



Original instructions in English

# OPERATING INSTRUCTIONS BG-250E, BG-250P, BG-250A, BG-250 TWIN VERSION 2.6





#### **Inspection comments**

Inspection before initial operation on:	
By:	
Date of initial operation:	
Serial number & Year of manufacture:	

#### Recurring inspections / maintenance log

Date / Hour counter	Findings	Repairs / Cleaning	Test	
			on	Ву*
			0	2,

\*Competent person



Contact

### **Table of contents**

	Maint	enance log	2
1.	Intro	luction	4
2.	Machi	ne description Accessories	<b>4</b> 6
3.	Safety 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10 3.11	Work area safety Electrical safety Personal safety Machine safety Grinding safety Dust collector safety Petrol version safety Battery safety Asbestos safety Maintenance safety Transport safety	7 7 7 8 8 9 9 10 10 11
4.	3.12  Initial 4.1 4.2 4.3 4.4 4.5	Signs on the machine  I operation Checkpoints of electrical safety Checkpoints of machine safety Checkpoints of work area Manual moving of the machine Changing the diamond disc	13 14 14 14 14 14 15
5.	<b>Opera</b> 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8	Before switching on Checking and correcting the turning direction Switching on the E-version Turning off the E-version Switching on the Petrol-version Turning off the Petrol-version Asbestos version Operation with bushhammer tools Operating during grinding	16 16 16 16 17 17 18 19 22
6.	<b>Maint</b> 6.1 6.2 6.3	enance Replacing the flexible coupling Other maintenance Differential pressure switch	23 24 25 25
7.	Troub	leshooting	26
8.	Techn	ical data	27



#### 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.

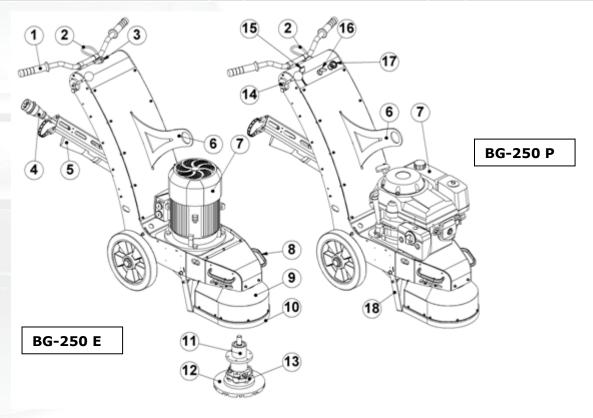
This machine is designed for industrial use by professionals. Only authorized and trained personnel may operate this machine. This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge. **Blastrac BV**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

#### 2. Machine description

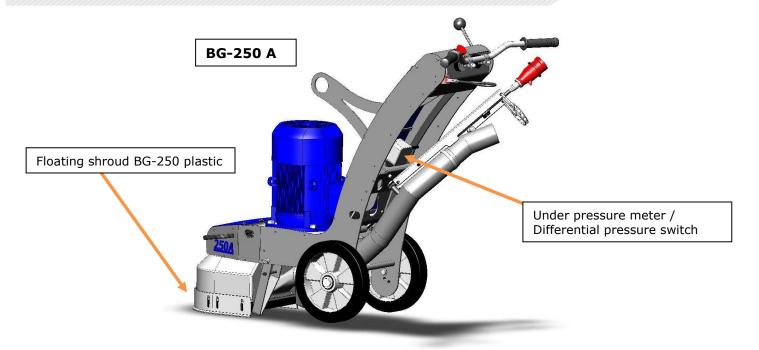
The **Blastrac** grinding machine BG-250 is an electric or petrol driven floor grinding machine for treating horizontal surfaces. The machine has a rotating adapter plate where the diamond disc can be fixed on The rotating parts are covered by a protection cap with a connection for a dust hose. The machine 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.

The BG-250 can be used on almost any floor to plane, to remove coatings or glue residues or to make ready for coatings. This machine may not be used on wood.

1	Steer handle	7	Drive motor	13	Flexible coupling
2	Cord & key for deadman switch	8	Lifting handles	14	Lever handle
3	On / Off emergency switch	9	Dust cap	15	Gas throttle
4	Socket with phase inverter	10	Brush for dust cap	16	Contact switch
5	Dust hose connection	11	Bearing unit	17	Stop button
6	Lifting eye	12	Grinding disc	18	Machine support







**The BG-250A** can be used to remove material which can be potentially dangerous for health, for example asbestos. The BG-250A has an additional safety feature: the under pressure meter (differential pressure switch) which monitors the suction power of the dust collector. If the connected dust collector does not have enough suction power or it is turned off, the machine will turn off automatically. The machine can only be operated when the suction power is adequate to ensure that there is no release of asbestos fibres into the air.

The normal brush sealing for the dust cap has been replaced by a plastic floating shroud. This will save precious time and money when the machine has to be cleaned after use in asbestos.

**The BG-250 TWIN** is specially designed for fast and easy switching between normal grinding and using bushhammer tools. The special TWIN electromotor has 2 settings: LOW and HIGH speed. The HIGH speed setting gives the normal RPM's for grinding and the LOW speed setting has the perfect RPM's for bushhammer tools. This feature eliminates the need for changing the pulleys every time you want to switch between normal grinding and bushhammer tool operation.

The BG-250 TWIN is standard delivered with:

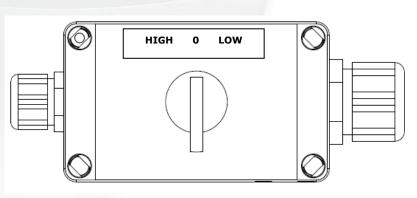
+ Floating shroud for bushhammer tools

(E12525)

+ Machine support Long

(E12634)

**BG-250 TWIN** 







#### **Accessories**



E01419 Disc 250mm hard Blue
E01402 Disc 250mm middle Green
E01417 Disc 250mm soft Red



 BG707116
 Stardisc Blue 250mm

 BG707117
 Stardisc Green 250mm

 BG707118
 Stardisc Red 250mm

 BG707114
 Stardisc Black 250mm



**E09250** ARROW GRINDING DISC Ø250 MM



**BG707115** BLUE PREMIUM DISC Ø250



BG707250-1 PCD GRINDING DISC Ø250 MM

(For soft sub-floors)



E12020-250PCDG PCD GRINDING DISC Ø250 MM

(For hard sub-floors)



**005014SR** SUCTION HOSE Ø76 MM



**E07463**Cutterplate 250 cpl.with bush hammers



E12634
MACHINE SUPPORT LONG



**E12525**FLOATING SHROUD FOR BUSHHAMMER TOOLS



#### 3. Safety

#### 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 clean, make sure to remove all stones, screws etc..

  Any stones, screws, bolts, pieces of wire etc. could cause serious damage to the machine if it gets inside the machine!
- e) Make sure there is enough ambient light on the work area. Cluttered or dark areas invite accidents.
- f) 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.
- g) 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.
- h) Never use the machine when the surface is not clear and if there is a risk of stumbling or tripping.
- i) Remove electrical cables and dust hose(s) from the surface to be treated.
- 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.
- I) Never stay in the rain with the machine.
- m) Check if there are any obstacles that can snag the cables when the machine is moving.
- n) 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 compounds or diamond discs.
- o) 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. (Except for the Asbestos version.)
- p) It is necessary to provide for an adequate air change rate L in the room if the exhaust air is returned to the room. Comply with the National regulations.
- q) 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.

#### 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 machine 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.
- Do not abuse the cables. Never use the cables for carrying, pulling or unplugging the machine. Keep cables away from heat, oil, sharp edges or moving parts. Damaged or entangled cables increase the risk of electric shock. Do not fold the cable or clamp it.
- m) Don't pull out the power supply cable out by the wire, but by the connector.
- n) Be careful with water on the treated surface. Electrical cables must not come into contact with water.
- o) The main power switch on the machine must be in the "Off" position before connecting to the power supply.
- p) During a long standstill of the machine, pull out the main plug.
- q) 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
- -Ear 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) Personnel must tie back long hair and not wear loose clothing or jewellery including rings.
- d) Stay alert, watch what you are doing and use common sense when operating the machine.
- e) The cord of the deadman switch key should always be fastened on your arm or on to your clothing.
- f) Pull out the key of the deadman switch before any inspections, adjustments and/or maintenance work is started.
- g) Always seek professional medical attention immediately in case of injury.
- h) 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) Do not use the machine when it is damaged.
- f) Do not **open** or **remove protective guards** while driving gears are running.
- g) The machine, specially the handle grips must be dry and free of fats/oils.
- h) 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.
- All repair work has to be done by qualified Blastrac personnel, this guarantees a safe and reliable machine.
- j) Always use original Blastrac spare parts, grinding disks 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.
- k) Check the rotating direction of the motor before operation. The correct direction is given with an arrow on the housing of the motor.
- 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.
- m) In the event of operational malfunctions the machine must be shut down immediately and secured!
- n) Never use the machine without a suitable (Blastrac) dust collector!



#### 3.5 Grinding safety

- a) The machine contains rotating parts, which are protected with a 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) Always put the machine on the machine support which is made especially for this reason.
- e) Make sure the brush seals are in good condition, this to avoid dust escaping.
- f) Make sure the diamond disc is not damaged or worn out.
- g) Always pull out the main plug before u start changing the grinding disks or polishing pads.
- h) 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.
- i) When changing the disks u should wear Personal Protective Equipment like a dust mask, safety goggles, gloves, protective shoes, and close fitting protective clothing.
  - Use the vacuum cleaner while changing the discs to prevent excessive dust.

#### j) Caution! The grinding disc will heat up during grinding, don't risk getting burned, always wear protective gloves when handling them!

- The machine contains rotating parts; because of this <u>never</u> pull the machine backwards with a turning motor.
- Be careful with the machine and pull or let down the machine slowly, big shocks can damage the electrical parts.

#### 3.6 Dustcollector safety

- a) Always use a Blastrac dust collector 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) When working on or around **carcinogenic or pathogenic substances**, the dust collector must be fitted with a HEPA filter.
- c) Read the operating instructions of the dust collector before using it.
- d) The dust container/bag of the dust collector must be emptied regularly. Comply with the local waste treatment regulations considering the removed material.
- e) The dust hose must be connected properly with a hose clamp and industrial tape.
- f) The dust hose must be undamaged and free of obstructions.
- g) Always switch on the dust collector first!

#### 3.7 Petrol version safety

- a) Make sure there is no oil or petrol leaking out of the petrol engine.
- b) Always make a pre-operation inspection before you start the engine. You may prevent an accident or equipment damage.
- c) Look for signs of damage and remove any excessive dirt or debris.
- d) To prevent fire hazards and to provide adequate ventilation, keep the engine at least 1 meter (3 feet) away from buildings and other equipment during operation.
   Do not place flammable objects close to the engine.
- e) Anyone who is not operating this machine must be kept away from the area of operation due to a possibility of burns from hot engine components. Parts will remain hot for a while after stopping the engine. Let the engine cool before transporting it or storing it indoors.
- f) When transporting or storing the engine, turn the fuel valve OFF and keep the engine horizontal.
- g) Know how to stop the engine quickly, and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.
- h) Do not place flammable objects such as gasoline, matches, etc., close to the engine while it is running. Do not place anything on the engine.
- i) Refuel in a well-ventilated area with the engine stopped. Gasoline is highly flammable and explosive under certain conditions. Let engine cool before refueling.
- j) Do not overfill the fuel tank. There should be no fuel in the filler neck.
- k) Do not smoke or allow flames or sparks where the engine is refueled or where gasoline is stored.
- ! Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust gases. Never run the engine in a closed garage or confined area! Always wear a dust mask.



- Breathing carbon monoxide can cause unconsciousness or death.
- m) If any fuel is spilled, clean it up completely and allow petroleum vapours to dissipate before starting the engine.
- n) Make sure the fuel and oil level are correct and that the filler cap is closed securely.
- o) Don't leave the machine laying backwards for a long time, because this may result in fuel spillage.

#### READ THE OPERATING INSTRUCTIONS OF THE PETROL MOTOR BEFORE USING IT!

#### 3.8 Battery safety (12V)

- a) Only use Blastrac approved batteries. Blastrac cannot guarantee the safety of the machine when other batteries are used.
- b) Every service work on batteries should only be done by trained personnel.
- c) The battery contains lead-acid, do not disassemble, heat above 60°C, or incinerate.
- d) Immediately flush eyes with cold, fresh water for a minimum of 15 minutes if electrolytic acid comes in contact with eyes. Seek professional medical attention immediately.
- e) For work with the battery you need to remove all metal jewelry like rings, watches, necklaces etc. They can be a cause of serious burns.
- f) The old battery should be recycled. Batteries contain harmful materials, like lead en sulphuric acid. These materials form an environmental and health hazard. Therefore it is imperative that they are recycled responsibly in accordance with local disposal and environmental regulations.

#### 3.9 Asbestos safety

#### a) Always check and comply with the local authorities and regulations!

- b) Employees that are responsible for the execution of the asbestos removal must be trained and certified accordingly.
- c) Operators and other third parties that are involved in asbestos removal and in that context are present in the work area must have sufficient knowledge of the risks with respect to asbestos.
- d) Such persons must (according to the labour regulations) proven to be instructed (information and education) about the health risks of working with (or at) asbestos (removal) and the measures for personal protection with regard to possible exposure to asbestos.
- e) The operator must know the usual procedures when leaving the working area, including the visual inspection en cleaning of the machine being used.
- f) The operator must use respiratory protection which is sufficient for work with asbestos, and must have knowledge of the correct HEPA filters that are to be used.
- g) If there is a possibility that asbestos fibres are released, they shall be collected at the exit or point of origin and then be disposed of without risk to human and environment according to the local regulations.
- h) If it is not possible to completely collect the contaminants, additional ventilation and filtration measures must be taken.
- i) At the end of work the complete machine including the dust collector, tools, work equipment and the work area must be carefully cleaned according to local regulations.
- j) Objects contaminated with asbestos fibres that cannot be cleaned must be moistened and eliminated properly. After cleaning the work area must be adequately ventilated.
- k) Extracted air must be guided and cleaned so that asbestos fibres are not released into the breathing air of other employees.
- I) The dust produced and collected must be transported in dustproof containers. Decanting is not permitted.
- m) The extracted air which is released back into the outside air may not exceed a fibre content of 1000 F/m<sup>3</sup>.

  The dust collector must be a type-approved industrial vacuum cleaner or dust collector with HERA filter.
- n) The dust collector must be a type-approved industrial vacuum cleaner or dust collector with HEPA filter and meet this criterion.
- o) It must be ensured that the working area is supplied with sufficient outdoor air (fresh air).
- p) For activities involving materials containing asbestos, a recirculation of purified air in the work area are not allowed. The following activities with the industrial vacuum cleaner or dust collector recirculation of purified air are permitted: 1: Activities involving low exposure according to TRGS 519, Number 2.8 confined spaces or small-scale work to TRGS 519, Section 2.10, and 2: cleaning.
- q) the outside of the machine should be decontaminated by cleaning and vacuuming methods, de-dusted before being taken out from the hazardous zone. All parts of the machine must be considered as contaminated when they are removed from the hazardous zone and appropriate actions must be taken to prevent dust from dispersing.
- r) The machine is to be serviced and cleaned, as often as is required, but at least once a year, and if necessary, repaired by a competent person (see qualification TRGS 519, Number 5.3, paragraph 2) and checked by a maintenance company. The test result must be provided on request.



- s) The machine and dust collector used in the black area may only operate in the white area after complete cleaning, including the motor housing. For engines with bypass cooling the cooling air ducts have to be clean.
- t) When maintenance or repair procedures are carried out, all the contaminated elements that cannot be properly cleaned, must be destroyed.
- u) These elements must be disposed of in sealed bags according to the applicable regulations and in accordance with the local laws governing the disposal of such material. This procedure must also be followed when the filter has to be disposed.

#### 3.10 Maintenance safety

- a) Pull out the main plug and place it in sight, before starting inspections and repairing on the machine. Take the key of the dead man switch out of the machine.
- b) Wait for standstill of all drives before any inspections, adjustments and/or maintenance work is started.
- c) Block 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. Never use a high pressure water cleaner to clean the machine.
- g) Do not use any **aggressive** cleaning materials!
- h) Use lint-free cleaning cloths!
- i) 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.
- 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.

#### 3.11 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 net weight of the BG-250 is 146 kg. Use a crane or lift when transporting the machine, use the lifting eye of the machine.
- Before every use check the lifting eye and welds for: deformation, damages, cracks, corrosion and wear.
- d) Hold on to the steering handle until the machine is of the ground.
- 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 eye 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 of the ramp.
- m) Chock wheels for transport and always put the machine on the machine support which is made especially for this reason.
- n) 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.
- k) Don't leave the machine unsecured on jobsites.
- 1) Park the machine always on a flat horizontal and levelled surface.
- m) Make sure the electrical cable and dust hose are disconnected before transport.
- n) Store the cleaned and dry machine in a humid free room. Protect the electrical motor from moisture, heat dust and shocks.
- o) Never use the machine for lifting persons or items.



p) Only lift the machine as shown in the picture below.





#### 3.12 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.



Warning! Hot surface.













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 essential to inspect the machine.

It is not permitted to use the machine if the machine safety is not according the checkpoints 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 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 machine on.
- 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 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 connections 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 of the dust collector is empty and connected properly.
- The flexible coupling is not deformed or damaged.
- The diamond disc is not damaged.
- There is no oil or petrol leaking out of the petrol engine.

#### 4.3 Checkpoints of work area

- 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
  disc.
- When working with the petrol version, make sure there is enough ventilation in the work area!
- When working with the Asbestos version, check and comply with the local regulations!

#### 4.4 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.

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.

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



#### 4.5 Changing the diamond disc

Read chapter 3 "Safety" before changing the disk.

Warning! Always wear Personal Protective Equipment!

The dust can be hazardous to the health! Wear a dustmask!

The disk 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 an extra vacuum cleaner in order to work as dust free as possible









#### Removing the diamond disc

- Read chapter 3 Safety.
- Make sure the machine cannot start up. Remove the key of the deadman switch and unplug the power supply plug (on electrical versions) Remove the ignition key from the contact switch (Petrol version).
- 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.
- Loosen the 4 bolts with an appropriate key.
- Remove the diamond or multiflail disc.

#### Mounting the diamond disc

- Read chapter 3 Safety.
- Make sure the machine cannot start up. Remove the key of the deadman switch and unplug the power supply plug (on electrical versions) Remove the ignition key from the contact switch (Petrol version).
- 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.
- Fix the diamond or multiflail disc underneath the adapter plate and turn the 4 bolts with an appropriate key tight.





#### 5. Operating

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

# 5.1 Before switch on Checking the turning direction of the motor

- Make sure the machine is on its machine support and start the machine for a few seconds by pressing the START-button.
- Stop the machine by pressing the red STOP-button.
- Check the rotating direction of the motor (the correct direction is indicated with an arrow). The fan has to turn clockwise when looking on top of the fan.

#### Correcting the turning direction of the motor

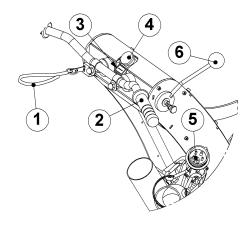
- Switch off the motor.
- Wait for a complete standstill of all drives.
- Unplug the machine from the power supply.
- Rotate the inverter switch inside the mains plug to the opposite position.
- Reconnect the machine to the power supply and check the turning direction of the motor again.

#### 5.2 Switch on the BG-250E

- Turn on the dust collector before switching on the machine.
- Connect the dust hose between the dust collector and the machine.
- Stand behind the machine.
- Make sure that the machine stands on the machine support.
- Put the cord of the deadman switch (1) on to your arm or put it on to your clothing.
- Check if the key of the deadman switch (1) is in and the stop button (4) is turned up.
- Take the steering handle (2) with one hand and push the start button (3).
- Check if the machine turns the right direction.
- Lift the machine support with the lever handle (6) and let down the machine till the diamond disc hits the floor.
- · Start grinding.

#### 5.3 Switch off the BG-250E

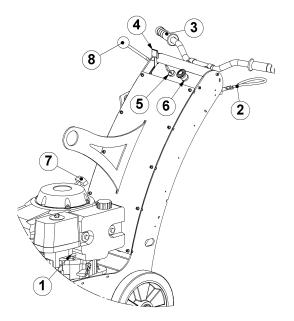
- Push the red button (4) on the electrical box
- Wait until the machine stops rotating before you set the machine on the support with the lever handle (6)
- Pull out the power supply and the key of the deadman switch (1)
- Shut down the dust collector.





#### 5.4 Switch on the BG-250P

- Turn on the dust collector before switching on the machine.
- Connect the dust hose with the machine
- Open the fuel valve (1)
- Stand behind the machine
- Make sure that the machine stands on the machine support.
- Put the cord of the deadman switch (2) on to your arm or put it on to your clothing.
- Check if the key of the deadman switch (2) is in and the stop button (6) is turned up.
- Take the steering handle (3) with one hand pull the gas throttle (4) up to the half and turn the contact switch (5) to start the engine.
- When the battery is empty, the machine could always be started with the cord (7)
- Lift the machine support with the lever handle (8) and let down the machine till the diamond disc hits the floor
- Start grinding and pull the gas throttle (4) for more grinding speed.



#### 5.5 Switch off the BG-250P

- Push the gas throttle (4) to the front.
- Push the red button (6)
- Wait until the machine stops rotating before you set the machine on the support with the lever handle
   (8)
- Pull out the power supply and the key of the deadman switch (2)
- Close the fuel valve (1)
- Shut down the dust collector.



#### 5.6 Asbestos version

The BG-250A (asbestos version) can be used to remove **carcinogenic or pathogenic substances** which are dangerous for health, for example asbestos.

To ensure the safety of the operator, the BG-250A has an extra safety mechanism. The differential pressure switch which monitors the suction power of the dust collector.

#### Safety functions:

- The grinding machine can only be operated when a dust collector with sufficient suction power is connected and turned on.
- 2. If the connected dust collector does not have enough suction power or it is turned off, the grinding machine will not turn on.
- 3. If the connected dust collector loses its suction power or it is turned off during grinding, the grinding machine will turn off automatically. (To ensure that there is no release of asbestos fibres into the air.)

The machine may only be used with asbestos when a dust collector with <u>HEPA filter</u> is properly connected.

**The differential pressure switch** is an adjustable gas-differential pressure switch as per EN 1854. The reference value (switching point) is adjusted on a setting wheel provided with a scale inside the box.

The differential pressure switch is set at -10mbar.

The differential pressure acts on the membrane, pressing it against the force of the adjusting spring and against the microswitch. The pressure switch operates without outside power. The switching apparatus reacts to the difference in pressure between the two pressure chambers and, if the pressure drops below the setpoint, switches the electrical circuit off. The pressure difference is measured inside the dust hose connection and on the side of the box. The measuring points may not be closed.

The differential pressure switch is protected with a filter, never use the machine without the filter in place. The filter has to be replaced at least once a year, by a competent person.



- 1. Make sure the machine stands on its machine support.
- 2. Connect the machine with a dusthose to the dust collector. The dust hose must be undamaged and free of obstructions. It must be connected properly with hose clamps and industrial tape.
- 3. Turn on the dust collector, the green control light on the grinding machine will light up.
- 4. Turn the grinding machine on. (See chapter "Troubleshooting" if the machine won't start)
- 5. Turn the dust collector off, the grinding machine should automatically turn off. If the grinding machine does not turn off automatically, the filter and air hoses should be checked for clogging and the differential pressure switch should be checked for the correct setting.









Clean the pressure switch with a damp cloth only. Work on the pressure switch may only be performed by specialist staff. Do not allow condensate to flow into the equipment. In case of sub-zero temperatures, malfunction or equipment failure may be possible due to icing. Avoid silicone oils and volatile silicones (siloxanes) in the environment, malfunction / failure possible. If these instructions are not heeded, the result may be personal injury or damage to property.

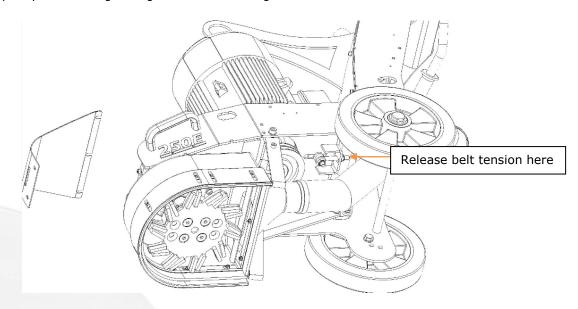


#### 5.7 Operation with bushhammer tools

The BG-250E can be used with bushhammer tools, however, in the normal configuration the RPM's of the BG-250E are too high for bushhammering. To reduce the RPM's, the pulley of the grinding motor and the pulley of the bearing unit have to be exchanged. (This only for normal electric machines. The petrol machines can adjust the RPM's with the gas throttle. The BG-250TWIN has the switch for "LOW" RPM's)

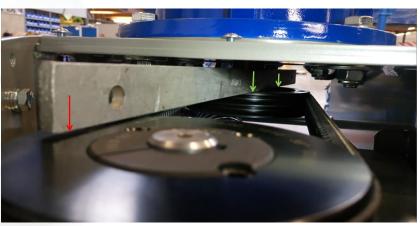
#### Changing the pulleys:

- -Remove the front cover
- -Loosen 4x M14 nuts to loosen the grinding motor
- -Release the belt tension by loosening the M10 locking nut and remove the v-belt
- -Remove the pulleys from the grinding motor and bearing unit



The pulley & taperlock must be mounted evenly with the motor-axle (as shown in picture 1):





2. The pulley & taperlock on the bearingunit must be lined out from the motor pulley to the bearingunit pulley (use an aligning ruler).

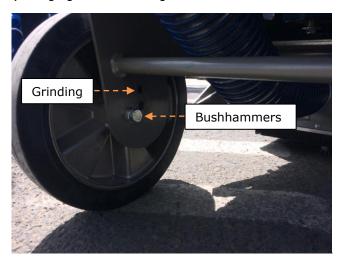
Tighten the taperlocks on 20NM + 10%.

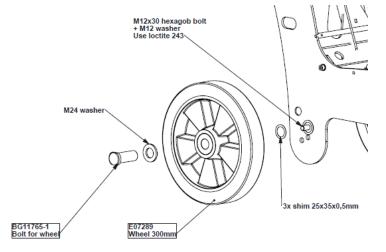


#### Change the wheels to the lowest hole in the frame.

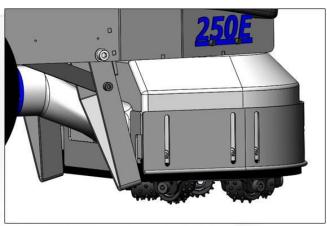
See pictures.

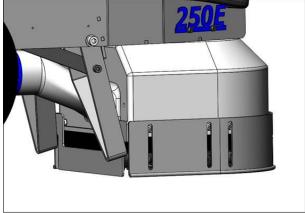
(Changing the wheel height has to be done on all BG-250 models)





#### Mounting the E12525 - BG-250 floating shroud for bush hammer tools:





1x	E12525	BG-250 floating shroud for bush hammer tools
4x	BE0655	M6 8x12 Hexagon socked head shoulder bolt 12.9

4x BE0016 M6 Plain washer 4x BE0158 M6 Lock nut

#### Mounting the E12634 - Machine support LONG:



When working with bushhammers, the normal machine support cannot be used.

Remove the normal machine support and mount the Machine support LONG.

Never let the machine rest on the bushhammers! This will deform your flexible coupling! Always use the machine support when the machine is not in use!

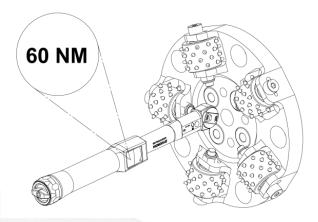


#### When you don't have the E12634 - Machine support LONG:

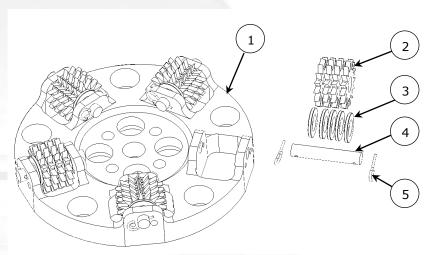
When working with bushhammers, the normal machine support cannot be used. Lay the machine backwards on its handle. Never let the machine rest on the bushhammers! This will deform your flexible coupling!

When working with the BG-250P the bushhammerplate should be removed, because the BG-250P should not be layed back on the handle for longer periods of time.

#### Fastening the bushhammers:



Use an Allen key to hold the bolt and tighten the NUT on 60NM.



1	E09580	Cutterplate 240mm for 5 tools	1	
2	BG300109	Star wheel cutter TC 50mm	20	
3	MPL48	Spacer 17x30x3	25	
4	BG300130	Axle 12mm TC	5	
5	BG300133 ??	Splitpen	10	
6	E04045-1	Cutterplate cpl ø250 with starwheel cutters (Mono plate)	1	

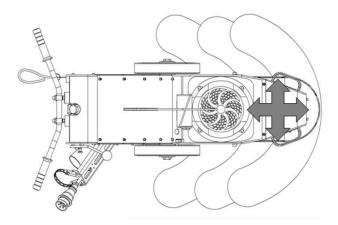
#### NOTE:

Keep in mind that working with bushhammers or cutters is tough job with a lot of vibration. Although the machine is built to last, be aware that wear parts will have a shorter lifetime when using bushhammer tools. Give your machine the extra maintenance, inspections and care to ensure maximum performance and a safe job every time.

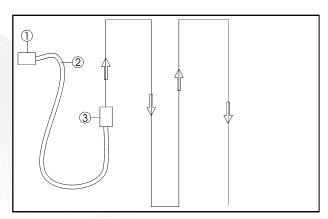


#### 5.8 Operating during grinding

To get an optimum result during grinding, the machine may not stand still. The machine must always be in movement so it does not grind too deep into the floor. Move the machine from left to right and from forward to backwards to get a nice flat result.



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 bond, for hard floors use soft bond.

Contact our experts at Blastrac for the correct application of the different tools.

In case of emergency or operating trouble, like vibrations or strong noises, switch the machine off immediately by hitting on the OFF-button!



#### 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.
Every 3 hour	Check the contents of the dust collector.
Daily and prior to starting work	Check that all safety devices working adequate. Check the electric connections for sediments of dirt or foreign bodies. Check the electric motors for dirt and other contaminants. Check the function of the residual current operated device. Check the hose connections for tightness and fixed seat. Check all hoses on the machine for damages or leakage. Make sure that the dust bin is emptied Check the diamond disk and flexible coupling for damages and wear. Check whether or not, there are any foreign matter in the coupling of the grinding disc
Every 3 months	Clean the machine with a dust collector and a damp lint-free cloth.
Annually	Full overhaul and cleaning of the complete machine. Replacement of the diff. pressure switch filter. (For BG-250A)

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.

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.

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.

Generally the grinding machine requires 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 disc. 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. The machine is in a safe condition when it cannot generate any hazard.

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



# CONSULT THE OPERATING INSTRUCTIONS OF THE PETROL MOTOR FOR ADDITIONAL MAINTENANCE INSTRUCTIONS!

#### Further is advised:

Store the cleaned and dry machine in a dry and humid free room. Protect the electrical motors 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.

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

Screws, bolts etc. that have been removed must be replaced with those of the same quality, strength, material and design.

Do not weld, flame cut or perform grinding works on or near the machine. Danger of fire or explosion exists! Provide adequate ventilation when working in a confided space. Secure the maintenance area if necessary.

Work only with original Blastrac parts.

Check regularly to see if the diamond disc is in good condition. Replace immediately the diamond disc when this is damaged or worn out.

Check if the flexible coupling is stiff enough after every day working. Replace if any deformation or damage is found.

Unusual vibrations on the machine check immediately the diamond disc and flexible coupling.

#### 6.1 Replacing the flexible coupling:

- Pull out the key of the deadman switch.
- Pull out the main plug (electric version)
- Remove the diamond disc
- Remove the dustcap
- Loose the bolts of the adapter plate and the flexible coupling
- Take a new flexible coupling (part number: 000118-3) and 12x new bushes (part number: 000118-3/BUSH) assemble this together with the adapter plate on the fixed coupling on the motor axle.
- Mount the dustcap.

Prevent premature wear by keeping the machine as dust free as possible. Clean the machine for this reason regularly with a dust collector.

Clean the machine every day with air and non-aggressive materials. Never use a high pressure water cleaner to clean the machine

Remove the diamond disc after using the machine.

# DG10-1 Bearing unit M10x55 bolt BE0050 12x 000118-3/BUSH Bushes for HD coupling 000118-3 Heavy duty couling 3x B20507 Coupling spacer bush M10x45 bolt BE0043 DG05 Adapter diamond disc

#### 6.2 Other maintenance

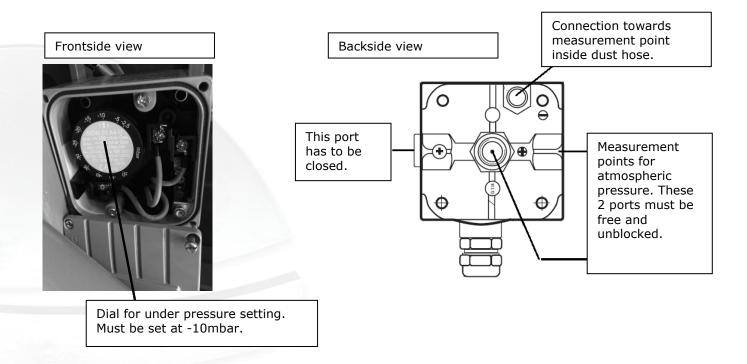


Check the seals for wear, and replace them at the time when they no longer provide a good seal against dust emissions from the machine, by this action damage to the surrounding workspace is avoided, and consequently saves additional charges from the job client.

Keep in mind that working with bushhammers or cutters is tough job with a lot of vibration. Although the machine is built to last, be aware that <u>wear parts will have a shorter lifetime when using bushhammer tools</u>. Give your machine the extra maintenance, inspections and care to ensure maximum performance and a safe job every time.

#### 6.3 Differential pressure switch

- Work on the pressure switch may only be performed by specialist staff.
- Make sure the machine is disconnected from the power mains before opening the pressure switch!
- The differential pressure switch may only be cleaned with a damp cloth.
- Avoid dust deposits on and around the switch.
- Do not allow condensate to flow into the equipment. In case of sub-zero temperatures, malfunction or equipment failure may be possible due to icing.
- Make sure that the seal surfaces are clean!
- On completion of work on the pressure switch, perform a function test.
- Avoid silicone oils and volatile silicones (siloxanes) in the environment. Malfunction / failure possible.
- If these instructions are not heeded, the result may be personal injury or damage to property.



#### Filter for differential pressure switch

The filter for the differential pressure switch has to be replaced at least once per year, by a competent person. This element must be disposed of in sealed bag according to the applicable regulations and in accordance with the local laws governing the disposal of such material.



E10318 Filter for under pressure meter



# 7. Troubleshooting

Fault	Possible cause	Remedy	
Excessive vibration And / or unusual noises	Imbalance due to worn or broken grinding tools.	Replace all worn or broken parts.	
Title y of unusual hoises	Defective bearing.	Check the bearing on the axle drive shaft and replace if necessary.	
	Debris deposit on the coupling.	Clean the coupling.	
Reduced or no grinding performance	Grinding tools have reached the maximum permissible wear.	Replace the worn parts.	
	Inappropriate grinding tool for the application.	Replace the grinding tools with appropriate grinding tools for the surface to be treated.	
Motor does not switch on	Missed phase	Check the mains power supply and next switch on again.	
	Defective Component.	Find fault and replace defective component.	
Motor triggers while running	Motor protections switch triggered because of overload .	Reduce additional load .	
	Motor has a defect.	Check the motor.	
(For Asbestos-version) Machine will not start, green control light is	The differential pressure switch prevents machine from starting up, because:		
turned OFF	the connected dust collector does not have enough suction power, or it is turned off.	Check the dust collector.	
	The dust hose is blocked or damaged.	Check the dust hose and the connections.	
	The measuring points are blocked.	Check the measuring point inside the dusthose connection.	
		Check the measuring point at the back of the differential pressure switch	
	The air hoses are blocked or twisted.	Check the air hoses and connections.	
	The filter is clogged.	Check and replace the filter if necessary.	
	The setpoint of the differential pressure switch is incorrect.	Check the settings of the differential pressure switch, must be set at -10mbar.	
(For Asbestos-version) Machine will not start, green control light is turned ON	The differential pressure switch is <u>not</u> the problem.	Check the motor and other components.	



#### 8. Technical data

	BG-250E&A 3x400V / 50	BG-250E 3x400V / 60	BG-250E 3x230V 50/60	BG-250P	BG-250E TWIN speed
Power consumption	5,5 kW	6,3 kW	5.5 / 6,3 kW	7,6 kW	3,6 / 6,1 kW
Electrical connection	400V / 50Hz	400V / 60Hz	230V / 50/60Hz	-	400V / 50Hz
Diameter diamond disc			Ø 250 mm		
Working width			250 mm		
Rotation speed	1920 min <sup>-1</sup>	1950 min <sup>-1</sup>	1950 min <sup>-1</sup>	2000 min <sup>-1</sup>	710 / 1440 min <sup>-1</sup>
Length			1301 mm		
Width			458 mm		
Height			1106 mm		
Weight	146 kg	146 kg	146 kg	142 kg	152 kg
Disc pressure	55 kg	55 kg	55 kg	50 kg	57 kg
Noise level (under load)	83dB(A)	83dB(A)	83dB(A)	90dB(A)	83dB(A)
Dust hose connection	75 mm Ø				
Petrol tank capacity	-	-	-	1 Liter	-
Oil tank capacity	0.6 L				-
Suitable filter unit	Contact Blastrac BV We will assist you with a good advice				

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

#### Vibration level:

Declaration in conformance with EN 12096: 1997

 $\begin{array}{lll} \mbox{Uncertainty} & \mbox{K} & \mbox{0,6 m/s}^2 \\ \mbox{Grinding surface:} & \mbox{Terrazzo} \\ \mbox{Tooling:} & \mbox{Green Star disc} \\ \end{array}$ 

Measurement in conformance with EN-ISO 20643: 2008 + Amd 1: 2012

Expanded uncertainty K (EN 12096 annex B)



#### **IMPORTANT NOTES:**

The indicated values are measured on new machines. Noise / vibration levels will vary in different circumstances. Area influences like open outside or closed inside space, ambient temperature, different surfaces to be treated, daily use, different tools or accessories, poor maintenance, etc. will give different values at all time and could increase the exposure level over the total working period.

The declared emission levels represent the main applications of the machine. The values may be measurements from a representative sample of technically comparable machinery. 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.

Identify additional safety measures to protect the operator from the effects of noise such as: proper and regular maintenance of the machine and the accessories, provision of proper ear protection and organization of work patterns for example by using rotation schedules.

Always use hearing protection when working with this machine.

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. No part of this publication may be reproduced and / or published in print, photocopy, or other form without prior permission by Blastrac.



#### **BLASTRAC** EUROPE

WE'RE READY TO ASSIST YOU!

#### BLASTRAC THE NETHERLANDS EUROPEAN HEAD OFFICE

Utrechthaven 12

NL - 3433 PN Nieuwegein Tel.: +31 (0)30 601 88 66 Fax: +31 (0)30 601 83 33 Email: info@blastrac.nl WWW.BLASTRAC.EU

#### BLASTRAC ITALY SALES & SERVICE CENTRE

S.S. 10 Padana Inferiore, 41 IT - 29012 Caorso (PC) Tel.: +39 0523 814241 Fax: +39 0523 814245 Email: info@blastrac.it WWW.BLASTRAC.IT

#### BLASTRAC SPAIN SALES & SERVICE CENTRE

Calle del Estío, 9 E – 28500

Arganda del Rey, Madrid Tel.: +34 91 660 10 65 Fax: +34 91 672 72 11 Email: info@blastrac.es WWW.BLASTRAC.ES

#### BLASTRAC POLAND

SALES & SERVICE CENTRE

Golina, ul. Dworcowa 47E 63-200 Jarocin

Tel.: +48 (0)62 740-41-50 Fax: +48(0)62 740-41-51 Email: info@blastrac.pl WWW.BLASTRAC.PL

## BLASTRAC GERMANY SALES & SERVICE CENTRE

Richard-Byrd-Str. 15

50829 Köln

Tel.: +49 (0) 221 709032-0 Fax: +49 (0) 221 709032-22 Email: info@blastrac.de WWW.BLASTRAC.DE

#### BLASTRAC UNITED KINGDOM

SALES & SERVICE CENTRE

Unit 2a, Outgang Lane, Dinnington Sheffield, South Yorkshire

GB - S25 3QU

Tel.: +44 (0) 1909 / 569 118 Fax: + 44 (0) 1909 / 567 570 Email: info@blastrac.co.uk WWW.BLASTRAC.CO.UK

#### BLASTRAC NORDIC SALES & SERVICE CENTRE

Lekstorps Industriväg 13D, 443 41, Gråbo

Sweden

Tel.: +46 (0) 31 30 333 55 Email: info@blastrac.se WWW.BLASTRAC.SE

#### **BLASTRAC FRANCE**

SALES & SERVICE CENTRE

ZI - 29, Av. des Temps Modernes F - 86360 Chasseneuil du Poitou Tel.: +33 (0)5 49 00 49 20 Fax: +33 (0)5 49 00 49 21 Email: info@blastrac.fr

#### BLASTRAC UKRAINE SALES & SERVICE CENTRE

Nezalezhnosti 14, of. 21

WWW.BLASTRAC.FR

07400 Brovary

Tel.: +38 (0)44 222 51 28 Fax: +38 (0)44 277 98 29 Email: info@blastrac.com.ua WWW.BLASTRAC.COM.UA

#### BLASTRAC MIDDLE EAST SALES & SERVICE CENTRE

P.O. box 29424

Dubai / United Arab Emirates Tel.: +971 4 3245760 Fax: +971 4 3245761 Email: info@blastracdxb.ae WWW.BLASTRAC.AE

#### **BLASTRAC INDIA**

SALES & SERVICE CENTRE

G.B. Warehousing, GAT NO- 523, Pune- Nagar Road, Wagholi

Pune- 412 207 Tel.: +91 99213 98109 Email: info.blastrac.in WWW.BLASTRAC.IN