

Original instructions in English

# OPERATING INSTRUCTIONS 200VMB

VERSION 1.2





**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



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## 1. Introduction

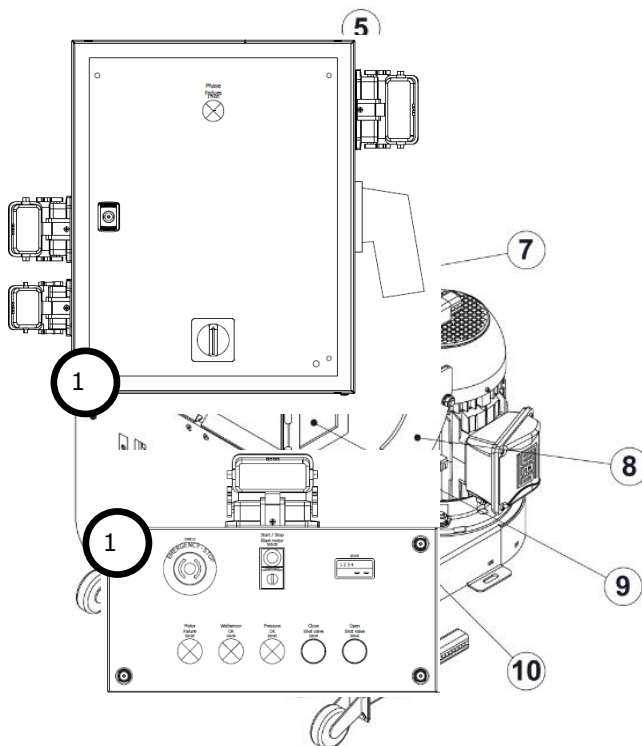
Before use, operators must be provided with information, instruction and training for the use of the machine and the substances for which it is to be used, including the safe method of removal and disposal of the material collected. All persons who are working with or maintaining this machine must read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

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

## 2. Machine description

The **Blastrac** blast cleaning machine 200-VMB is a vertical blasting machine with a closed abrasive circuit exclusively designed for the pre-treatment of dry, frost free vertical surfaces. The bouncing impact of metallic abrasive onto the surface to be treated thoroughly removes surface contaminants, (epoxy) coats on different types of vertical surfaces. The intended use of this machine is blast cleaning of the following surfaces: Steel, concrete and stone. The machine may not be used for other purposes. The manufacturer will not be liable for damage resulting from incorrect usage, in these cases the user assumes all risks.

The Blastrac 200DC filter unit must be connected to the machine in order to separate the dust from the abrasive. This specially designed dust collection system ensures dust-free operation of the machine and clean air at the workspace.



1	Mouth seal	7	Abrasive valve assembly
2	Air slide	8	Rebound liner cover plate
3	Adjustable swivel castor	9	Inspection hatch
4	Turnbuckles	10	Sideline press strip
5	Central lifting point	11	Electrobox
6	Fill hatch with sieve	12	Control panel



### 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. Always use common sense when working with machines.

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 use in the presence of explosive atmospheres, in the presence of flammable liquids, vapours, gases or dust. Remove materials / debris that may be ignited by sparks.
- c) In some cases **sparks** could be created by the blast cleaning process.
- d) Keep the work area clean and make sure there is enough ambient light on the work area. Cluttered or dark areas invite accidents.
- e) Do not use on wood.
- 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 15 meter from the machine.
- h) Never use the machine when the workfloor is not clear and if there is a risk of stumbling or tripping.
- i) Make sure the machine can travel over all inequalities on the surface, small inequalities like weld seams or joints are no barriers for the machine.
- j) Never operate the machine when workplace is wet. Never stay in the rain with the machine.
- k) Check if there are any obstacles that can snag the cables or dust hose when the machine is moving.
- l) **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.
- m) It is necessary to provide for an adequate air change rate L in the room if the exhaust air from the dust collector is returned to the room. Comply with the National regulations.
- n) 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.
- o) The operator must always be at a safe distance, straight behind the machine with the most optimal view on the machine and working environment.
- p) Never stand directly below the machine.

#### 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) If the power supply cable or plug is damaged, it must be replaced immediately. Only use original Blastrac parts.
- 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 machine 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. Do not fold the cable or clamp it.
- n) Don't pull out the power supply cable out by the wire, but by the connector.
- o) Be careful with water around the treated surface. Electrical cables must not come into contact with water.
- p) The main power switch on the machine must be in the "Off" position before connecting to the power supply.
- q) During a long standstill of the machine, pull out the main plug.
- r) 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) 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) Always seek professional medical attention immediately in case of injury.
- f) All persons surrounding the machine should wear Personal Protective Equipment.

### 3.4 Machine safety

- a) Safety functions and operating functions must work correct, test them regularly.
- 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 the machine can be above 37° C.
- h) The machine will heat up during blasting, don't risk getting burned, always wear gloves and only touch the handle grip(s).
- i) The machine, specially the handle grip(s) must be free of fats/oils and has to be dry.
- 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 and abrasive. 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.
- l) Check the rotating direction of the motor. The correct direction is given with an arrow on the housing of the motor. If the motor turns the wrong way, stop the machine and switch the phases inside the connector.
- m) 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.
- n) In the event of operational malfunctions the machine must be shut down immediately and secured!
- o) **Never use the machine without a suitable (Blastrac) dust collector!**
- p) Never stand directly below the machine.
- q) Never pull on the blast head during blasting! This could cause serious injury to yourself and others around you! Wait until the blast wheel stands still before pulling the machine from the wall.



- r) Welding work on the spreader beam and the steel cable is strictly forbidden. The steel cable must not be used as earth conductor for welding work.

### 3.5 Shot/steelblasting safety

- a) Never pull the blast head off the surface during blasting! This could cause serious injury to yourself and others around you!
- b) Abrasive can escape from the sides of the blast head at high speed. Wear safety glasses with lateral protection and close-fitting protective clothing.
- c) Check the following parts daily for damage and wear to avoid unnecessary long and costly standstill on the workplace; blastwheel, abrasive valve, magnet- and rubber sealing;  
Replace the parts when you can see obvious signs of wear.  
Wear grooves on the blast wheel are acceptable until 75% of blade thickness has been worn away.
- d) Check the parts of the machine on wear and defects. Remove foreign bodies and dust deposits to prevent clogging of the system.
- e) The cover of the spare shot hopper must be closed to keep the vacuum in the machine.
- f) The machine will heat up during blasting, don't risk getting burned, always wear gloves and only touch the handle grip(s) and control devices.
- g) Check the level of abrasive in the storage hopper before work starts. Refill if necessary. Close the cover after checking to keep the vacuum in the machine.
- h) Remove the abrasive from the abrasive storage hopper before storage.
- i) In some cases sparks could be created by shot / steelblasting.**

#### Vertical blasting:

- a) Check for obstacles near the electric cables or dust hose which can snag when machine is moving up and down.
- b) The operator must always be at a safe distance, straight behind the machine with the most optimal view on the machine and working environment.
- c) Never pull on the machine during blasting. Wait until the blast wheels stand still before pulling the machine from the wall.
- d) When lifting the machine from the ground, always use the lowest lifting speed. The steel cable must first be tensioned at this speed; the cable must not be slack when the machine is lifted from the ground.
- e) It is forbidden to use the machine for the transportation of persons or goods.
- f) Welding work on the spreader beam and the steel cable is strictly forbidden. The steel cable must not be used as earth conductor for welding work.
- g) Only use approved steel cables in appropriate condition. Using any other steel cable voids all warranty claims against Blastrac BV.

#### Check points on the hoisting and lifting equipment

- h) Inspect the cables, rigging, spreader beam, winch motors or any other lifting device for damages before every use.
- i) All hoisting and lifting equipment have to be inspected by a certified expert.
- j) Comply with the local regulations regarding the frequency of the inspections (e.g. annually, half-yearly, quarterly etc.)
- k) After inspection / repairs the enclosed Maintenance log at the front of the manual has to be filled in.

### 3.6 Maintenance safety

- a) Pull out the main plug before starting inspections and repairing on the machine. The main switch can be locked in the "OFF" position by using a padlock and placing it through the main switch.
- 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!**





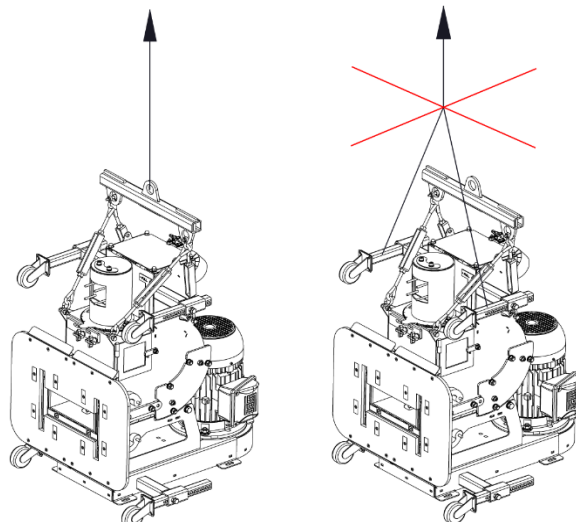
- i) It is advisable to stock all spare parts and wear parts that cannot be supplied quickly. As a rule, production standstill periods are more expensive than the cost for the corresponding spare part.
- j) The suitable precautions include decontamination before disassembling the machine, adequate filtered ventilation of the exhaust air from the room in which it is disassembled, cleaning of the maintenance area and suitable personal protection equipment.

### 3.7 Dust collector safety by the machine

- a) Always use an appropriate 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) Read the operating instructions of the dust collector before using it.
- c) The dust container/bag of the dust collector must be emptied regularly. Comply with the local waste treatment regulations considering the removed material.
- d) The dust hose must be connected properly with a hose clamp and industrial tape.
- e) The dust hose must be undamaged and free of obstructions.
- f) Always switch on the dust collector first!

### 3.8 Transport safety

- a) Be aware of your surroundings and machine operating level.
- b) The weight of the 200-VMB is 177 kg (without shot, hoses etc.) When transporting the machine with a crane or lift, use the spreader beam of the machine.
- c) Before every use check the lifting eyes, turnbuckles, spreader beam and welds for: deformation, damages, cracks, corrosion and wear.
- d) Each lifting lug has a WLL of 500kg.
- e) When lifting the machine from the ground, always use the lowest lifting speed. The cable or chain must first be tensioned at this speed; it 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) Fasten the machine on a pallet or during transport.
- j) Don't leave the machine unsecured on jobsites.
- k) Park the machine always on a flat horizontal and levelled surface.
- l) Remove the abrasive from the machine before transport.
- 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.







### 3.9 Markings 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.



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.

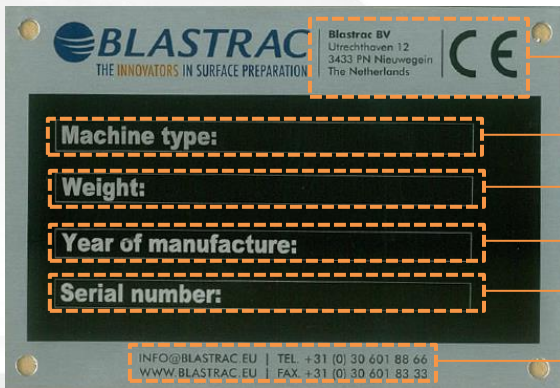


Safety shoes obliged.



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. Before operation

Before using the machine it is of great importance to inspect the machine. It is not permitted to use the machine if the machine safety is not according the checkpoints below.

### 4.1 Daily check points 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 their 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.
- 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 Daily check points 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 connection must be reliable: use hose clamps and industrial tape.
- Dust hoses must be undamaged and free of obstructions.
- Make sure that the bag or dustbin of the dustcollector is empty and connected properly.
- Check the following parts for damage and wear: blast wheel, cage, blast housing, mouth seal, spreader beam and all other hoisting equipment. Replace the parts when you can see obvious signs of wear. Wear grooves on the blastwheel are acceptable until 75% of blade thickness has been worn away.
- Check de parts of the valve on wear and defects. Remove foreign bodies and dust deposits to prevent clogging of the machine.
- The "Filling hatch" and "Inspection hatch" must be closed to keep the vacuum in the machine. (Position 6 & 9 of machine description)

### 4.3 Check points on the hoisting and lifting equipment

- Fill the machine with shot (max. 62 kg.) and adjust the turnbuckles so the machine is evenly leveled when lifted with the spreader beam. Lock the position of the turnbuckles with the locking nuts.
- Inspect the cables, rigging, chains, turnbuckles, winch motors and all other hoisting equipment for damages before every use.
- All hoisting and lifting equipment has to be inspected by a certified expert. Comply with the local regulations regarding the frequency of the inspections (e.g. annually, half-yearly, quarterly etc.)
- After inspection / repairs the enclosed Maintenance Log at the front of the manual has to be filled in.



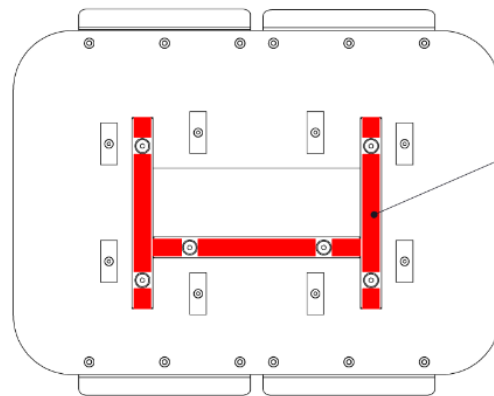
## 5. Operating

During operating the 200-VMB, 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.

All persons in the proximity of the machine must wear safety glasses with lateral protection as well as safety shoes and ear protection. The operator is obliged to wear close-fitting protective clothing and a dust mask.

### 5.1 Before switch on

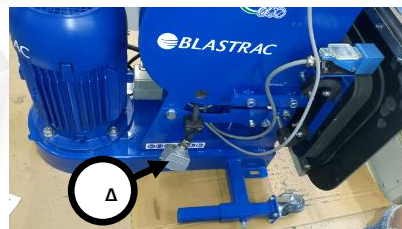
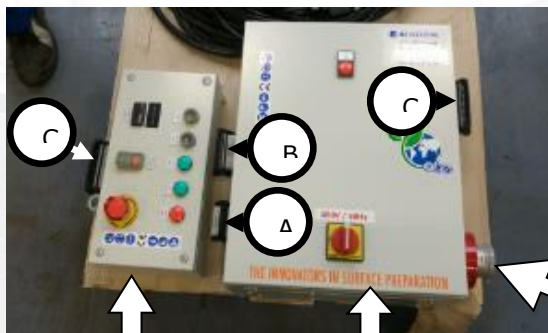
- Fill the shot hopper with the selected abrasive (max. 62 kg.)
- Move the Abrasive-Level-checker up and down, so it will show the level of abrasive in the machine.
- Check the level regularly. When level is too low this could wear out the abrasive valve in short time.
- The magnets of the mouth seal must be covered over the whole surface with abrasive.



Cover magnets with abrasive



- Connect the blast machine and dustcollector (200DC) with the dust hose. This connection must be reliable with a hose clamp and tape.
- Connect the cables between the blastmachine, the electrobox and the control panel:  
Connect Machine(A) and Electrobox(A) with the supplied cable.  
Connect Machine(B) and Electrobox(B) with the supplied cable.  
Connect Electrobox(C) and Control panel(C) with the supplied cable. Use the snap-hooks and attached lifteyes to secure the connection.



CONTROL PANEL

ELECTROBOX

MAINS POWER SUPPLY

- Connect the power supply cable of the dustcollector 200DC and blastmachine's mains power supply with the generator. Be sure that electrical power supply is correct.





- Connect the central lifting point to the hoisting equipment.
- **IMPORTANT!** Make sure the hoisting equipment (such as cables, chains, winch, etc.) being used have a work load limit of at least 340 kg!
- **IMPORTANT!** The attachment point or rigging should have the capacity to handle 340 kg + the weight of the winch + the weight of the cable / chains!



The machine itself weighs only 177 kg, but you also have to take in account that the machine will be filled up with shot, the dusthose and electrical cable will pull on the machine, and the mouth seal is sucked against the surface causing resistance. All these factors combined is the maximum working load of the machine, this has to be multiplied by the dynamic test coefficient. This dynamic test coefficient is chosen so as to guarantee an adequate level of safety.

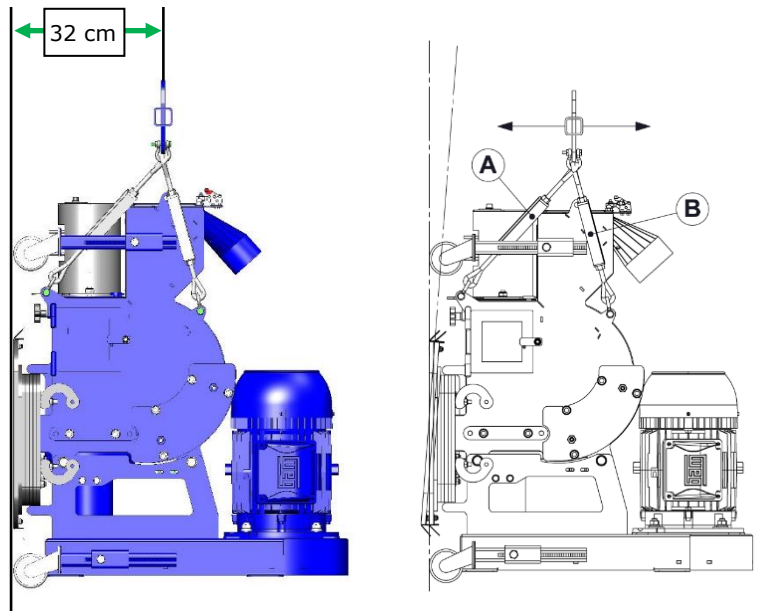
## 5.2 Adjusting the spreader beam, turnbuckles and swivel castors

The ideal distance from the spreader beam until the wall is 32cm.

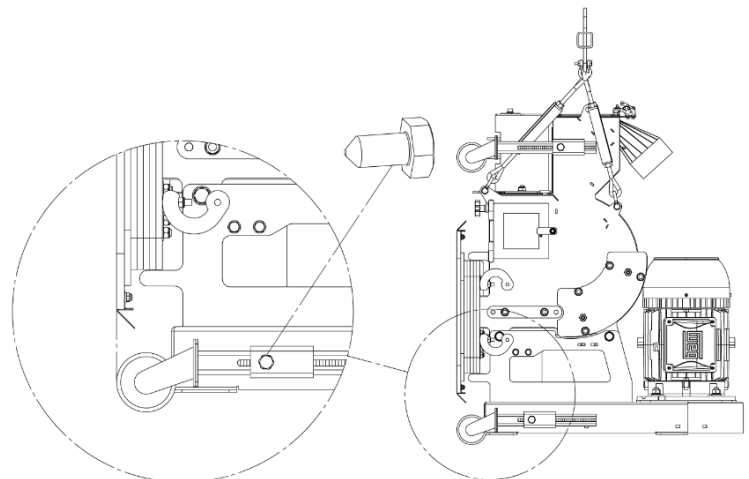
The mouth seal must be parallel to the wall when the machine is hanging freely on the spreader beam.

The position of the mouth seal can be changed by loosening or fastening the 4 turnbuckles (**A** & **B**) between the spreader beam and blast machine.

Lock the position of the turnbuckles with the locking nuts.



When the turnbuckles are in good position, the 4 swivel castors must be adjusted close to the wall. Keep a distance of 5 - 10 mm between the swivel castor and the wall.

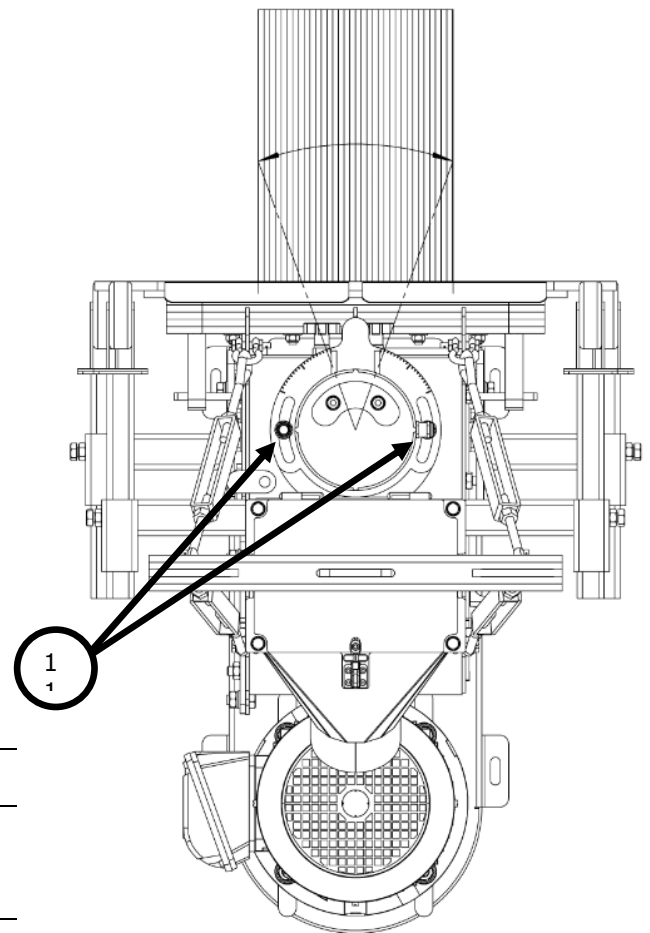
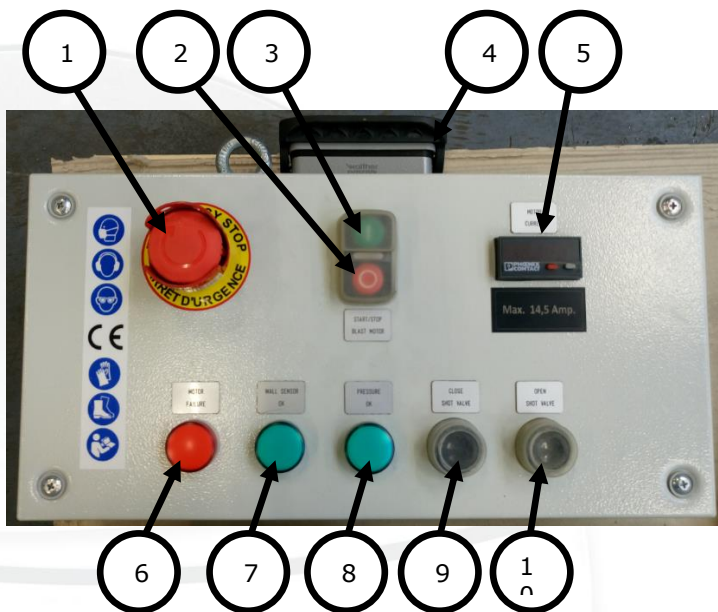






### 5.3 Switch on the machine

- Before switching on the blast machine, switch on the dustcollector 200DC.  
*If the underpressure is OK, indicator (#8) will light up green.*
- Lift the machine a little bit above the ground and allow it to suck to the wall.  
*The WALL SENSOR OK indicator (#7) will light up green.*
- Press the green button "START Blastmotor" and check the rotating direction of the blast motor. The correct direction is given with an arrow on the housing of the motor.
- Keep a safe distance behind the blast machine.
- Move the machine 1 meter up and down to make sure everything is OK.
- Move the machine up again and when the machine is traveling, open the shot valve (#10). Observe the ammeter on the display. Maximum blast wheel amperage = 14.5 Ampere. Adjust the load amperage by opening or closing the shot valve. After having blasted approximately 2 meter, close the shot valve(#9), stop the machine (#2) and check the blasted surface.
- If the 'hotspot' must move to the right, turn the cage a little bit to the right. **Never adjust the cage during blasting!** Loosen the nuts (#11) of the window indicator and adjust the position to the right. Tighten the nuts after adjusting.
- If the 'hotspot' must move to the left, adjust the window indicator to the left.



1	2	3	4	5
Emergency stop button	STOP Blastmotor	START Blastmotor	Connection for control cable	Ampere-meter / ammeter
6	7	8	9	10
Warning light MOTOR FAILURE	Indicator WALL SENSOR OK	Indicator PRESSURE OK	CLOSE Shotvalve button	OPEN Shotvalve button

#### 5.4 Switch off the machine

- Close the abrasive valve (#9).
- Switch off the blast motor (#2).
- Lower the machine to the ground or on a pallet.
- Switch the main switch on the electrobox too position "OFF".
- Pull out the connector of the mains power supply of the electrobox.
- Switch off the dustcollector 200DC.
- Wait for standstill of all drives before any inspection or maintenance works are started.
- When transporting the machine with a crane or lift, use the spreader beam of the machine.

#### 5.5 Operation

Carry out blasting in parallel tracks in such way that the dust hose and electric cables do not become twisted. Make sure nothing can snag the dust hose or cables.

The selection of the correct advancing speed of the blast machine is important for a good blast cleaning result. In the case that the surface has different characteristics (e.g. different hardness or different coating thicknesses), a uniform blast result can be achieved by varying the advancing speed during blast cleaning.

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

The correct advancing speed can be found out by observing the blasted surface and varying the speed during the blast cleaning process.

For blasting on steel surfaces this will be 1 meter in approximately 55 seconds.

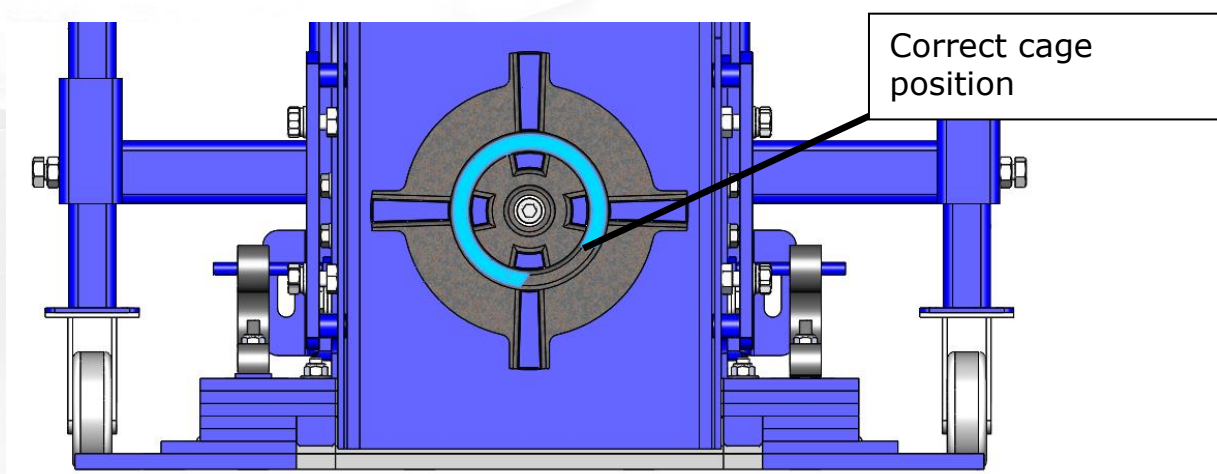
For blasting on concrete surfaces this will be 1 meter in approximately 20 seconds.

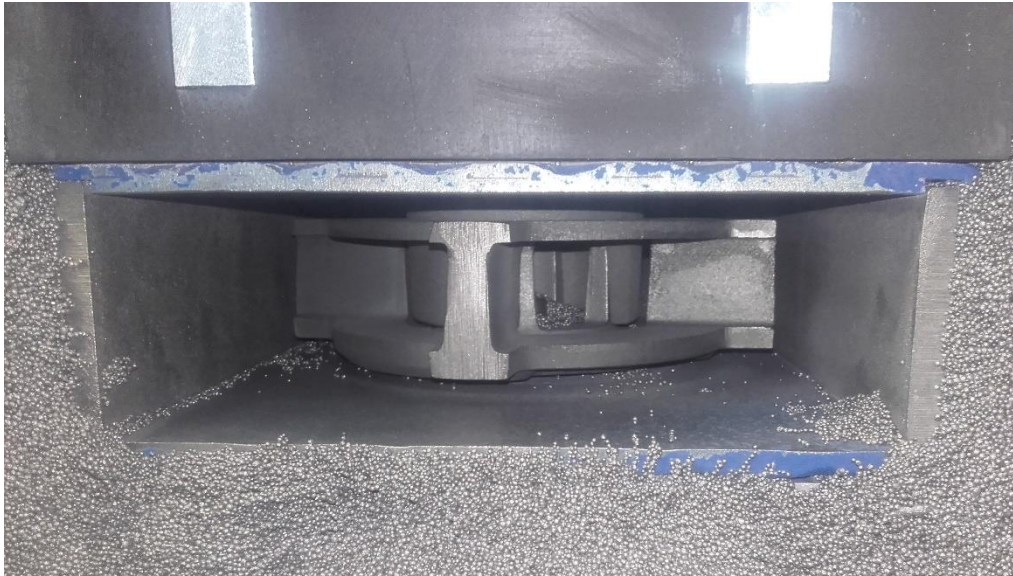
#### 5.6 The blast pattern

Abrasive leaving the blast wheel blades is not thrown in all directions. Scatter is restricted to an angle. This is achieved through the use of a control cage which surrounds the impeller. The position of the window in the control cage determines the blast pattern.

Correct adjustment of the control cage and thus of the blast pattern is the most important factor for optimum working with the blast cleaning machine.

Incorrect adjustment of the control cage results in very high wear and premature blasting-through of the blast wheel housing, as well as reduced blasting performance, uneven cleaning and a possible loss of the rebound energy of the abrasive.





Correct cage opening position

**The following 5 factors affect the blast pattern:**

- The turning direction of the blast wheel must correspond to the instructions on the housing (arrow indicating the correct turning direction).
- With increased wear of the wear parts (Blastwheel, mouth seal, control cage) the blast pattern will change.
- The size of the abrasive affects the blast pattern. With every exchange of abrasive-size, the blast pattern must be re-adjusted.
- The correct adjustment of the control cage is the most important factor to obtain an optimum blast pattern. The control cage has a lateral window. The position of the window determines where the abrasive is fed onto the blast wheel blades and where it hits the surface to be treated.
- Different types and hardness of surfaces.





## 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 hopper, the abrasive valve and blast wheel unit for foreign matter and large contaminants.
Daily and prior to starting work	Check that all safety devices working adequate. Check the abrasive valve, magnet- and rubber sealing. Check the blastwheel, control cage and blast housing. Check the electric connections for sediments of dirt or foreign bodies. Check the electric motors for dirt and other contaminants. Check all safety devices working adequate. Clean the inside of the electrobox. 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 collector is fully functional. Check the wall sensor. Check the underpressure sensor.
Every 50 hours	Replace the valve rubbers of the abrasive valve. Clean the filter and hose of the vacuum guard. Replace the ventilation filter of the electrobox.
Every 250 hours	Overhaul of the abrasive valve.
Every 3 months	Inspect and clean the electrical motors.
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.

However a full overhaul and a technical inspection must be carried out at least once a year, consisting of inspection of filters for damage, air tightness of the machine and proper function of the control mechanism. This technical inspection shall be carried out by the manufacturer or an instructed person.

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.

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 Manufacturers if included during your service and maintenance work.**

**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. Remove the abrasive out of the abrasive storage hopper.

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 confined space. Secure the maintenance area if necessary.

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

Consult the Service Manual for spare parts and additional drawings.

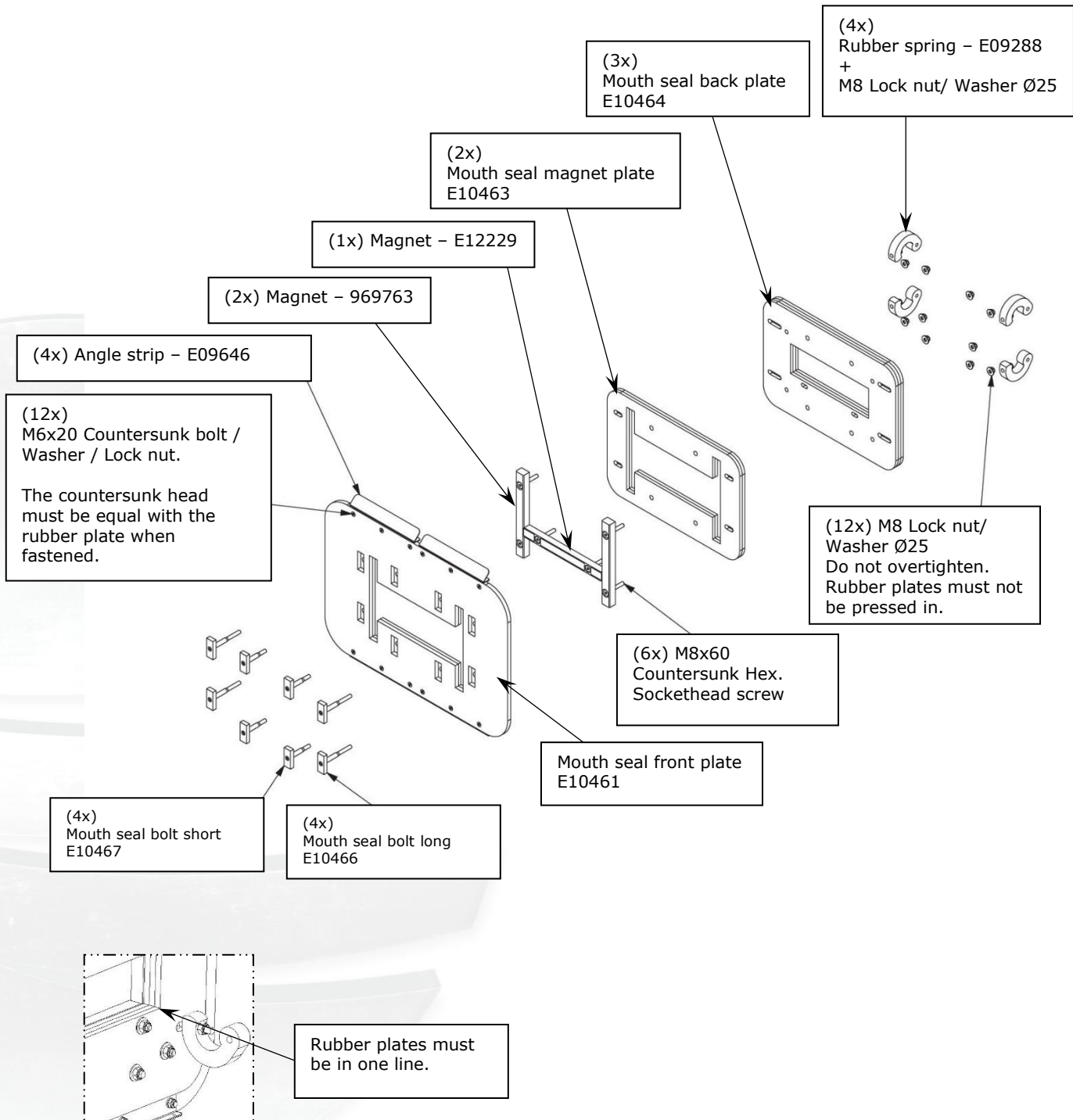


### 6.1 Changing the mouth seal complete

- Pull off all 4 rubber springs from the threaded ends.
- Remove mouth seal complete from the housing.

#### Assembly of a mouth seal complete

Be sure that all rubber plates are in one line. If plates are not mounted in one line, the mouth seal will not move easy back and forwards. Do not over tighten the nuts, the plates must not be pressed in.

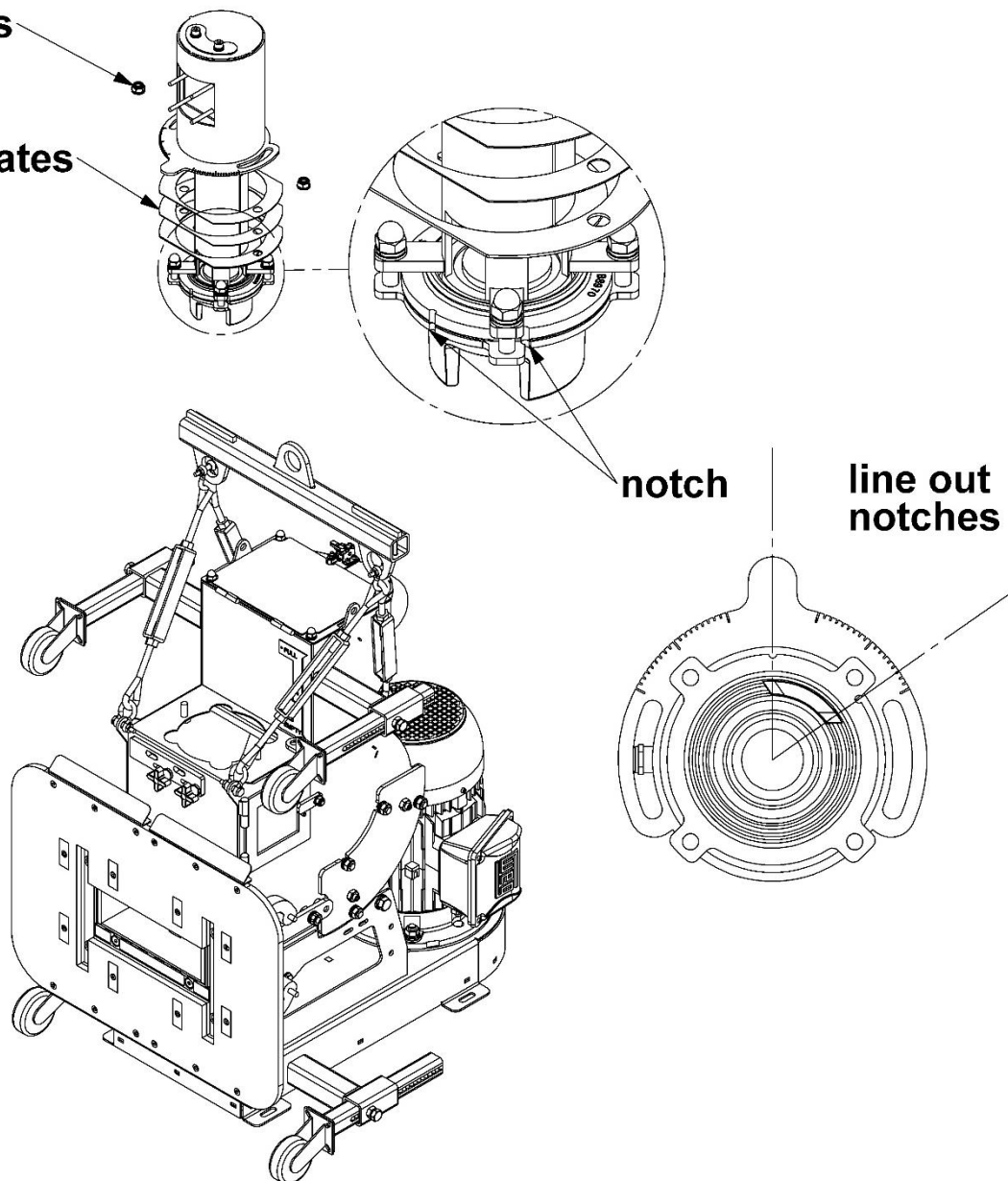


## 6.2 Changing the blastwheel

- Remove 2x M10 nuts so the abrasive valve can be lifted out of the machine.
- Remove all abrasive and clean the blastwheel with air.

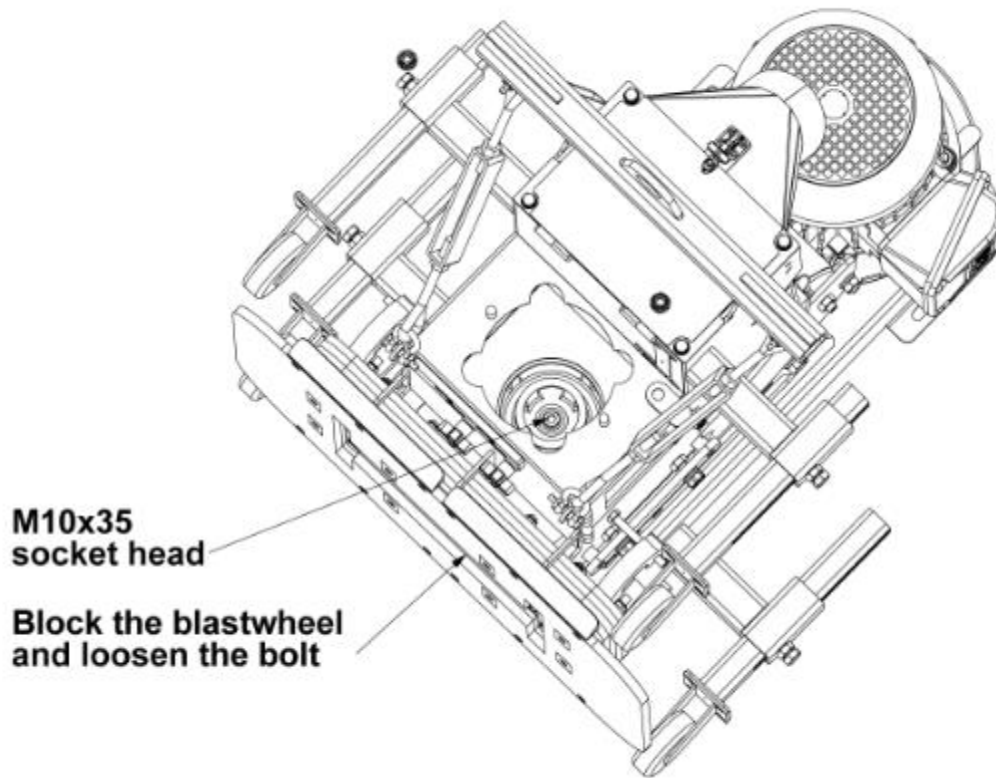
remove  
M10 nuts

filling plates





- Block the blastwheel and loosen the central fixing bolt.
- Remove the blastwheel.



ALWAYS use a new central fixing bolt when mounting a new blastwheel.

(M10x35 Sockethead cap 12.9 + M10 washer)

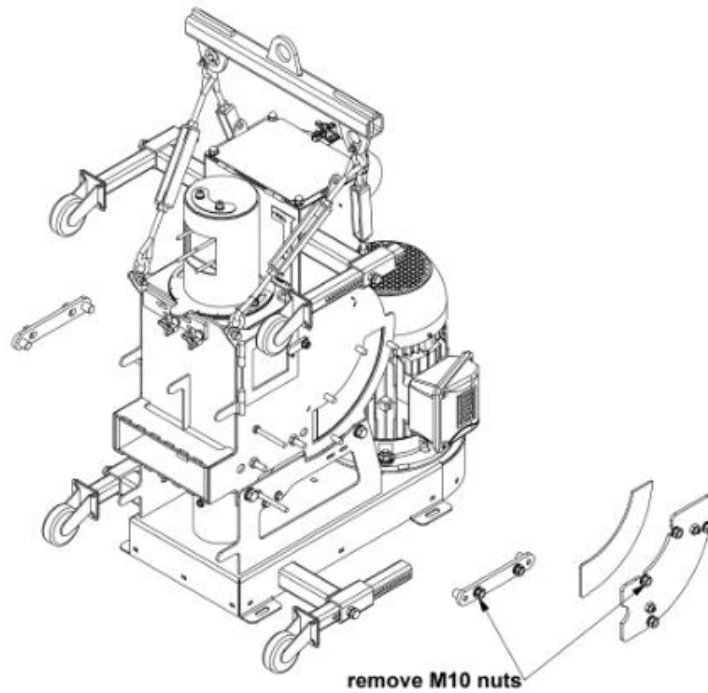
Order Blastrac Tune-up kit B20536K.



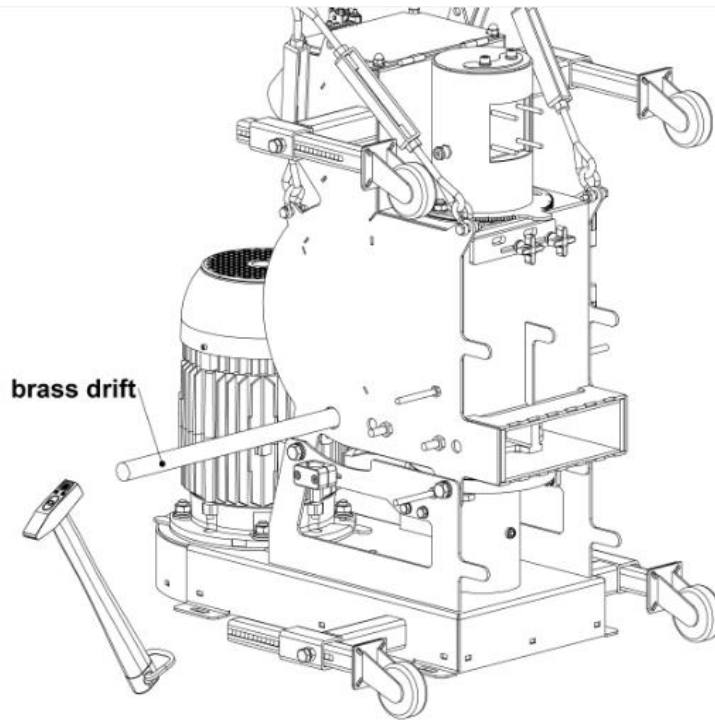


### 6.3 Removing the liners

- Remove the M10 nuts of the Sidelineer press strip
- Remove the M10 nuts of the Rebound liner cover plate
- Remove the Sidelineer press strip on the other side of the machine

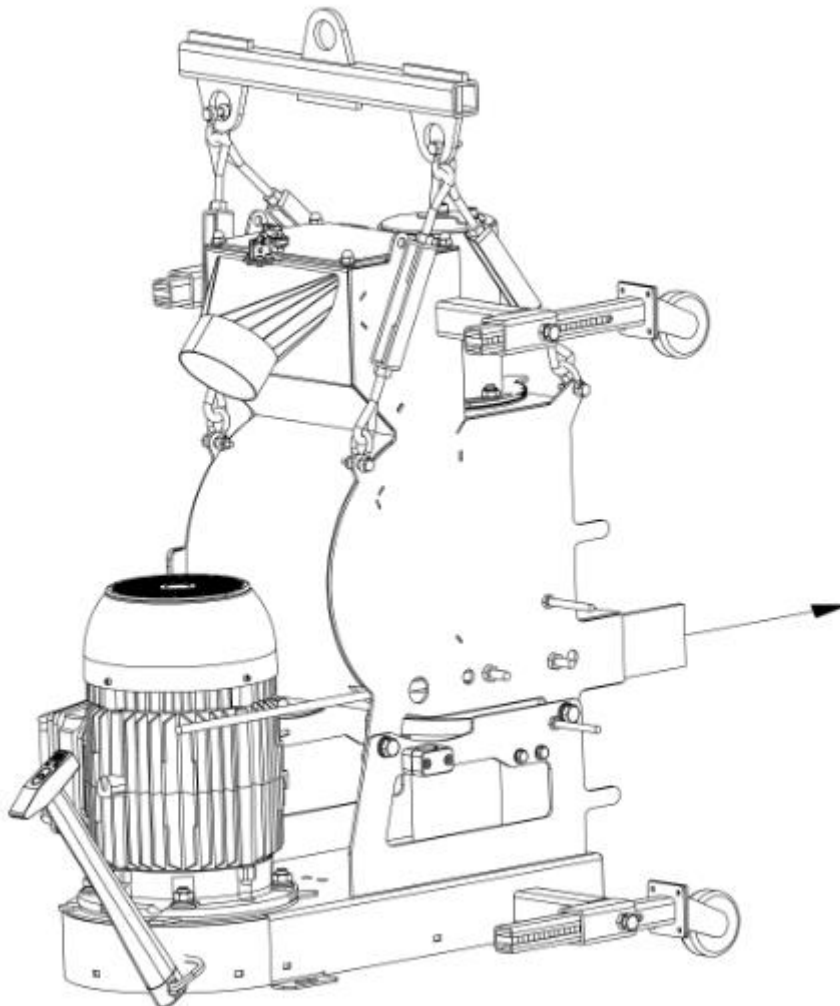


1. Use an air pistol to blow out all dust and dirt between the blasthousing and the rebound liner. Spray WD40 between the blasthousing and rebound liner. Use a brass drift to tap the rebound liner out of the body.



2. Use a  
the side liners

brass drift to tap out



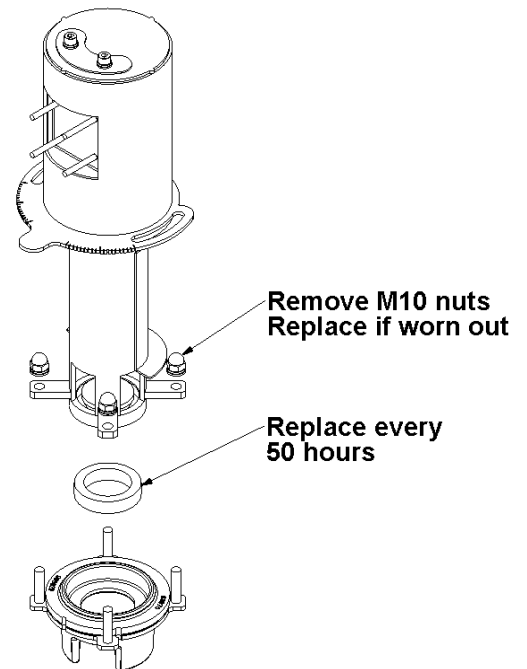




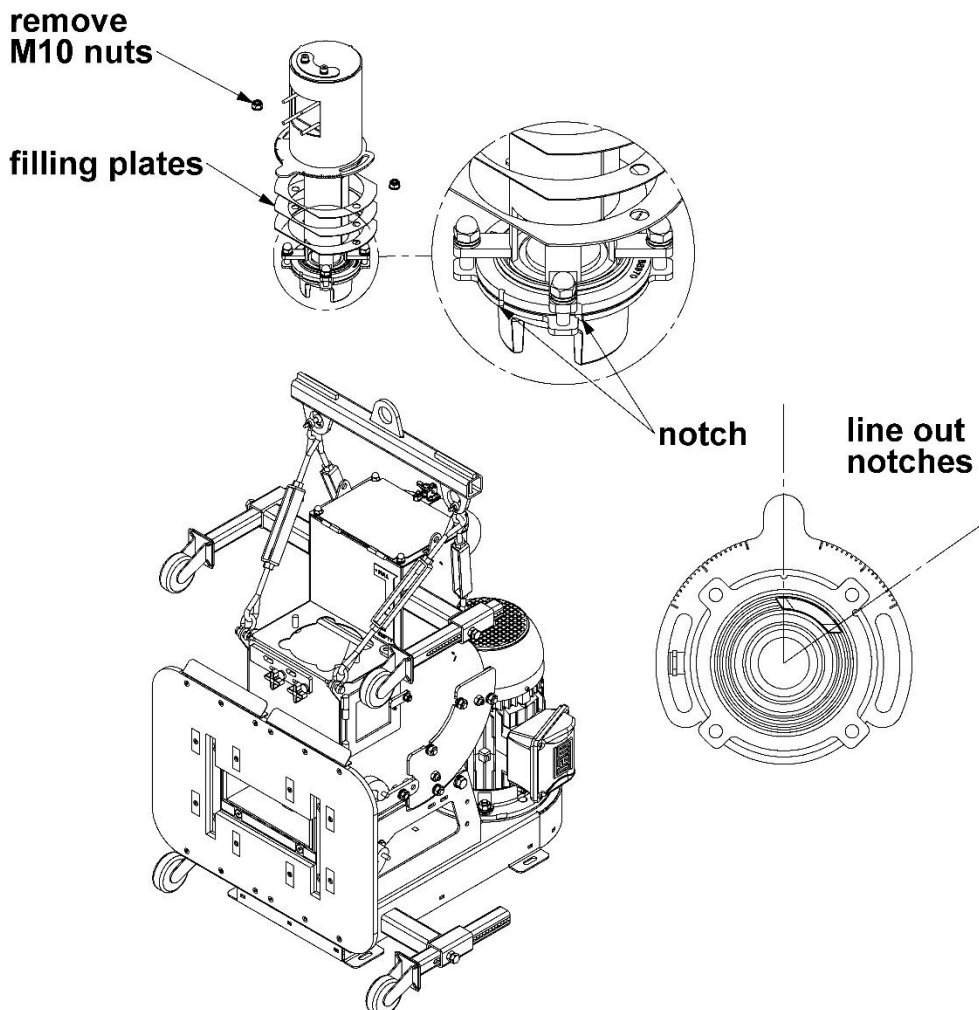
## 6.4 Abrasive valve maintenance 50 hours

It is very important to keep the abrasive valve in good condition. Inspect and clean it regularly. Replace the E10447 Valve seal every +/- 50 hours.

- Remove the abrasive valve by loosening 2x M10 nuts and lift the valve out the machine.
- Unscrew 4x M10 nuts (replace them if they are worn out).
- Replace the valve seal (every 50 hours).  
Part number: E10447 – Valve seal.



- The notches of the cage must be in one line of the notches in the cage ring.



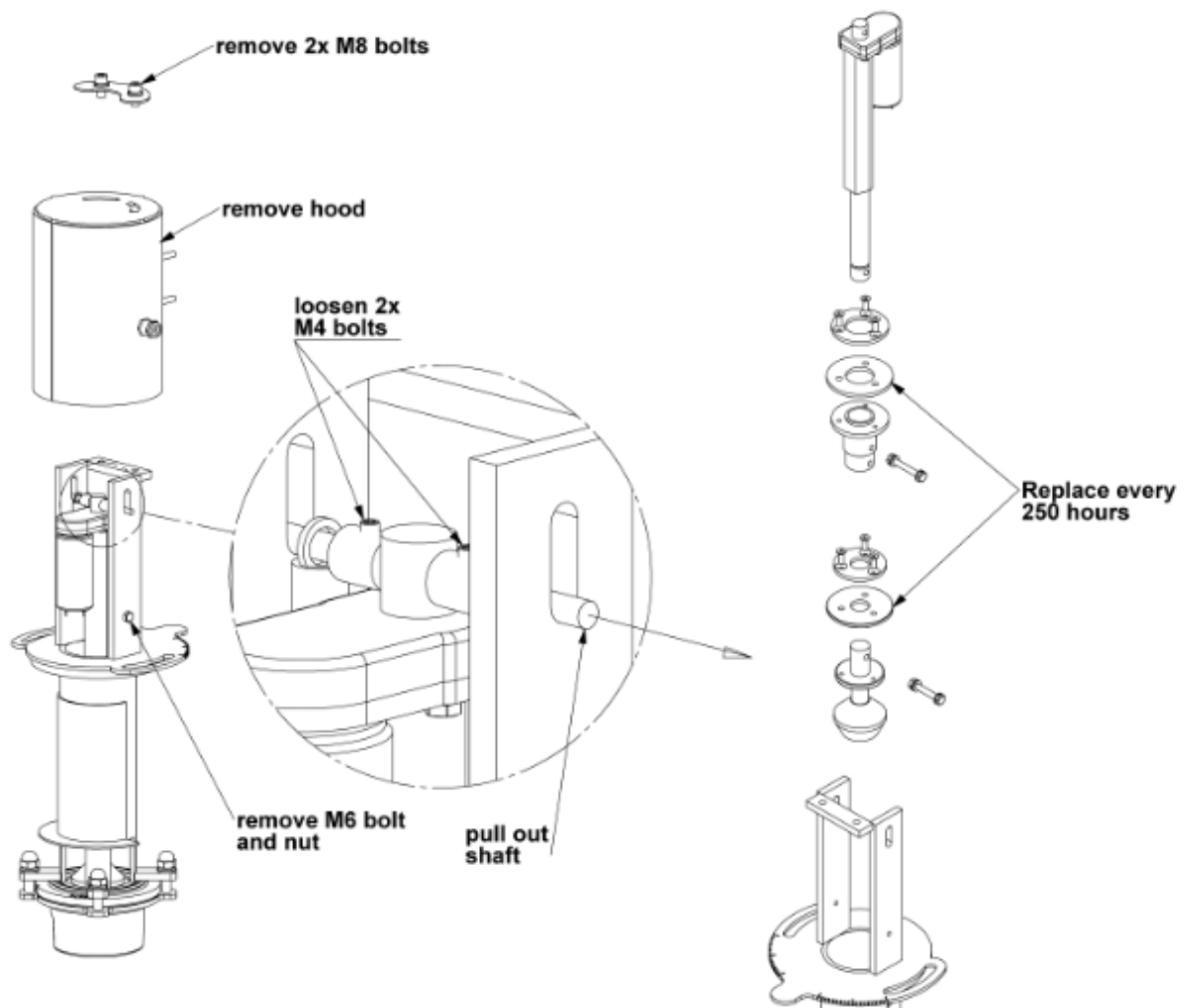




## 6.5 Abrasive valve maintenance 250 hours

The abrasive valve should be overhauled every +/-250 hours.

1. Remove the abrasive valve by loosening 2x M10 nuts and lift the valve out the machine.
2. Remove 2x M8x16 sockethead cap bolts and remove the "Dust plate" (E10457).
3. Remove the "Actuator cover" (E10456).
4. Remove the M6x25 bolt + nut (2x) to loosen the "Tension springs" (E10388).
5. Loosen 2x M4x5 sockethead cap and pull out the "Actuator pin" (E10454).
6. Loosen M6x45 bolt + nut and loosen M6x40 bolt + nut.
7. Loosen 3x M5x16 countersunk head and remove "Seal washer top" (E10453).
8. Replace "Rubber seal washer top" (every 250 hours). Part number: E10452.
9. Loosen 3x M5x16 countersunk head and remove "Seal washer" (E10450).
10. Replace "Seal washer" (every 250 hours). Part number: E10449.



## 6.6 The V-belt

The V-belt drives are designed for the installed driving power. To force a higher output through an excessive high tension of the V-belts will result in broken belts, damage to the bearings and causes loss of the total efficiency. Too low belt tension will cause slipping with the result of a very high temperature of the V-belt and a premature destruction of it. Temperatures over 70° for a longer period will decrease the working life and the efficiency of the V-belts. The grooves of the V-belt pulleys must be free of rust, fat and dirt and must not show any damages. The use of belt wax or similar substances in order to increase the friction coefficient is not necessary and it damages the V-belts. Soiling due to oil, grease or chemicals have to be avoided.

In order to get perfect power transmission the V-belt drives have to be checked every 3 months.

## 6.7 V-belt mounting

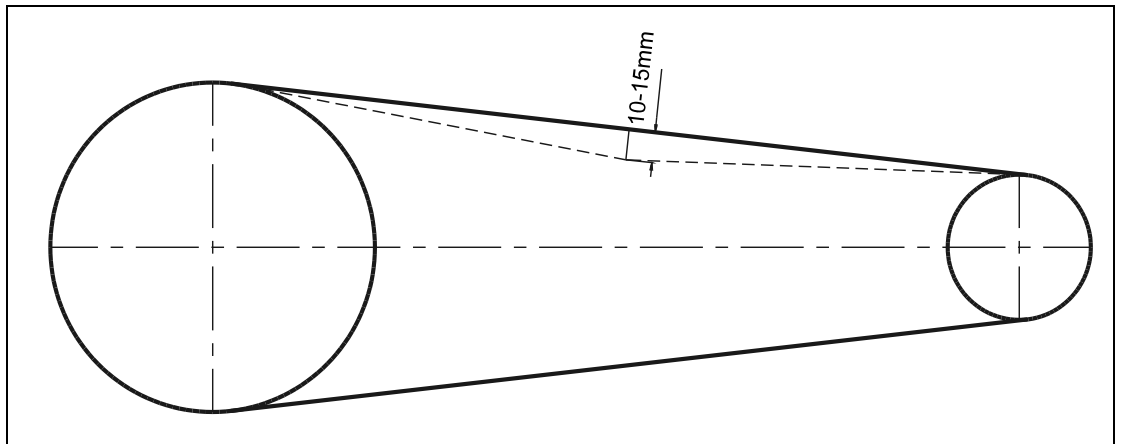
**Remove the belt guard only when the driving motor is in standstill and the power supply cable of the machine is disconnected from the power source.**

- Reduce the distance between the driving motor and the bearing to release the tension of the V-belt drive.
- Carefully put the V-belt in the grooves of the V-belt pulley by hand and without using the force.
- Increase the distance between the driving motor and the bearing to stretch the V-belt as following described.
- Fix the required driving gear guards.

## 6.8 V-belt tension

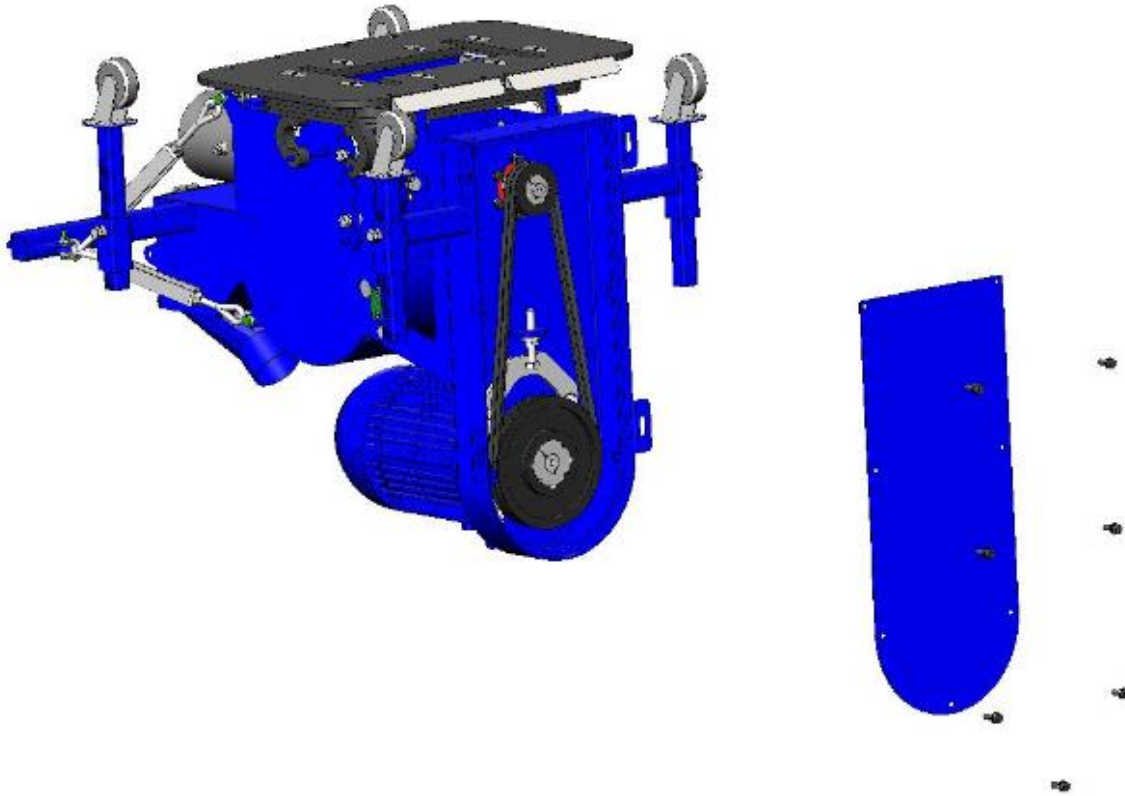
The correct V-belt tension is of utmost importance in order to obtain a perfect power transmission and to reach the usual working life of the V-belt. Too low or too high tension causes frequently a premature breakdown of the V-belt. Excessive belt tension results in damaged bearings at drives.

Check the tension of the V-belt by pressing the thumb on the belt. The belt has the correct tension if you can press it in about 10-15 mm at approx. 10 kg. pressure.





- Loosen 7x M8x30 Sockethead cap and remove the E10440 "Belt cover".
- Loosen 4x M12 nut to loosen the motor.
- Loosen the M12 nut to release the belt tension.
- Replace E01938 "V belt 1280".



## 6.9 Safety check by a competent person

Safety checks of the hoisting equipment must be carried out at least once a year by a certified specialist. Please check the local regulations for the frequency of the safety checks with the local authorities. Exceptional ambient conditions or conditions of operation may require additional safety checks according to the relevant accident prevention regulations for "Hoists, lifting and towing devices" (BGV D8). The equipment must be subjected to a general overhaul after 200 hours at the latest, of operation, by the manufacturer. All results of the annual and extraordinary inspections must be entered at the back of the manual. This is the responsibility of the operating company.



## 6.10 Ammeter digital display

### Selecting the displayed value

By pressing the right key, the display can be switched between the current, min., or max. value.

Pressing the right key once the current function („Act“, „Min“ or „Max“) is displayed for 2 seconds. If within this period the right key is pressed again, the current function is changed. The display shows the new current function for two seconds.

Afterwards the corresponding value is displayed.

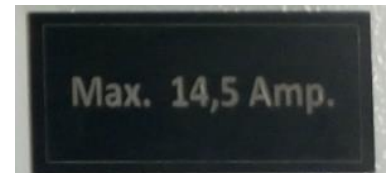
If „Min“ or „Max“ is the current function, the value can be resetted by pressing the left key. If neither storing of min. nor max. value is activated in set up, both keys are out of function.

Ambient temperature: -10 °C...+50 °C

Storage temperature: -25 °C...+70 °C

Protection: IP 65

Cleaning: The front of the unit is only to be cleaned with a soft wet (water !) cloth.



### Wall sensor





## 7. Troubleshooting

Fault	Possible cause	Remedy
Excessive vibration	Blast wheel is worn irregularly. Imbalance due to worn or broken wheel blades.	Replace blastwheel. Remove all broken parts from the machine and replace blastwheel.
Unusual noise	Too little play or poor alignment of the rotating parts.  Loose and incorrect set screws.  Squeaking wheels.  Seizing motor.	Check alignment of the rotating parts (blast wheel and control cage).  Check whether all screws and parts are fixed tightly).  Replace the wheels.  Replace the motor.
Reduced or no blasting performance	Inadequate abrasive supply to the blast wheel.  Contaminated abrasive.  Feeding of abrasive - abrasive valve and abrasive storage hopper.  Blast wheel or control cage.  Adjustment of the abrasive valve.  "Shocked blast wheel". At the start of the blast process too much abrasive at once hits the blastwheel.  The travel speed is too high.	Clean abrasive valve, top up abrasive if necessary.  Abrasive is heavily contaminated, check the dust collection system. Consult the operating instructions of the dust collector.  Check and clean blocked abrasive valve and abrasive storage hopper.  Worn blast wheel or control cage, replace worn parts if necessary.  Check the adjustment of the abrasive valve.  Close the abrasive valve and stop the blast wheel motor. Start the blast process again and slowly open the valve.  Reduce the travel speed.
Machine comes loose off the wall	Poor sealing.  Incorrect adjustment of the spreader beam and/or swivel castor wheels.  Not enough suction power.	Check all seals and replace if necessary.  See chapter 5.2  Check the dust collector. (Filters, dust collection system) Check the hoses and connections. Make sure the hopper cover is closed properly to keep the vacuum in the machine. Check for other causes of air leakage.
Abrasive loss on the surface or escaping abrasive at the blast head	Worn magnetic or rubber seals.  Poor abrasive quality.	Replace the magnetic and/or rubber seals.  Contact <b>Blastrac</b> .



Contaminated abrasive	The dust collector is not generating enough suction power so that dust remains in the abrasive.  Clogged dust hose  Ripped or damaged dust hose	Check the dust collector (filter, dust hopper and seals)  Check and clean the dust hose  Replace dust hose
Excessive wear in blast housing and rebound plenum	Wrong abrasive.  Incorrect setting of the control cage	Contact <b>Blastrac</b> .  The thrown abrasive blasts the housing and not the surface to be blasted. Adjust the blast pattern.
Blast wheel motor does not switch on	Motor protection switch has triggered.	Check and switch on again. Check the mains power supply.
Blast wheel motor switches off during operation	Safety fuse or fault current breaker has triggered.  Connection cable is defective.  Cables connecting the units (winches, motors etc.) are defective.  Motor protection switches have triggered.	Have the fault checked by an electrician.  Replace the cable.  Replace the cable(s).  Have the fault checked by an electrician.

Note: If the motor protection switches of the blast wheel motors have been triggered by overload, they can be switched on again after a short cooling down period.



## 8. Selection of abrasive

The Blastrac blast cleaning machines are designed and built to operate with **Blastrac abrasive**.

Blastrac abrasive has a very high quality and has the rebounding ability required for the efficient use of the machine. The selection of abrasive is very important since this is the material to carry out the surface treatment.

### **Abrasive shot S330 – S390 – S460:**

*Applications:*

Removes coatings with a thickness of 1-3-mm and cleaning of steel surfaces.

### **Abrasive shot S330 – S390 – S460**

The type of abrasive (mix) is depending on the profile requirements.

*Applications:*

- Removes polyurethane coatings
- Removes adhesive remnants
- Removes rubber deposits
- Penetrates coatings hard to remove

Please take into account that the use of incorrect abrasive increases wear.

Our service engineers have the experience to select the appropriate abrasive for the individual cases of application.

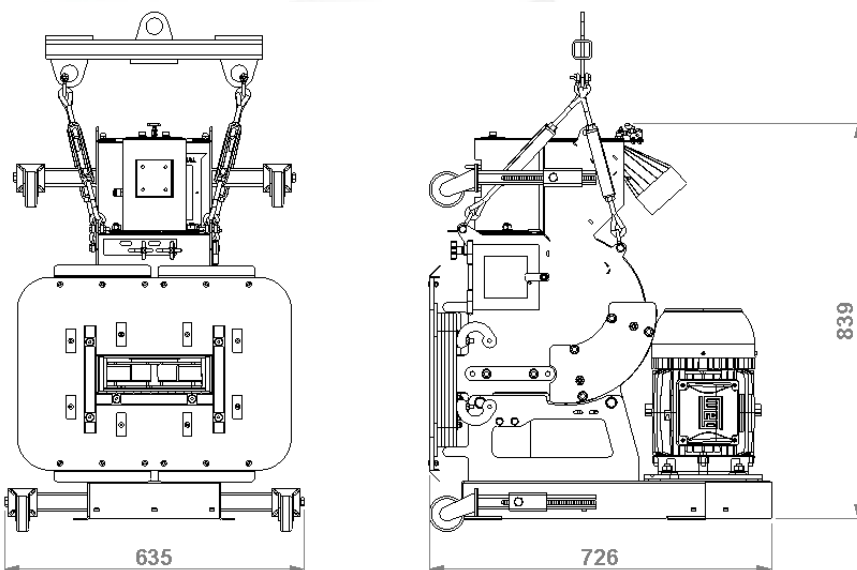
Please consult your local **Blastrac** customer service department if you have any questions about the selection of the best abrasive for your blast cleaning work.



## 9. Technical data

	<b>200VMB</b>
Power consumption blast motor	7.5kW
Electrical connection (voltage is given on the control box)	400V / 50Hz, 32A
Blast width	217 mm
Drive speed	0 – 3 m/min
Depth	726 mm
Width	635 mm
Height	839 mm
Weight	177 kg (without hoses and shot)
Maximum amount of shot	62 kg
Dynamic Test Coëfficiënt	1,1
Winch capacity	At least 340kg
Required Rigging capacity	340kg + weight of the winch + cable
Noise level (under load)	90dB(A)
Dust hose connection	Ø100 mm
Recommended filter unit	200DC

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.



**IMPORTANT NOTES:**

The indicated values are measured on new machines. Noise 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 noise emission level represents the main application 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.

A precise estimation of the level of exposure to noise should also take in account the fact that the blast cleaning machine is remote control operated. Most of the times the operator won't be near the machine during normal activities. 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 ear protection when working with this machine.

**When using a (mobile) crane or rigging**, make sure it has a Work Load Limit of 340kg + weight of the winch + cable / chain. The machine itself weighs 177 kg, but the machine will be filled with shot, has the dust hose attached and has resistance / traction on the treated surface due to the vacuum from the dust collector.

The winch itself has to have a capacity of 340kg.

Old equipment contains valuable materials which are designed for re-processing. **The machine 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.

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

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