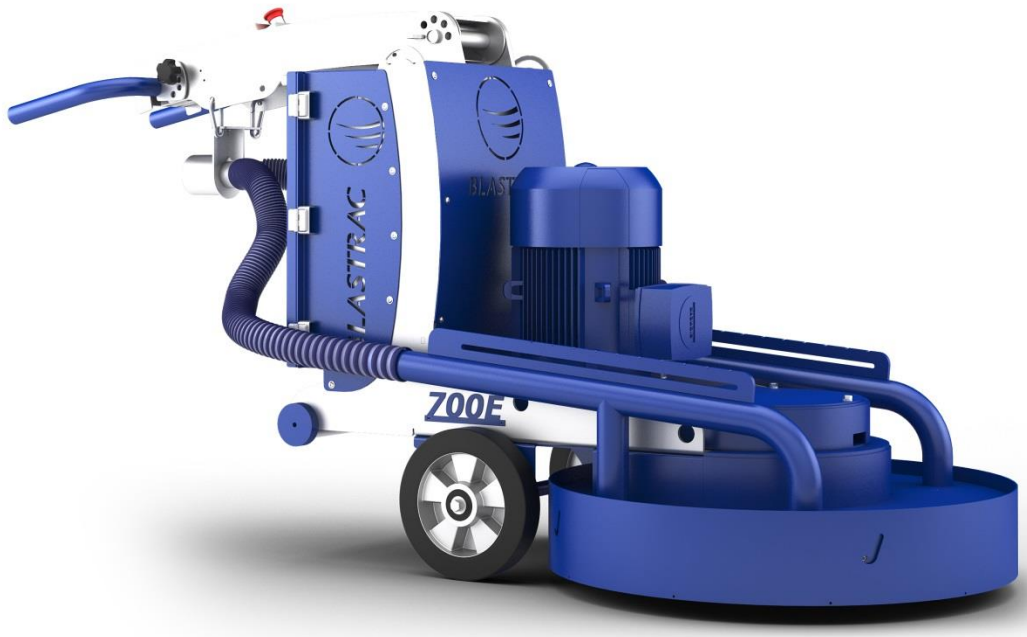
THE INNOVATORS IN SURFACE PREPARATION

BLASTRAC



Original instructions

OPERATING INSTRUCTIONS

BB-700E MKII

Version 1.0

WWW.BLASTRAC.EU • INFO@BLASTRAC.EU

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	 By*

*Competent person

Table of contents

1. Introduction

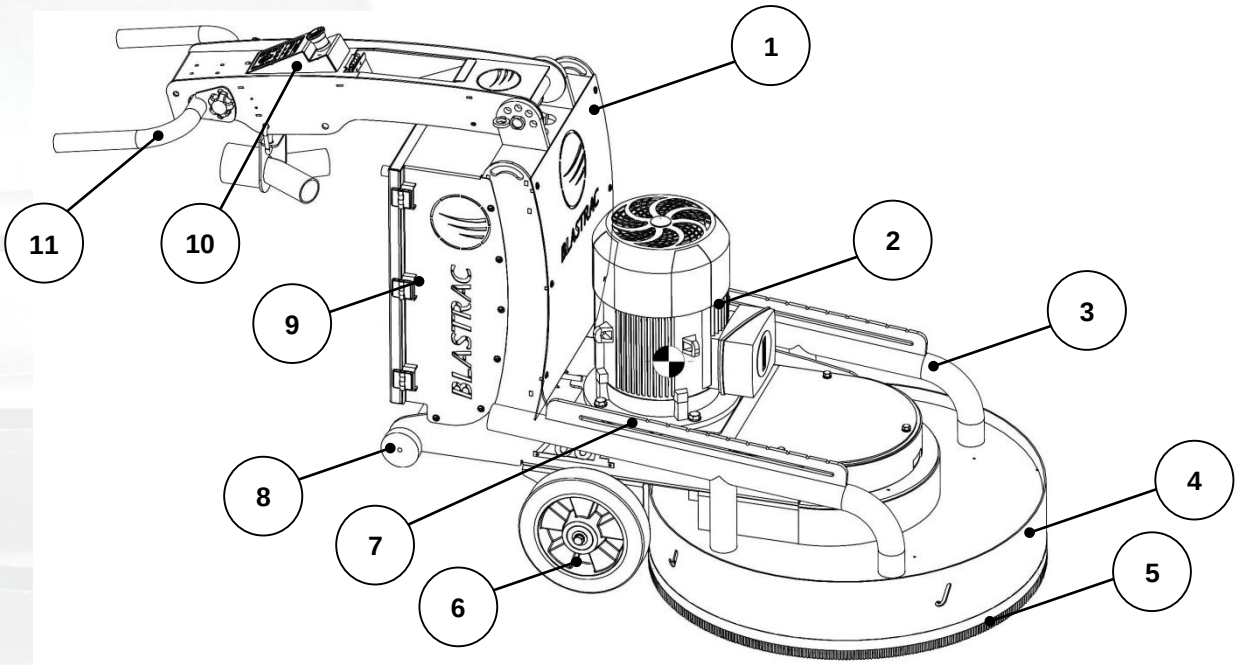
Before use, operators must be provided with information, instruction and training for the use of the machine and the substances for which it is to be used, including the safe method of removal and disposal of the material collected. All persons who are working with or maintaining this machine must read the manual carefully and understand it fully. In case you sell the unit, hand this manual over 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.

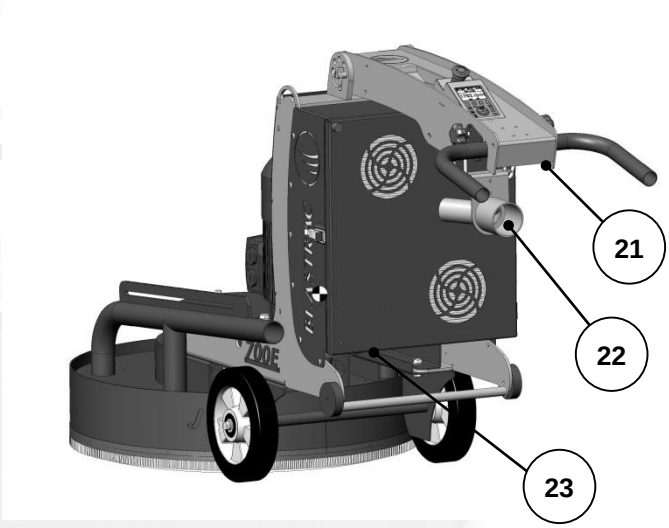
2. Machine description

The BB-700E is an electrical driven burnishing machine. This powerful burnisher is perfect for polishing and / or cleaning of almost any floor. The 70 cm disc diameter allows you to cover large surfaces at once while maintaining excellent handling. The machine is designed for dry applications. The machine applications includes polishing of various concrete floors, such as: hardened floors, curing floors, terrazzo floors, stone floors, and most coatings. The adjustable side-weights, removable extra front-weights and very precise adjustability of the RPM's ensure a professional result on any job you may encounter. All vital operating information is continuously shown on the crystal clear screen of the keypad. Changing the pads is easy and safe, just tilt the machine back and release the pad with the quick coupling in the middle. Do not worry about damaging the floor when tilting the machine backwards, the tilting support is equipped with non-marking floor protection. The machines 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.

BB-700E MKII



Control keypad



1	Burnisher frame
2	Electric Motor
3	Dust extraction tube
4	Floating shroud
5	Brush
6	Wheel
7	Rail for optional extra weights
8	Tilting support with non-marking floor protection
9	Electro box
10	Keypad
11	Ergonomic steer handle
12	Main voltage
13	Ampere of burnishing motor
14	Speed of the burnishing disc
15	Disc speed DOWN button
16	Disc speed UP button
17	Down / Up burnishing speed (by scrolling)
18	Motor STOP button
19	Motor START button
20	RDY = Ready STO = EM-Stop activated
21	Key + cord for deadman switch
22	Dust hose connection
23	Power supply connection

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 polishing.
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 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) Do not use on wood.
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) 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.
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.
r) Do not use in rooms and areas without proper ventilation.

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) Make sure that the phases and the earth wire of the extension cable(s) are connected in the same order as the supply cable of the machine and the power supply.
c) Electrical cables must be rolled entirely off of the reels.
d) Any damage to the electric cables and/or electrical components is not permitted.
e) The voltage on the identification plate must comply with the power supply.
f) Use an electrical power supply connection with earth connection and earth leakage circuit breaker.
g) 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.
h) **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.

i) Inspect and test the electrical components regularly. The electrical components have to satisfy with the requirements set out in the harmonised norm EN60204-1.
j) Always call a skilled electrician or your distributor when you have questions about the safety of the electrical components.
k) 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.
l) Always use tools that are insulated against voltages.
m) 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.
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. (Only if there is a main switch present on the electro box.)
p) During a long standstill of the machine, pull out the main plug and cover it with plastic foil.
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
-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) All persons in the proximity of the machine, must wear hearing protection and safety shoes.
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 temperature of certain machine parts can be above 37° C.
h) The machine, especially the handle grips must be free of fats/oils and have to be dry.
i) 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.
j) All repair work has to be done by qualified Blastrac personnel, this guarantees a safe and reliable machine.
k) **Always use original Blastrac spare parts, disks and polishing pads.** This will ensure the best performance. Only original Blastrac 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.
l) 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!

3.5 Maintenance safety

a) Remove the power supply before starting inspections and repairing on the machine. Pull out the key of the dead man's switch and keep it in your pocket. Press the Emergency shutdown button.
b) Wait for standstill of all drives before any inspections, adjustments and/or maintenance work is started.

c) Block the machine in a 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) 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 and use lint-free cleaning cloths.
i) 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.
j) 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 dust collectors

a) Always use a suitable Blastrac dust collector when working dry 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 dust collector must be emptied or replaced 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!

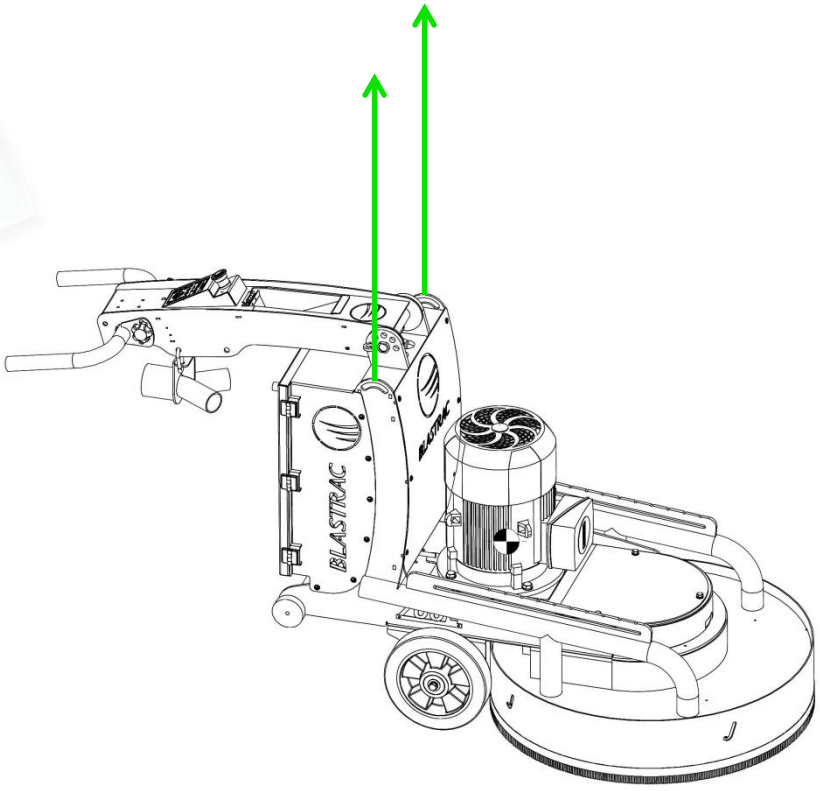
3.7 Polishing safety

a) The machine contains rotating parts, which are protected with a sliding cover. Always leave the rotating disc on the floor while the motor is turning.
b) The flexible rubber bumpers / buffers can become worn out with use, because of this there can be higher vibrations than normal. Check for this reason the flexible rubber bumpers / buffers for deformation and damage before every use.
c) Make sure the brush seals are in good condition, this to avoid dust escaping.
d) Make sure the pads are not damaged or worn out.
e) Always remove the power supply before u start changing the pads.
f) When mounting or removing a polishing pad; lay the machine down backwards so it is lying on the top edge of the electro box. 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.
g) For changing the pads 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.
h) The machine contains rotating parts; because of this never tilt the machine backwards with a turning motor.
i) Be careful with the machine and pull or let down the machine slowly, big shocks can damage the machine.
j) Do not allow the machine to run unattended.
k) Always keep at least one hand on the handgrip.
l) Do not run the machine with the pad off centre, damaged or missing.

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 machine is 202 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 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 electrical cable and dust hose are disconnected.
o) Store the cleaned and dry machine in a humid free room. Protect the electrical motor from moisture, heat dust and shocks.
p) 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 showed in imagine mentioned below.



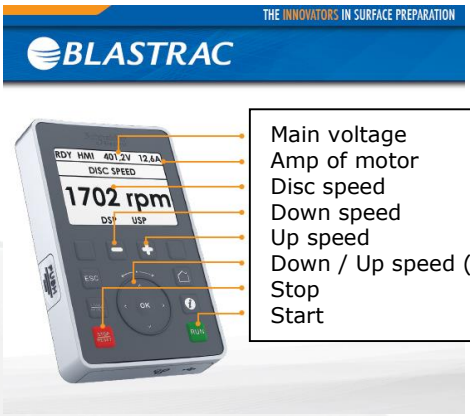
3.9 Signs on the machine

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

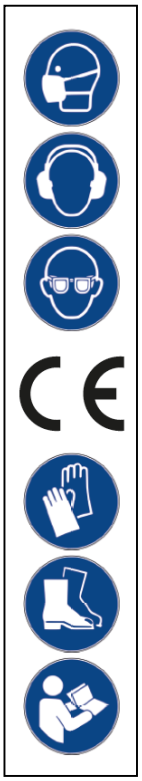
! Danger Hazardous voltage in motor even when solid state controller is OFF. Disconnect main power before servicing motor, controller or associated wiring.

Forbidden to lift persons.

Lifting point.



Main voltage
Amp of motor
Disc speed
Down speed
Up speed
Down / Up speed (by scrolling)
Stop
Start



Wear a dust mask class FFP3 or higher.

Hearing protection is obliged.

Safety glasses with lateral protection are obliged.

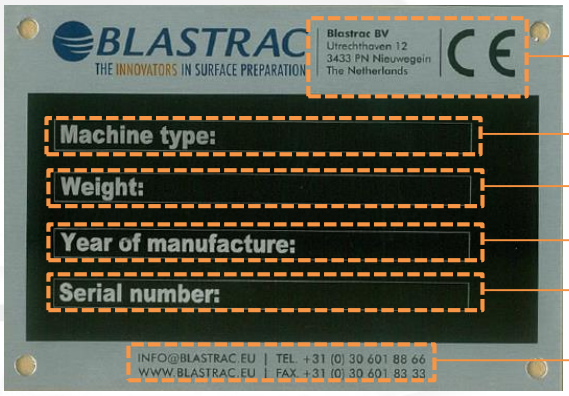
CE-mark on this machine.

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 operations

Before using the machine it is important 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 of electrical safety

- Use only extension cables that are sized and marked in accordance with the overall power consumption of the machine.
- Electrical cables must be fully unwound of them reels.
- No damage is permitted for electrical cables.
- Use an electrical power supply connection with earth connecting.
- The main switch of the machine should be put to 'Off' before connecting to the power supply. (Only if there is a main switch present on the electro box.)
- Make sure the power supply is in accordance with the machine specifications.
- 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

- Safety functions and operating functions must work correct.
- Check the polishing pad 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 / big bag is empty and connected properly.

4.3 Manual moving of the machine

Put the steering handle in the horizontal position, slightly push down on the steering handles. It can now be pushed around on its wheels.

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

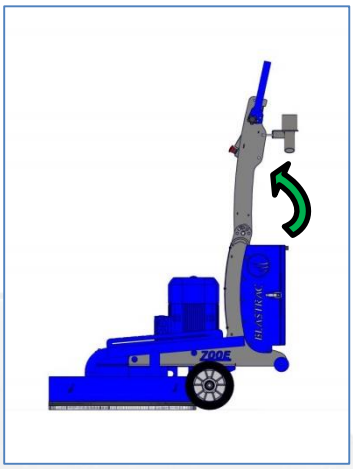
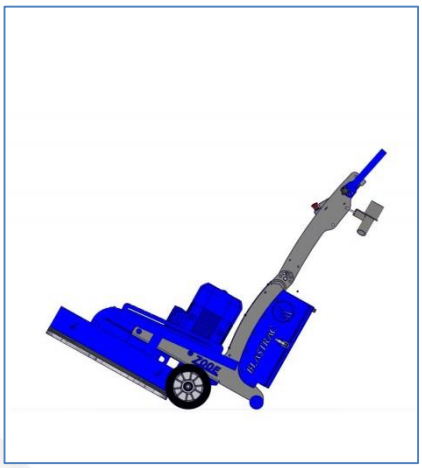
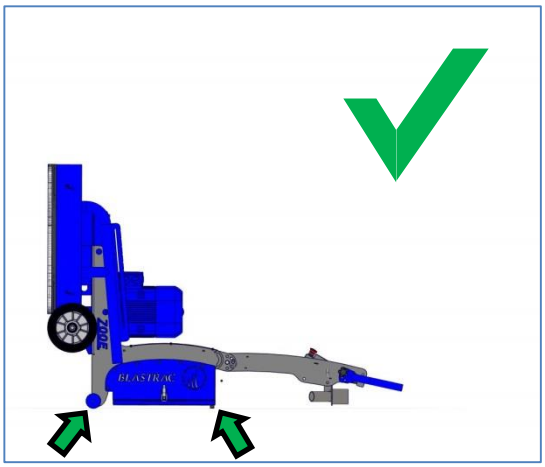
WARNING! Always make sure all rotating parts have come to a complete standstill before moving around the machine.
Be careful! Make sure nobodies feet get under the wheels. Wear appropriate safety shoes when you drive the machine to or from the work area.

4.4 Changing the pad

- Remove the power supply before you start
- Always wear a **dust mask** of at least **class FFP3** and **gloves.**
- 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 pad.

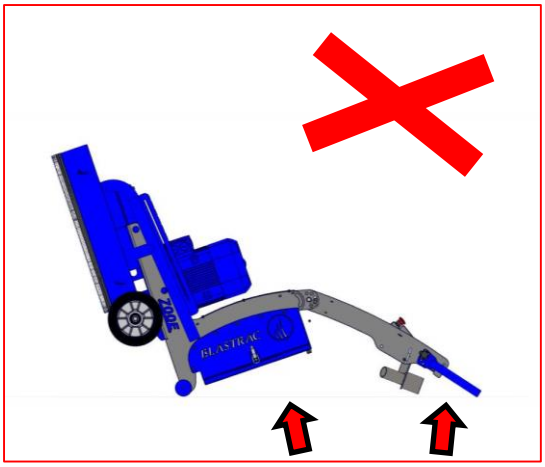




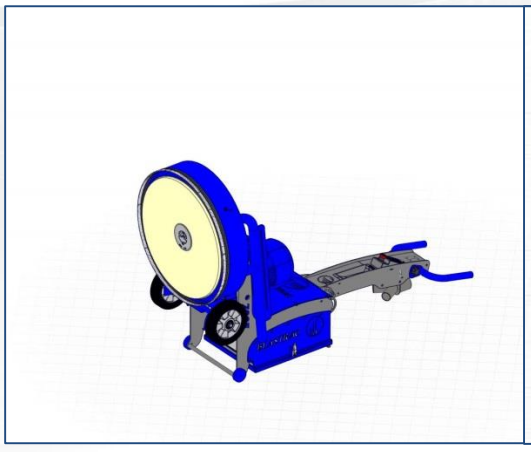
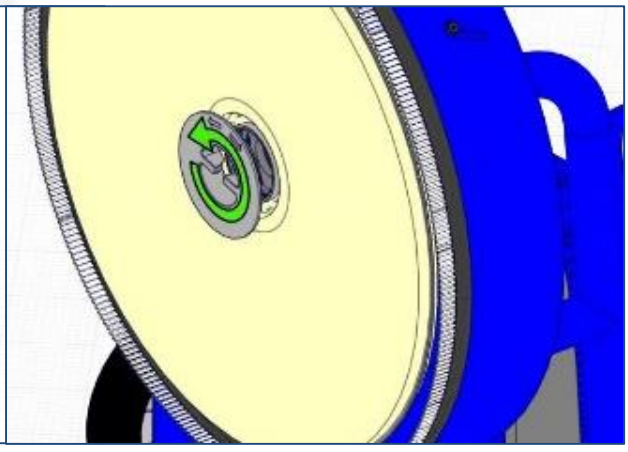
Unplug the machine from the power supply and remove the dusthose.

Lay the machine back in the safe position.

Remove the 'SCREW ON CENTER LOCK' and inspect the pad, if pad has worn less than 6mm, replace it.

CAUTION! Carefully inspect the pad holder for cracks or damage. Replace if necessary.
WARNING! A damaged pad holder rotating at high speeds may be an extreme hazard if it should come apart.



4.5 Before start-up

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

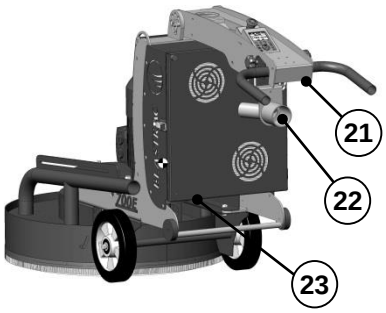
- Put the burnishing machine and the dust collector on to the surface to be processed.
- Fit the appropriate burnishing pad that is required for this particular process. Please read **chapter 4.4** of this manual.
- Connect the machine and the dust collector to the electricity supply point, these electric 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 burnishing machine and the dust collector unit with the flexible dust hose. Use hose clamps at the connections.
- Before burnishing, 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 or pad.

5. Operating

When operating the machine, the following additional safety instructions must be followed closely.

5.1 Switch on the machine



- Turn on the dust collector before switching on the machine and connect the dust hose to the machine (22).
- Make sure the electric component box is closed.
- Connect the power supply to the connector (23).
- Stand behind the machine and hold the handle tight.
- Fasten the cord of the deadman switch (21) on to your arm or fasten it on to your clothing.
- Check the display 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 (21) is activated.
- To start the machine, push the green Start button (19).
- The machine will start at lowest speed, 300 RPM .
- Raise the speed of the machine by scrolling the speed regulation button (17) or push the UP SPEED-button (16) if necessary.
- Scroll the speed regulation button (17) anti-clockwise or use the DOWN SPEED-button (15) so the machine will turn as slow as possible.

5.2 Switch off the machine

- Push the red stop-button (18) on the control panel.
- Wait until the machine stops rotating.
- Pull out the cord of the deadman switch (21)
- 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 switch.

5.3 Operating during polishing

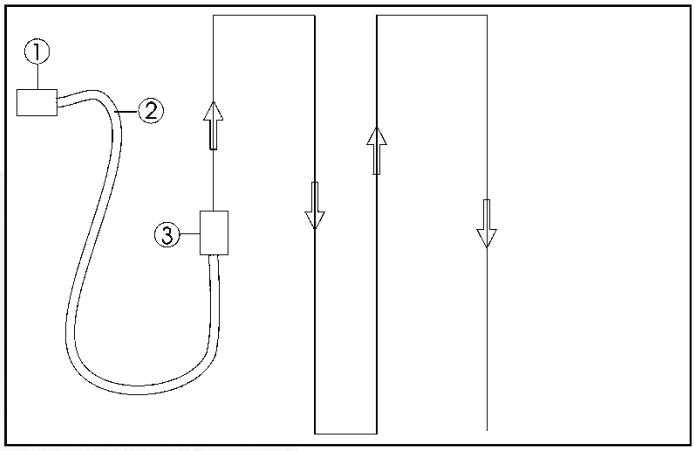
Caution, Do not run the burnisher without moving the machine. If the machine is allowed to run in one spot, damage to the floor may occur.

Do not add weight to the burnisher head.
Do not lift up on the handle to add pressure while burnishing.
This could damage the pad-holder, buffers/bumpers, the floor or trip the motor safety breaker.

The most efficient way is to start burnishing on one side of the surface, turn and come back down in the opposite direction, overlapping the previous path slightly.
Continue this pattern until the floor area to be burnished has been covered. The forward speed is generally at normal walking speed.

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

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



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

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

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.

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 pad.
Weekly	Check the flexible coupling
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 burnishing 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 burnishing pad.
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. Disconnect the power supply.

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

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 automatically void when:

- Non original Blastrac parts and or pads have been used
- Repair work is not done by qualified Blastrac personnel
- Changes, add items, or conversions are undertaken without the written permission from Blastrac.

Further is advised:
Store the cleaned and dry machine in a dry and humid free room. Protect the electrical motor from moisture, heat, dust and shocks.

- 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.

Work only with original Blastrac parts.

Dust in the electrical box can damage the frequency inverter; 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 electro box with compressed air and a vacuum cleaner towards the outside air.

Check regularly to see if the pad and pad-holder are in good condition. Replace immediately when these are damaged or worn out.

6.1 Flexible coupling

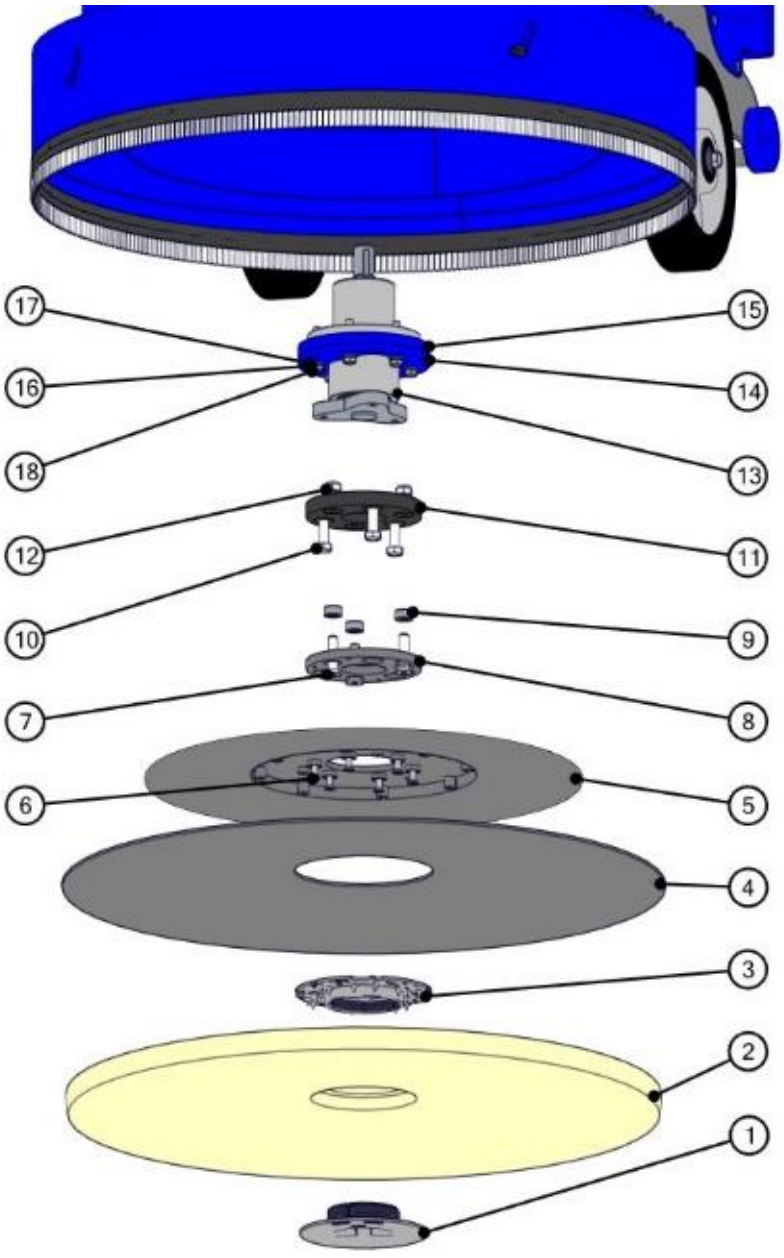
Check the flexible coupling (11) weekly for wear.

How to replace the flexible coupling if it is worn:

1. Remove the screw on center lock
2. Remove the pad.
3. Remove the 3 screws of the center lock.
4. Remove the 8 screws of the pad-holder.

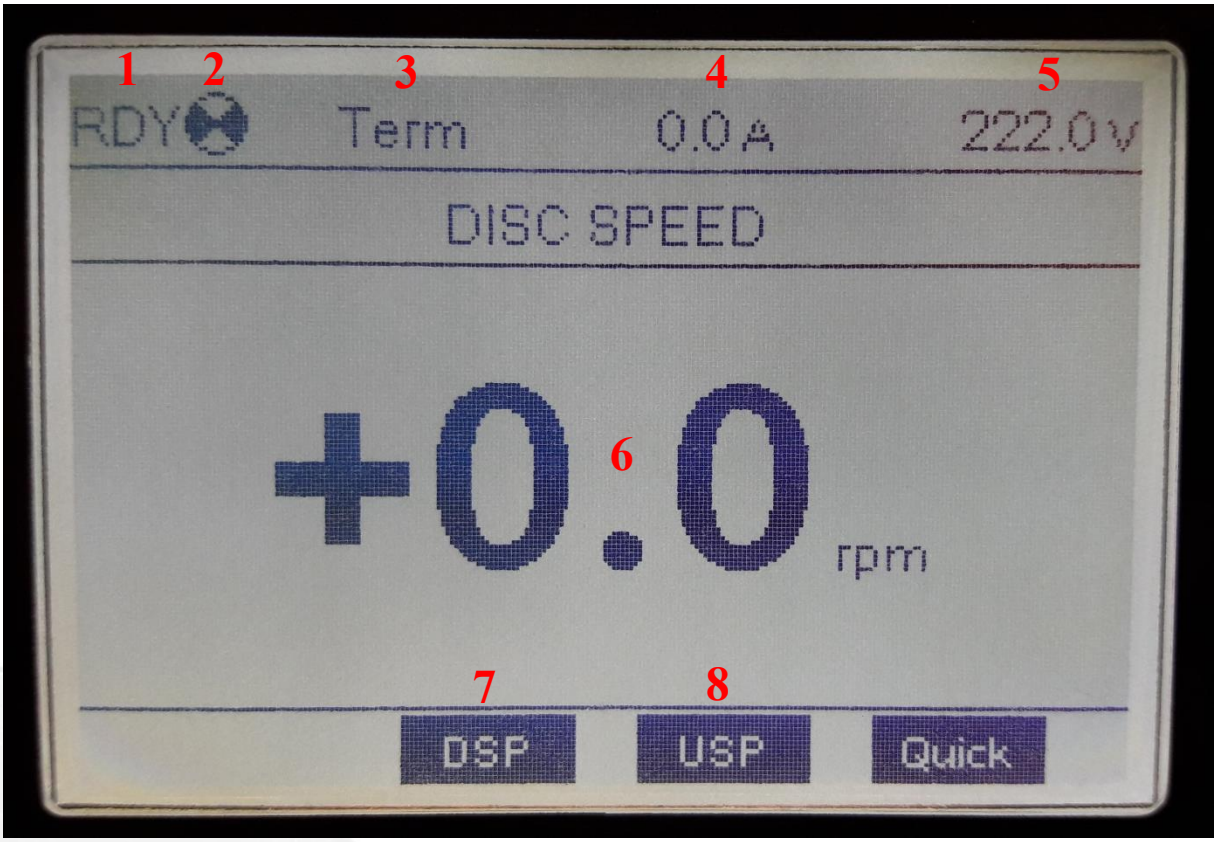
5&6. Remove the 6 screws of the mount plate.

7. Remove the 3 M10x45 countersunk head screws.
8. Remove the adapterplate E12822.
9. Remove the distance bushes
10. Remove the 3 M10x30
11. Replace flexible coupling (Partnumber 000118-2S).



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: **RDY**: means ready; the drive is ready to use. **STO**: Safety Stop; the drive has no input on the STO contact. **ACC**: Acceleration; the motor is accelerating to reach is set value **DEC**: Deceleration; the motor is decelerating to reach is set value or stopping. **NST**: 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 "**Term**", this is when the motor is stop, when it is running it will change to **HMI**.
4	Motor current in Ampere.
5	Supply voltage in Volt.
6	Rotation speed of the pad
7	Down Speed button for lowering speed of pad
8	UP Speed button for speeding up the pad

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;
    - **APH**: Energy consumption.
    - **Motor Run Time**: Elapsed run time of the motor (time that the motor has been switched on).
    - **Power-on time**: Elapsed power-on time (time that the drive has been switched on).
    - **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;
    - Here are the last 10 errors shown, by selecting one there is more info fount about the fault, such as:
        - Driver state
        - Motor current
        - DC bus voltage

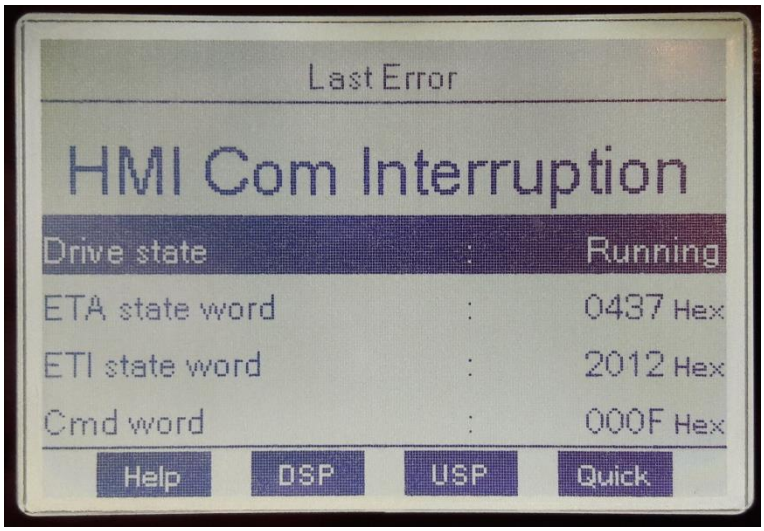
Language

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

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

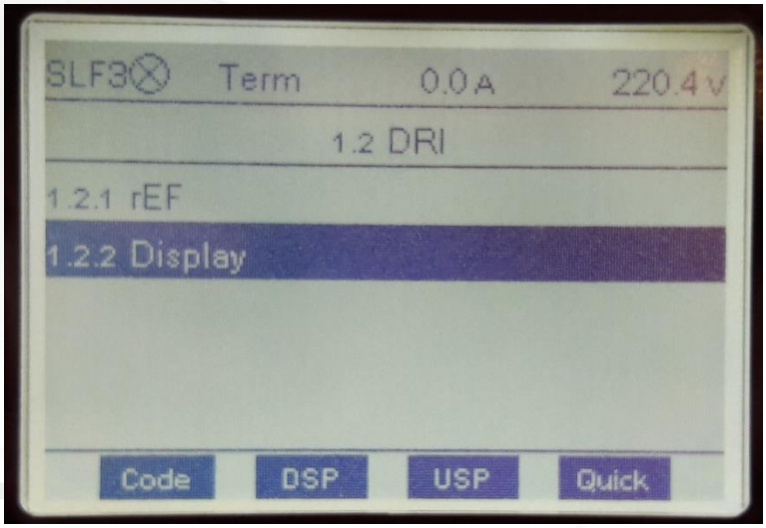
Fault handling

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

7. Troubleshooting

Fault	Possible cause	Remedy
Excessive vibration or/and Unusual noises	Imbalance due to worn or broken burnishing tools.	Replace all worn or broken parts.
	worn out flexible coupling	Replace all worn or broken parts.
	Defective bearing.	Check the bearing on the axle drive shaft and replace if necessary.
Reduced or no burnishing performance	Burnishing tools have reached the maximum permissible wear.	Replace the worn parts.
	Inappropriate burnishing tool for the application.	Replace the burnishing tools with appropriate burnishing tools for the surface to be treated.
Motor does not switch on	Missed phase	Take out the mains power supply, wait 5 minutes and try to switch on again.
	Defective Component.	Check the mains power supply and try to switch on again.
		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.

Failure	Cause	Check	Action
Nothing starts	No power supply. Not the correct voltage (only for 230v systems)	Is the supply cable plugged in the wall socket/generator? Check Main switch (when applicable). Check supply voltage. Check Under voltage relays (when applicable).	Plug in cable. Turn on main Switch (when applicable). Check if under voltage relays has switched (when applicable). Let an electrician check if there is Sufficient voltage on terminals.
Supply is OK But no Control Voltage	EM-stop activated. No control Voltage.	Is EM-stop pushed in. Is deadman switch present? Check circuit breakers.	Deactivate by turning the knob. Place deadman switch key. If EM-relay has 3 green Led than EM-circuit is closed. Reset circuit breakers when they are off.
Burnishinger motor will not start when start is pushed on HMI or when start switch is (when applicable depending type)	Drive not RDY or in Fault	error message in frequency drive (see also drive manual).	check the fault message and take corresponding action as described in drive manual. When in "STO" or "PWR" (depending of type) than this means there is no 24Vdc to these inputs so check EM-stop circuit (see above).

8. Technical data

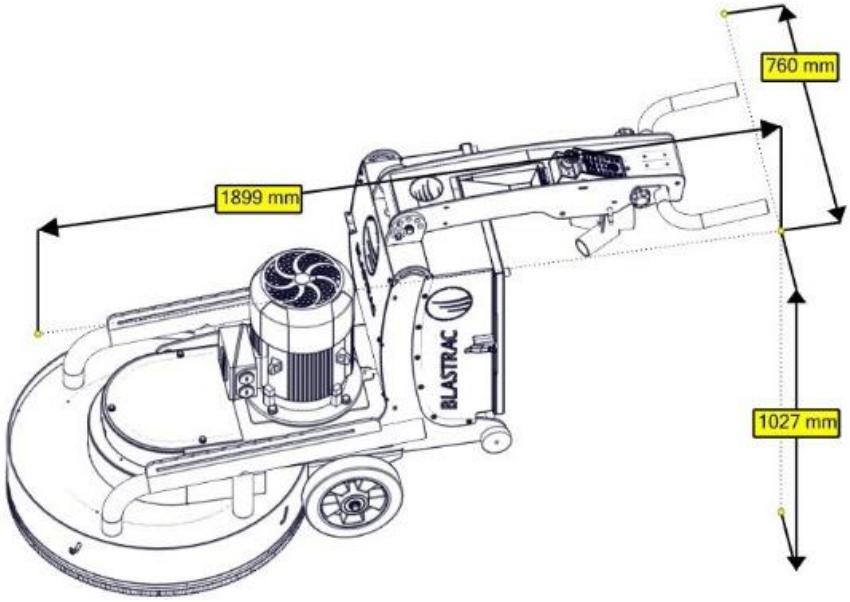
BB-700E MKII

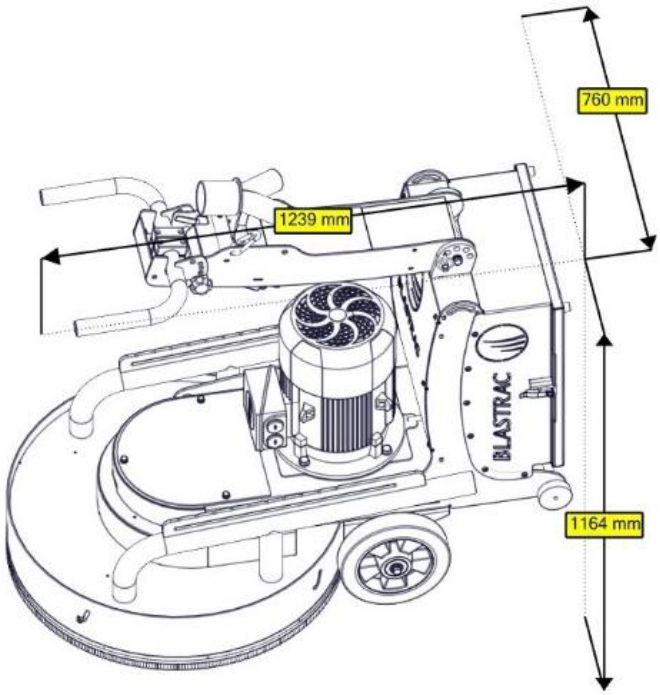
	BB-700E MKII 3x 400 volt
Power consumption	7.5 kW max.
Electrical consumption	3x 400 Volt
Frequency	50/60 Hz
Amperage connection	5 pole / 32 Ampere
Amperage consumption	16 Ampere
Length	1899 mm
Folded in	*1239 mm*
Width	760 mm
Height	1027 mm
Folded in	*1164 mm*
Weight machine	211,5 kg
Weight burnishing head	20 kg
Pad	Ø700 mm
Work width	700 mm
Rotation speed discs	350 - 1700 min^{-1}
Noise level	78dB(A)
Dust hose connection	75 mm Ø
Suitable filter unit	Contact Blastrac, we will assist you with a good advice

The electrical diagrams of the electrical system are placed inside of the control panel.
Design and specifications are subject to change without notice by Blastrac BV.

If the burnishing machine is to be operated using power from a generator, the generator must be operated in accordance with the current EN-VDE directives (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.

Dimensions





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 mm²	2.5 mm²	10 mm²	25 mm²
20m > 50m	2.5 mm²	4 mm²	10 mm²	25 mm²
50m > 75m	4 mm²	6 mm²	16 mm²	35 mm²

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

Vibration level

Declaration in conformance with EN 12096: 1997

Hand- arm vibration	a_{hv} 1,6 m/s²
Uncertainty	K 0,5 m/s²
Burnishinging surface:	Terrazzo
Tooling:	Green wings 60/80

Measurement in conformance with EN-ISO 20643: 2008 + Amd 1: 2012
Expanded uncertainty K (EN 12096 annex B)

Because the value is below 2,5 m/s², there is no need to use measures to decrease hand-arm vibrations.

Tips for decreasing the exposure to hand- arm vibrations:

-Protect the hands with vibration dampening gloves
E12000 – Anti-vibration gloves

-Clean the plates before attaching the wings
-Clean the wings before attaching them to the plates
-Proper maintenance of the machine
-Scheduled replacement of the shock absorbing machine parts
-Keep the hands warm
-Prepare a work schedule and plan in rest periods

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.

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.

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