance therefore is imperative.

Operational safety and service life of the machine depends, among other things, on proper maintenance.

The following table shows recommendations about time, inspection and maintenance for the normal use of the machine.

Operating hours/ time period	Inspection points, maintenance instructions
12 h after repairing	Check all accessible screw connections for tight seat.
Daily and prior to starting work	Check if all safety devices are working adequate. Check the brush sealing for damages and/or wear. Check the hose to the dust collector for damage and obstructions. Clean the electrical box inside and outside. Check the electric connections for sediments of dirt or foreign bodies. Check the electric motors for dirt and other contaminants. Check the conditions of the wings /discs.
Weekly	Check the buffers of the diamond plates.
Every 3 months	Clean the complete machine with a damp cloth.
Annually	Full overhaul and cleaning of the complete machine.

The time indications are based on uninterrupted operation. When the indicated number of working hours is not achieved during the corresponding period, the period can be extended. However a full overhaul must be carried out at least once a year.

Pay attention to unusual noises or strong vibrations. Check for the cause of every big change. Call a technician if you have doubts about the cause or when a repair without a technician seems not possible without damages. Only use genuine Blastrac spare parts.

Due to different working conditions it can't be foreseen how frequently inspections for wear check's, inspection, maintenance and repair works ought to be carried out. Prepare a suitable inspection schedule considering your own working conditions and experience. However a full overhaul must be carried out at least once a year.

Generally the grinding machines require very little special attention regarding its maintenance. After using the machine, clean the machine with the dust collector, so there is no dust on or in the machine. See to it that any wastes or fibre residues do not remain in the area of the grinding discs. Our specialists will be happy to assist you with more advice.

**Prior to any repair works on the machine and its drives, secure the machine against unintentional switching on. Put the machine to its safety off position.**

**Follow additional operating and maintenance instructions of Original Equipment Manufacturers if included during your service and maintenance work.**



### Further is advised:

- Prevent premature wear by keeping the machine as dust free as possible, for these reasons clean the machine regularly with a vacuum cleaner.
- Clean the machine every day with air and non-aggressive materials.
- Never use a high pressure water cleaner to clean the machine.
- Store the cleaned and dry machine in a dry and humid free room. Protect the electrical motor from moisture, heat, dust and shocks.

All repair work must to be done by qualified Blastrac personnel, this to guarantee a safe and reliable machine. Work only with original Blastrac parts.

Any guarantee on the machine is expired when:

- Non original Blastrac parts have been used
- Repair work is not done by qualified Blastrac personnel
- Changes, add on's or conversions are undertaken without written permission of Blastrac BV

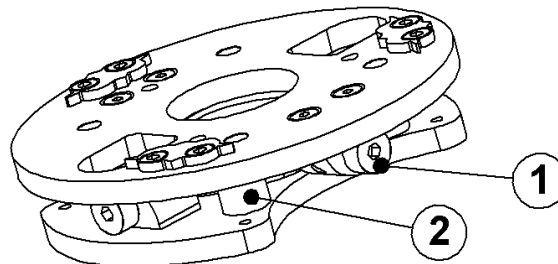
Dust in the electrical box can damage the electrical components; due to this the electrical box has to be cleaned every day from inside and outside.

Clean the fans and filters from the inside of the electrobox with compressed air and a vacuum cleaner towards the outside air.

Check regularly to see if the diamond wings are in good condition. Replace immediately when these are damaged or worn out.

## 6.1 Buffer system

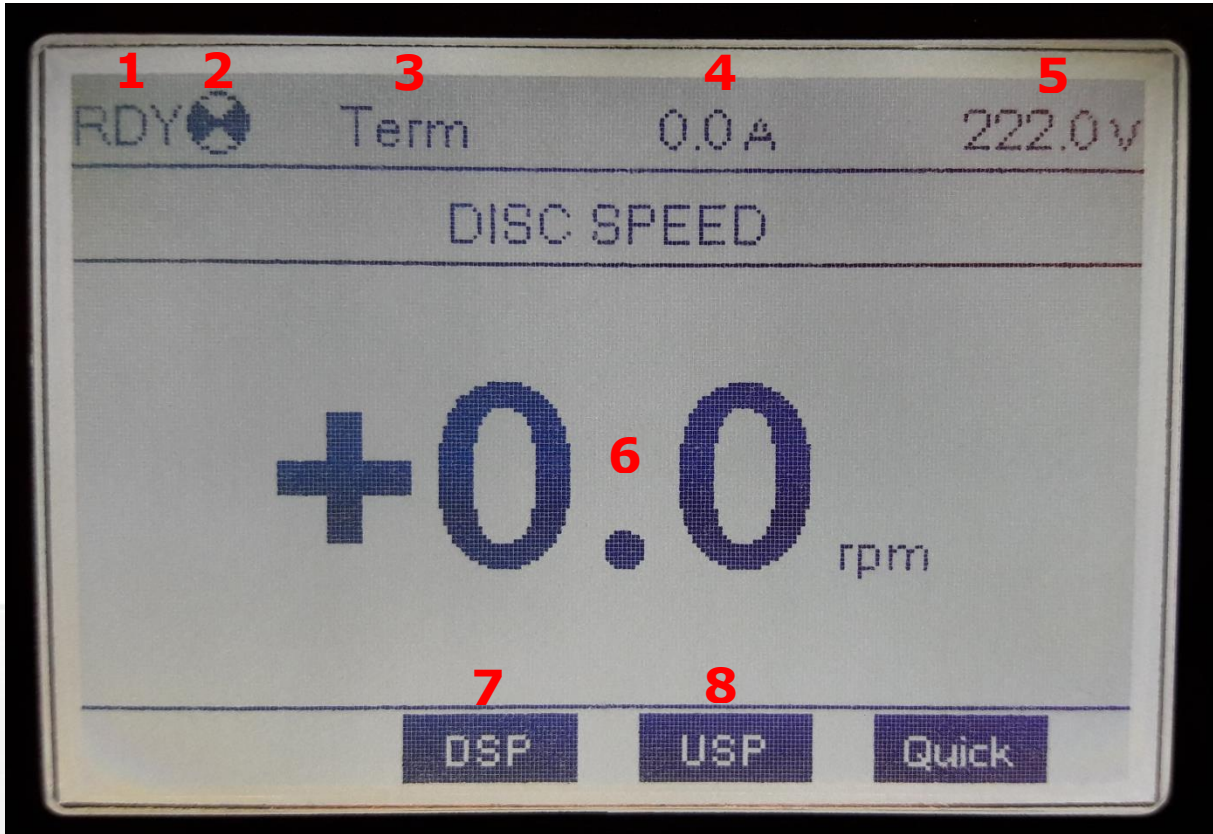
Check weekly if the diamond plates don't have too much space in the buffers. If the diamond plate has too much space, tighten the bolts (1) or replace the buffers (2). There is also the possibility to add double buffers to have a more rigid grinding head. Check service manual for more information.





## 6.2 Control keypad

Picture 0-1 shows a number of important symbols and indicators displaying the status of the machine, the indicators are described in table 1.



Picture 0-1 The ready screen

Number	Description
1	This is the current state of the drive: <b>RDY</b> : means ready; the drive is ready to use. <b>STO</b> : Safety Stop; the drive has no input on the STO contact. <b>ACC</b> : Acceleration; the motor is accelerating to reach its set value <b>DEC</b> : Deceleration; the motor is decelerating to reach its set value or stopping. <b>NST</b> : Freewheel stop; Stopping the drive. There could also be some other errors shown.
2	The symbol that the background software is on. When it is not filled with two black quarters, the background software is not working and the machine will not run.
3	This is the type of command channel. In this case " <b>Term</b> ", this is when the motor is stop, when it is running it will change to <b>HMI</b> .
4	Motor current in Ampere.
5	Supply voltage in Volt.
6	Rotation speed of diamond discs
7	Down Speed button for lowering speed of diamond discs
8	UP Speed button for speeding up the diamond discs

Table 1



When the motor is running the screen will change a bit, in the top left corner RUN will appear and there should be a current greater than 0,0A. The most important change is the parameter value, in the case of picture 0-2 this is the set disk speed, the value marked in black is the value you can adjust with the control wheel.



Picture 0-2 Running screen

## Menu's

When the main screen is on and "Esc" is pressed you will enter the main menu:

1. **DRI:** Drive menu; the drive parameters and settings
2. **Identification:** Drive information, type and software version.
3. **Interface:** settings for the display language and access level.
4. **TRA:** store and load the configuration on the remote.
5. **Password:** to unlock the remote.

## Hour timer

The operating time of the machine can be found if you follow the steps below:

1. DRI
2. Display
3. Power-On time;
  - o **APH:** Energy consumption.
  - o **Motor Run Time:** Elapsed run time of the motor (time that the motor has been switched on).
  - o **Power-on time:** Elapsed power-on time (time that the drive has been switched on).
  - o **Time Counter Reset:** can reset, depending on the selection, one of the tree above values.

## Fault history

The fault history of the machine can be found if you follow the steps below:

1. DRI
2. Display
3. DGT
4. Error history;
  - o Here are the last 10 errors shown, by selecting one there is more info found about the fault, such as:
    - Driver state
    - Motor current
    - DC bus voltage

## Language

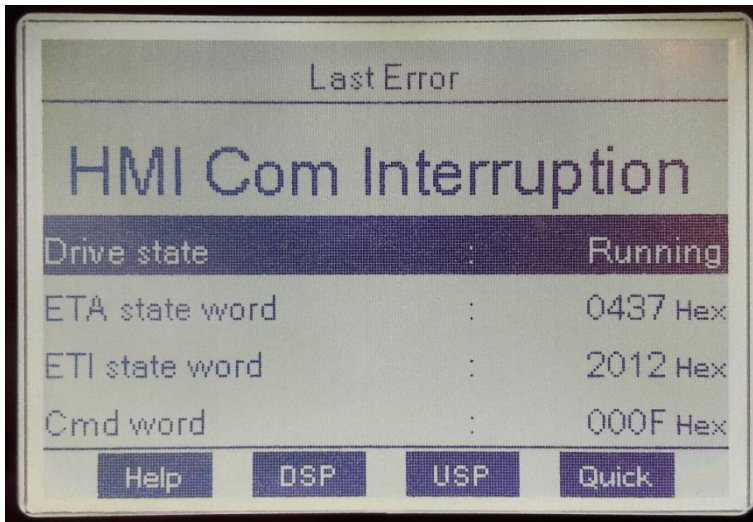
To change the language of the machine follow the steps below:

1. Interface
2. Language
  - Select the language you want to use.



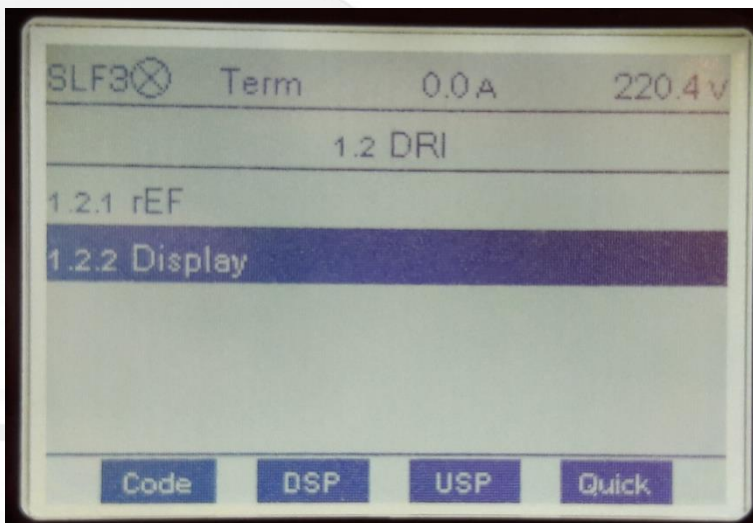
## Fault handling

If there is an alarm the first thing to do is press help (F1) on the screen for a short explanation and a possible solution. If the solution is not working or not possible to execute you can always try to restart the machine. Restarting is done by turning the switch to off and wait for the screen to go dark then wait a minute and switch the power back on.



**Picture 0-3 The help button with a fault**

When there is a failure it will always show itself in the top left corner of the screen, as shown in picture 0-4.

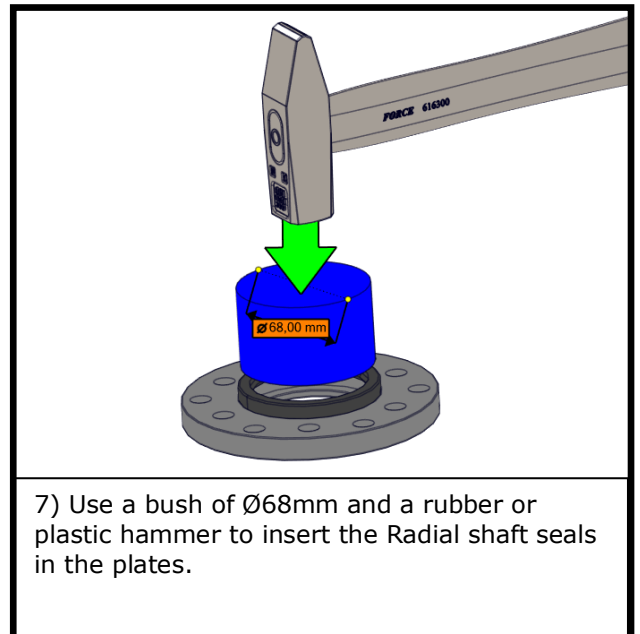
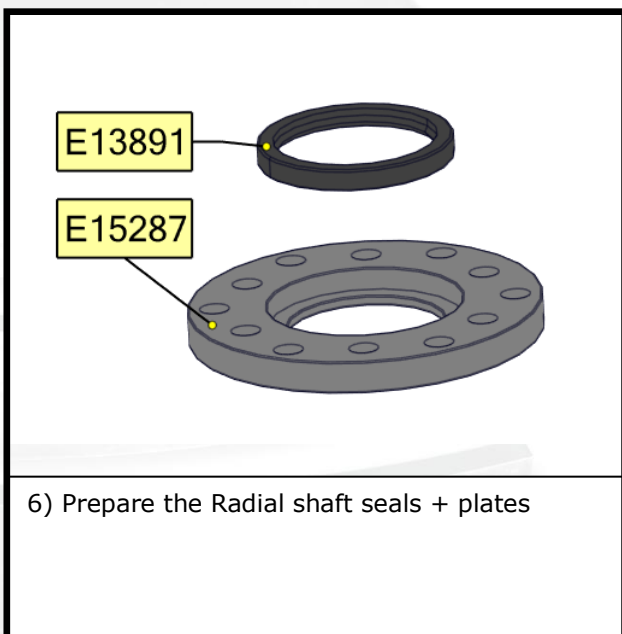
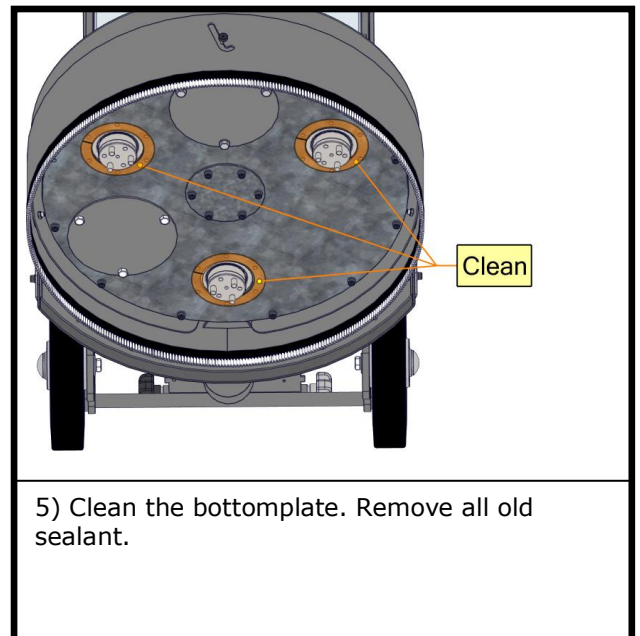
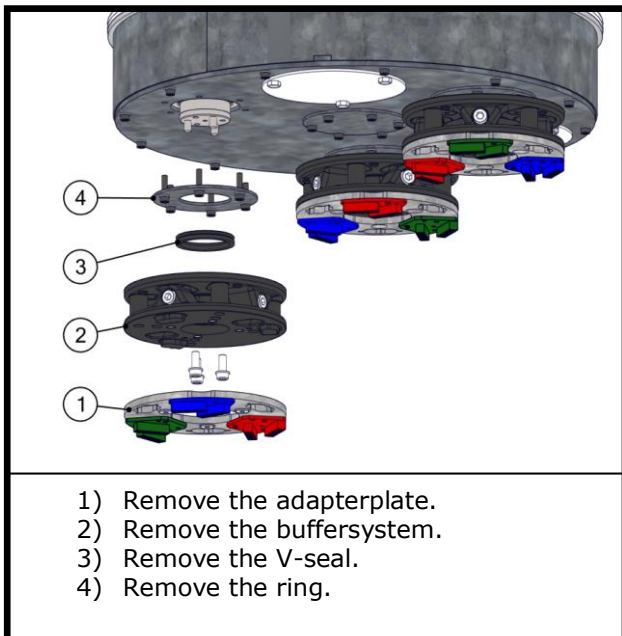


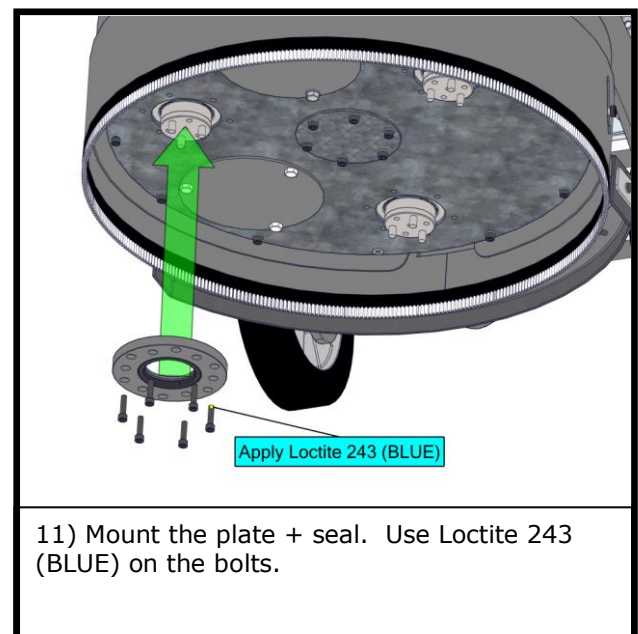
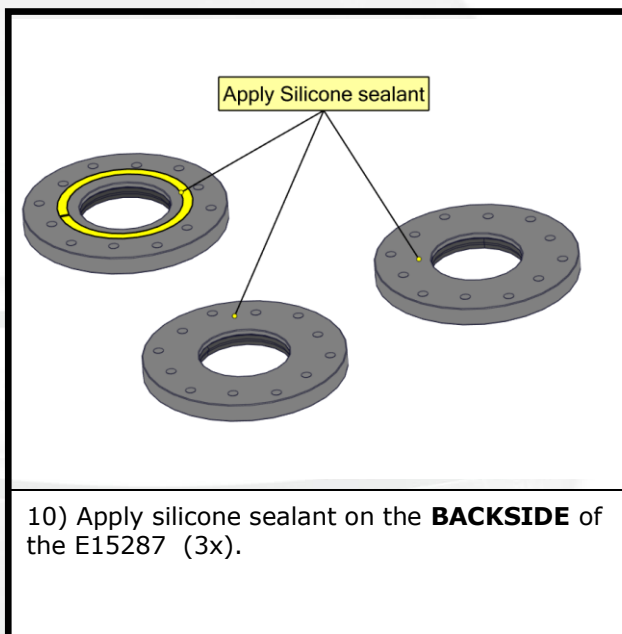
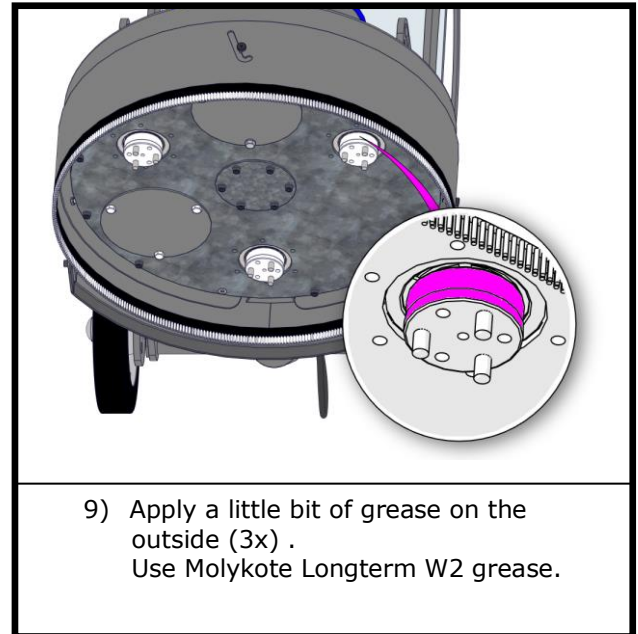
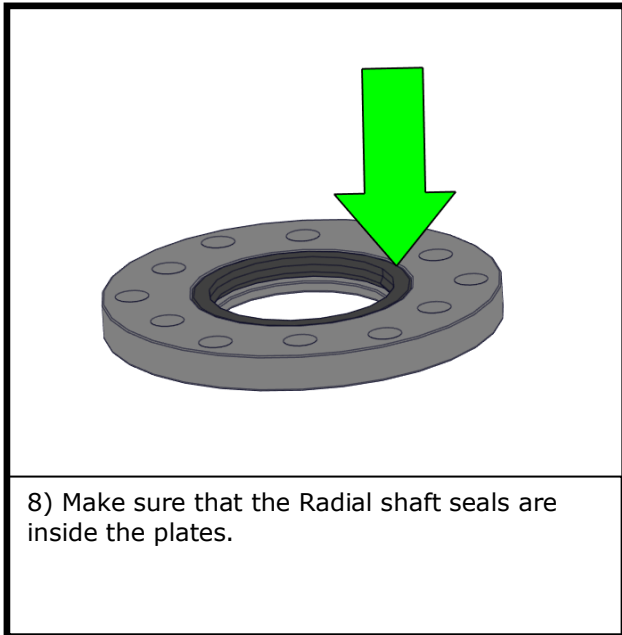
**Picture 0-4 An alarm in the top left corner**





### 6.3 Replacing the v-seal for the radial shaft seal protection system







## 7. Troubleshooting

<b>Fault</b>	<b>Possible cause</b>	<b>Remedy</b>
Excessive vibration or/and Unusual noises	Imbalance due to worn or broken grinding tools.  Worn out buffer rubbers  Defective bearing.	Replace all worn or broken parts.  Replace all worn or broken parts.  Check the bearing on the axle drive shaft and replace if necessary.
Reduced or no grinding performance	Grinding tools have reached the maximum permissible wear.  Inappropriate grinding tool for the application.	Replace the worn parts.  Replace the grinding tools with appropriate grinding tools for the surface to be treated.
Motor does not switch on	Missed phase  Defective Component.  Pushed stop button during first start up. (auto-tuning)	Check the mains power supply and try to switch on again.  Find fault and replace defective component.  Remove power supply and wait for 1 minute until all power is out of the machine. Connect again to power supply and start machine.
Motor triggers while running	Motor protections switch triggered because of overload .  Motor has a defect.	Reduce additional load .  Check the motor.





## 8. Technical data

	<b>BMG-555 1x 230 volt</b>	<b>BMG-555 3x 400 volt</b>	<b>BMG-555 3x 400 volt</b> Control box with speed control and Keypad control machines
Power consumption	4,0 kW max.	7,5 kW max.	7,5 kW max.
Electrical consumption	1x 230 Volt	3x 400 Volt	3x 400 Volt
Electrical frequency	50/60 Hz	50/60 Hz	50/60 Hz
Electrical connection	16A 2P+PE	32A 5P/6h	32A 5P/6h
Length	2080 mm	2080 mm	2080 mm
<i>Folded in</i>	1120 mm	1120 mm	1120 mm
Width	595 mm	595 mm	595 mm
Height	1155 mm	1155 mm	1155 mm
<i>Folded in</i>	1155 mm	1155 mm	1155 mm
Weight machine	298 kg	282 kg	298 kg
Weight grinding head	193 kg	180 kg	193 kg
Diamond discs	3x Ø185 mm	3x Ø185 mm	3x Ø185 mm
Working speed	350-950 rpm	900 rpm	350-1100 rpm
Work width	555 mm	555 mm	555 mm
Sound emission pressure level (A-weighted) Uncertainty	$L_{pA} = 76dB(A)$ 2,5dB	$L_{pA} = 76dB(A)$ 2,5dB	$L_{pA} = 76dB(A)$ 2,5dB
Hand-arm vibration emission level	Less than 2,5m/s <sup>2</sup>	Less than 2,5m/s <sup>2</sup>	Less than 2,5m/s <sup>2</sup>
Dust hose connection	75 mm Ø	75 mm Ø	75 mm Ø

The electrical diagrams of the electrical system are placed inside the electrobox.

Design and specifications are subject to change without notice by Blastrac.



### IMPORTANT NOTE:

The indicated values are measured on new machines. Sound and vibration levels will vary in different circumstances. Area influences like open outside or closed inside space, ambient temperature, the surface to be treated, etc. will give different values at all time.

The declared vibration and sound emission levels represent the main applications of the machine. However if the machine is used with different accessories or poor maintenance, the vibration and sound emissions may differ. The values may be used for a preliminary assessment of exposure.

For a precise estimate of the vibration and sound load, the times should also be considered during which the machine is switched off or even running, but not actually in use. This may significantly decrease the exposure level over the total working period. Hearing protection is recommended with the use of this equipment.

## 8.1 Extension cables

Cable length	Cross section			
	≤ 16 A	≤ 32 A	≤ 63 A	≤ 125 A
Calculated at a pre-fuse GG:	16amp*	32amp*	63amp*	125amp*
> 20m	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	10 mm <sup>2</sup>	25 mm <sup>2</sup>
20m > 50m	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	10 mm <sup>2</sup>	25 mm <sup>2</sup>
50m > 75m	4 mm <sup>2</sup>	6 mm <sup>2</sup>	16 mm <sup>2</sup>	35 mm <sup>2</sup>

\*The cross-sections need to be re-calculated when using any other type or size pre-fuse than mentioned.

Old equipment contains valuable materials which are valuable for re-processing. **The machine parts must not be thrown away in the normal household waste**, but should be disposed of at a suitable proper collection system, e. g. via your communal disposal location. This way the materials can be re-used in an environmentally responsible manner.

Despite the fact that this guide is made with care, Blastrac takes no liability for errors in the manual and the possible consequences. We are naturally very interested in your findings and additions.

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