



Original instructions in English language

# OPERATING INSTRUCTIONS 2-48DC VERSION 1.4





# **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*
		4		
				*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 using machinery.

# 2. Machine description

The Blastrac dust collector 2-48DC is a high performance machine which is exclusively designed and built to be used in combination with the Blastrac 2-48DS blast cleaning machine. It is equipped with 20 pieces of specially designed high quality Blastrac cartridge filters. The rotating valves transport all generated debris directly into BigBags for easy removal. The 2-48DC can **only** be used for **dry cleaning.** 

It should **only be** used for removing **noncombustible/non-explosive dust or substances**. The 2-48DC must **not** be used for **pathogenic or carcinogenic or asbestos substances**.

Do not use the machine in the presence of dangerous atmospheres.

The machine is designed for usage in conditions according to classification  $\mathbf{M}$  (see below).

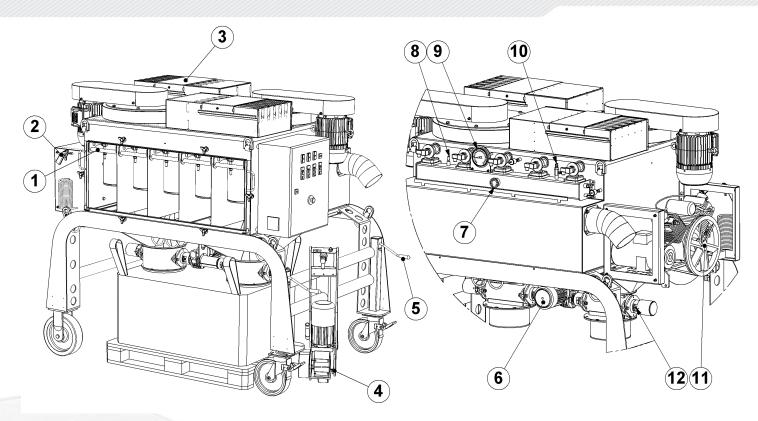
Classification acc. standard EN 60335-2-69 – Annexe AA			
Class	Designation		
L	(light hazard) suitable for separating dust with a limit value of occupational exposure of greater than 1 mg/m3;		
М	(medium hazard) for separating dust with a limit value of occupational exposure not less than 0,1 mg/m3		
н	(high hazard) for separating all dusts with all limit values of occupational exposure, including carcinogenic and pathogenic dusts.		

Dust emissions into the environment			
Class Value of performance			
L	Retains at least 99 $\%$ of Most Penetrating Particle Size (MPPS) 0.3 $\mu m$		
М	Retains at least 99,9 $\%$ of Most Penetrating Particle Size (MPPS) 0.3 $\mu m$		
Н	Retains at least 99,995 % of Most Penetrating Particle Size (MPPS) 0.3 μm		

# **Application**

The 2-48DC is especially designed to be used in combination with Blastrac machines. Contact Blastrac B.V. for the correct execution and combinations.

# **BLASTRAC**



01	Tension system filter bracket	07	Manometer, shows the pressure of the air tank. The pulse to clean the filters must be given between 6 - 7 bar.
02	Air pistol. Use this pistol regular to remove water from the air tank.	80	Safety valve
03	Silencer with air flow pressure regulator.	09	Vacuum gauge, replace filters when indicating 15cm.H2O
04	Drive system with quick release pin	10	Control valve compressor
05	Height adjusting swivel castors	11	Compressor
06	Rotating valve drive motor	12	Gland seal adjusting nut

The dust extractor is provided with an air pulse cleaning system which increases the life of the filter cartridges. This system works by use of pressurized air, built up by a belt driven compressor. The air is led through a water separator to the pulse system.

The conditioned air then passes a control valve which regulates the system pressure, and then builds up pressure in the pulse tank.

The pressurized air is used to generate a pulse of air which cleans the filters from the inside. With every pulse of the pulse system all dust and particles are released from the filter surface and end up in the dust hoppers below the filters, where it travels through the rotating valves to be stored in big bags.

In the case of dust harmful to health, contact the local health and safety authorities, and observe national regulations in force both during use and disposal.

In addition to the Operating Instructions general and legal regulations regarding accident prevention and environmental protection must be complied with and indicated!

Such duties may for example relate to the handling of hazardous substances or to the provision and wearing of personal protection equipment.



# 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.

The machine should not be used in the presence of an explosive atmosphere.

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 or explosion risk when treated. It is also the responsibility of the user to 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.

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.

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 the blast cleaning process.
- d) The surface to be treated must be clean, make sure to remove all stones, screws etc..

  Any stones, screws, bolts, pieces of wire etc. could cause serious damage to the machine if it gets inside the machine!
- e) Make sure there is enough ambient light on the work area. Cluttered or dark areas invite accidents.
- f) Keep children and bystanders away while operating the machine. They are likely not to foresee the potential dangers of the machine. Distractions could cause you to lose control of the machine.
- g) Persons who are not operating the machine must not be permitted to stay in the surrounding area of at least 5 meter from the machine.
- h) Never use the machine when the surface is not clear and if there is a risk of stumbling or tripping.
- i) Remove electrical cables and dust hose(s) from the surface to be treated.
- j) Make sure that there are no cables or hoses in the driving direction of the machine.
- k) Make sure that there is nothing standing or situated on the surface to be treated.
- I) 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 operate the machine when workplace is wet. 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) 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.

- p) 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.
- q) Secure the work area around the machine in public areas providing an adequate safety distance from the machine. Use a red and white safety chain and danger sign to enclose the work area.

# 3.2 Electrical safety

- a) Use only extension cables for extending the main cable that are sized and marked in accordance with the overall power consumption of the machine. Do not use damaged extension cables.
- b) Electrical cables must be rolled entirely off of the reels.
- c) Any damage to the electric cables and/or electrical components is not permitted.
- d) 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.
- 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.
- I) 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 on the treated surface. Electrical cables must not come into contact with water.
- p) During a long standstill of the machine, pull out the main plug.
- q) If the machine is to be operated using power from a generator, the generator must be operated in accordance with the current legal regulations and directives in force. (this applies to the protective earth conductor in particular) in order to ensure that all safety devices are functioning and to eliminate possible damage to electrical components.

# 3.3 Personal safety

# a) Always wear Personal Protective Equipment while working with the machine.

- -Dust mask class FFP3 or higher
- -Ear protection
- -Safety glasses with lateral protection
- -Protecting gloves
- -Safety shoes
- b) Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.
- c) Personnel must tie back long hair and not wear loose clothing or jewellery including rings.
- d) Stay alert, watch what you are doing and use common sense when operating the machine.
- e) Always use the operator support bracket for your own safety.
- f) Always seek professional medical attention immediately in case of injury.
- g) All persons surrounding the machine should wear Personal Protective Equipment.

# 3.4 Machine safety general

- a) Safety functions and operating functions must work correct.
- b) No loose bolts and nuts permitted.
- c) Never operate machine without the guards and/or safety devices in place.
- d) Never change anything on the safety devices on the machine!
- e) Do not use the machine when it is damaged.
- f) Do not open or remove protective guards while driving gears are running.
- g) Hoses and pipe work can be under high pressure. The temperature can be above 37° C. Use only hoses and pipe work that are sized and marked in accordance with the machine's overall power consumption.
- h) The temperature of the machine can be above 37° C.
- i) The machine, specially the handle grips and control devices must be dry and free of fats/oils.
- 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 filters. This will ensure the best performance. Only original parts meet the factory specifications and quality. Otherwise Blastrac BV cannot guarantee the safety of the machine.
  - The part numbers can be found in the Service Manual.
- I) Check the rotating direction of the motor before operation. The correct direction is given with an arrow on the housing of the motor.
- 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!



# 3.5 Dustcollector safety

- a) The Blastrac dust collector can **only** be used for **dry cleaning**.
- b) It should only be used for removing noncombustible/non-explosive dust or substances.
- c) The machine may not be used for pathogenic or carcinogenic or asbestos substances without additional safety measures. Always mind the local safety requirements. Contact your dealer for additional options.
- d) Do not use the machine in the presence of dangerous atmospheres like flammable gasses or dusts.
- e) The machine is designed for usage in conditions according to classification M.
- f) The dust hoses must be undamaged and free of obstructions. They must be connected properly with hose clamps and industrial tape.
- g) Do not point hoses at people or animals.
- h) Never use this machine for sucking water or liquids.
- i) Acids, acetone or solvents can damage the machine.
- j) Never use the machine without the filters in place!
- k) Be sure that rotating valve motor is switched on. This will increase the life-time of the filter cartridges.
- I) Never use the machine without a big bag/dustbin attached.
- m) Regular check the contents of the bigbag. Always wear a **dust mask of at least class FFP3** when changing the bigbag. Comply with the local waste treatment regulations considering the removed material.
- n) Regularly use the air pistol and drain valve to remove water from the air tank.
- o) When temporarily interrupting the work (1/2 hour 1 hour), turn off the fan unit only. Pulse cleaning of the filter system will continue and will increase the life-time of the filter cartridges.
- p) During a longer stand still of the dust collector, first switch off the fan unit. Let the pulse cleaning cycle run for +/- 5 minutes. Switch off the compressor. Remove water from the air tank.
- q) Always close off the inlets of the dust collector when running the pulse cleaning cycle! Failure to do so results in blown out dust, which can be hazardous to the health!
- r) Close the sliding cover of the silencers when the machine is turned off. This prevents moisture, dust and other contaminants to enter the machine.
- s) If dust leaves the filter unit instead of clean air, this is a sign that the filter cartridges are damaged or not fixed correctly inside the chamber.
- t) When a filter is leaking it has to be replaced. The compartment above the filters and silencer also have to be cleaned thoroughly.
- u) Compartments that are not dust-tight must be opened with suitable tools and thoroughly cleaned.
- v) Operators should observe any safety regulations appropriate to the materials being handled.
- w) Make sure the machine is parked on a flat and horizontal surface before operation.
- x) The machine must be braked by actuating the levers on the wheels with brakes.
- y) Do not allow the operation of the machine while it is moving, during operation the machine must be braked.

# 3.6 Maintenance safety

- a) Pull out the main plug and place it in sight, before starting inspections and repairing on the machine, and press Emergency shutdown.
- b) Wait for standstill of all drives before any inspections, adjustments and/or maintenance work is started.
- c) Block machine in stable position before doing any maintenance work.
- d) Failures due to inadequate or incorrect maintenance may generate very **high repair costs** and long standstill periods of the machine. **Regular** maintenance therefore is imperative.
- e) Operational safety and service life of the machine depends, among other things, on proper maintenance.
- f) Prevent premature wear by keeping the machine as dust free as possible. Clean the machine for this reason regularly with a dust collector and non-aggressive materials. Never use a high pressure water cleaner to clean the machine.
- g) Do not use any **aggressive** cleaning materials!
- h) Use lint-free cleaning cloths!
- i) It is advisable to stock all spare parts or wear parts that cannot be supplied quickly. As a rule, production standstill periods are more expensive than the cost for the corresponding spare part.
- j) \*\*\* WARNING! Do not weld, flame cut or perform grinding works on or near the dust collector. Danger of fire or explosion exists!
- k) To allow the user to carry out maintenance operations, the dust collector must be disassembled, cleaned and inspected as far as reasonably possible, without causing hazards for the maintenance staff or other people.



- I) The suitable precautions include decontamination before disassembling the dust collector, 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.
- m) When maintenance or repair procedures are carried out, all the contaminated elements that cannot be properly cleaned, must be destroyed.
- n) These elements must be disposed of in sealed bags according to the applicable regulations and in accordance with the local laws governing the disposal of such material.
- o) This procedure must also be followed when the filters have to be disposed.
- p) Use only original Blastrac parts.
- q) The dust collector must be yearly overhauled by a skilled technician.

# 3.7 Transport safety

- a) Remove the dust from the dust collector before the dust collector is transported.
- b) Always dispose the contents of the dust collector before the end of the working day. Observe the local waste disposal regulations!
- c) Before the dust collector is removed from the hazardous zone, take precautions to prevent dust from escaping.
- d) For class H and M machines, the outside of the machine should be decontaminated by cleaning and vacuuming methods, de-dusted before being taken out from the hazardous zone. All parts of the dust collector must be considered as contaminated when they are removed from the hazardous zone and appropriate actions must be taken to prevent dust from dispersing.
- e) Always close the inlet of the dust collector with the appropriate plug when the dust hose is disconnected.
- f) Make sure the dust hoses are disconnected and put away properly before transport.
- g) 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.
- h) The weight of the 2-48DC is 1107 kg. Use a crane or lift when transporting the machine, use the lifting eyes / lugs of the machine.
- i) Before every use check the lifting eyes/lugs and welds for: deformation, damages, cracks, corrosion and wear.
- Each lifting lug has a WLL of 1500kg.
- k) Pay attention that the drive unit does not turn away during lifting of the machine. Hold on to the steering handle until the machine is of the ground.
- I) 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.
- m) During hoisting make sure to be at a safe distance from the machine with the most optimal view on the machine and working environment.
- n) Never stand directly below the machine.
- 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.
- p) The lifting eyes/lugs can also be used to fasten the machine on a pallet or during transport.
- q) Always drive backwards when driving up to a ramp or grade, and forwards when driving of the ramp.
- r) Chock wheels for transport and keep control handle in neutral position. use the brakes on the wheels.
- s) Don't leave the machine unsecured on jobsites.
- t) Park the machine always on a flat horizontal and levelled surface.
- u) Make sure the electrical cable and dust hose are disconnected before transport.
- v) Store the cleaned and dry machine in a humid free room. Protect the electrical motor from moisture, heat dust and shocks.
- w) Never use the machine for lifting persons or items.



# 3.8 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.



No lifting point.



Lifting point.



DANGER Rotating parts inside. Keep hands clear. Lock-out / shut down before servicing.



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 essential to inspect the machine.

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

# 4.1 Checkpoints power supply

- Use only extension cables for extending the main cable that are sized and marked in accordance with the overall power consumption of the machine.
- Electrical cables must be fully unwind of 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 Checkpoints of machine

- Safety functions and operating functions must work correct.
- Check all screws and other fasteners for tightness. No loose bolts and/or nuts are permitted.
- Check the electrical components, cables and connections for wear and/or damages.
- Dust hose connection must be reliable: use hose clamps and industrial tape.
- Dust hoses must be undamaged and free of obstructions
- Make sure that the Big Bags are empty and connected properly. Put a pallet underneath the BigBags.
- If dust leaves the filter unit instead of clean air, this is a sign that the filter cartridges are damaged or not fixed correctly inside the chamber. Do not proceed! Rectify immediately!
- All water must be removed from the air tank. Excessive water can have a negative impact on the pulse power and shortens the life-time of the filter cartridges.
- Check all air hoses for leakage.
- Make sure the machine is parked on a flat and horizontal surface before operation.
- The machine must be braked by actuating the levers on the wheels with brakes.
- Do not allow the operation of the machine while it is moving, during operation the machine must be braked.

# 4.3 Transport

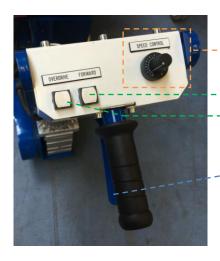
Be careful! Make sure nobodies feet get under the wheels. Wear appropriate safety shoes when you drive the machine to or from the work area.

Remove the dust from the dust collector before it is transported. The dust collector may only be lifted by using the suspension eyelets. The weight and dimensions of the dust collector are shown in Chapter "Technical data".

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



# 4.4 Drive control



Dial for setting the drive speed

Buttons for:

Forward driving (Hold to run) Overdrive (Hold to run)

Drive handle (Hold to run) to activate the drive motor. When the lever is released the drive motor switches off.

The drive control to move the 2-48DC around can be used as followed:

- Connect the dust collector to the power supply.
- Make sure the machine stands on its 4 transport wheels, put the 2 swivel castor wheels on the brakes.
- Make sure the wheel of the drive unit is loose from the ground.
- Follow the next steps to connect the drive wheel to the drive motor.

# Connecting the drive motor to the traction wheel



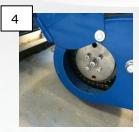
Danger of crushing! Use common sense, do not get distracted during the activities.



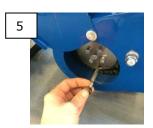
Push the green button "DRIVE"



Set the drive speed knob to the lowest possible setting, approximately 0,5.



Open the wheel guard.



Insert the quick release pin inside the hole.



!WARNING! Use **only 1 finger** to press the button of the quick release pin, and keep applying pressure.



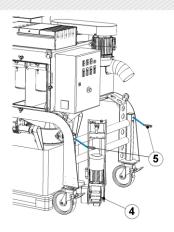
Use your other hand to operate the drive-motor handle (10).



When the drive-motor and wheel are aligned, the quick release pin will lock into place. Close wheel guard.



• Use the 2 height adjustment handles (5) to crank up the 2 swivel castors wheels until the machine rests on the drive unit.



# 4.5 Driving with connected drive motor

Set the driving speed at the desired speed using the speed control knob. Place 1 hand on the handle grip and squeeze the switch lever, this will move the machine towards you, this is the normal driving direction. Release the switch lever to stop. The driving speed can be adjusted while driving by turning the speed control knob.

The OVERDRIVE-button makes it possible to drive at maximum speed without having to adjust the speed control knob. To do so, press and hold the OVERDRIVE-button while driving. **WARNING!** Mind your surroundings at maximum speed!

The FORWARD-button is used to drive forward, press and hold the button to do so. **WARNING!** Make sure there is nobody standing behind the machine! This function is only used for short maneuvering. Make sure the dust hoses and electrical cable are out the way when driving forward.



When the dust collector is not being moved around, it should always stand on its 4 transport wheels. Make sure the dust collector is parked on a flat horizontal and levelled surface. Put the 2 swivel castor wheels on the brakes.

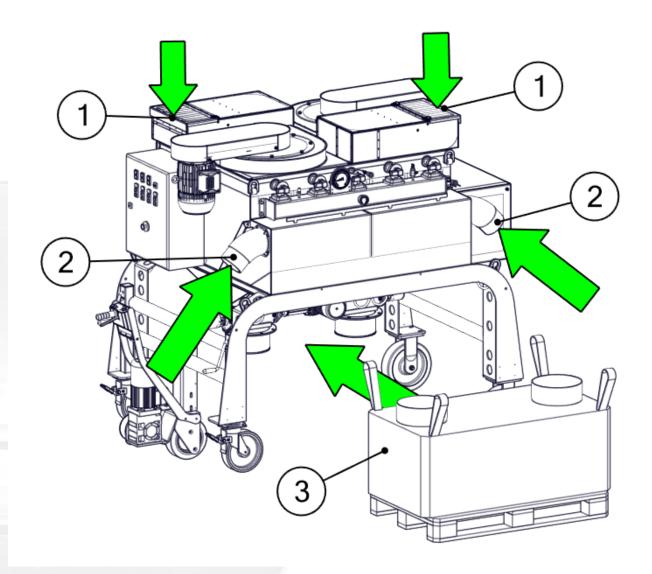


# 5. Operation

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

#### 5.1 **Before operation**

- 1. Close both silencers
- Fasten both dusthoses
   Place a bigbag underneath the dust collector and fasten it. Put a pallet underneath the bigbag.





# 5.2 Starting / stopping the machine

 Make sure both silencers on top of the machines are closed before every startup!

Starting up with opened silencers can cause start-up failures and could cause excessive wear of the v-belts.

- Connect the dust hoses to the machine.
- Connect the dust collector to the power supply.
- Check the warning lights, if a warning light is lit, see 5.5 Startup Problems for guidance.
- Switch on the compressor motor (1).
- Switch on the rotating valve motor (4).
- Switch on the fan motors (2) wait for the fans to get at full speed.
- Open the silencers on top of the machine.
- Carry out this actions in opposite sequence to stop the machine.



# 5.3 Work with the machine

- Be sure that rotating valve motor is switched on and the compressor pulses at the correct pressure. This will increase the life-time of the filter cartridges.
- Regularly check the contents of the big bag, exchanging the big bag too late can cause a big mess and be potential dangerous to the health.
- Regularly use the air pistol to remove water from the air tank.
   Excessive water can have a negative impact on the pulse power and shortens the life-time of the filter cartridges.
- The suction power of the dust collector can be adjusted with the air flow pressure regulators on the silencer. Slide the hoods open for more power, and close them for less power.

# 5.4 Interrupting work

- This machine is built to work with continuously, leave the 2-48DC running during short interruptions.
- When temporarily interrupting the work (1/2 hour 1 hour), turn off the fan unit only and close the silencers. Pulse cleaning of the filter system will continue and will increase the life-time of the filter cartridges.
- During a longer stand still of the dust collector, first switch off the fan unit. Let the pulse cleaning cycle run for +/- 5 minutes. Switch off the compressor unit and rotating valves.
- Disconnect the power-supply cable.
- Close the sliding covers of the silencers when the machine is turned off. This prevents moisture, dust and other contaminants to enter the machine.
- Prevent unauthorized persons from getting access to the dust collector or take measurements to prevent unauthorized working with the equipment.

# 5.5 Startup Problems

- If the light 'Failure' (6) is lit up, a fault has been detected and the system has shut down.
- If the light 'Phase Incorrect' (5) is lit up, the phases of the power connection are wrong. Correct this by changing the phase inverter inside the main power plug.
- If the light 'Control Voltage' (7) is not lit up, the machine has no power supply.



# 5.6 Replacing a bigbag

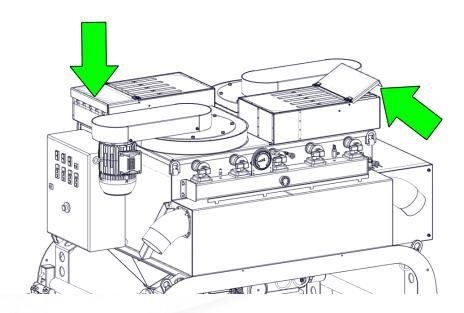
# **ATTENTION!** Wear a dust mask of at least class FFP3!

- 1 Shut down the rotating valves by pushing the red button the control box.
- 2 Remove and close the funnel of the BigBag.
- 3 Remove the bigbag from the dust collector.
- 4 Place a new pallet and bigbag, sleeve the funnel on and secure it with the pull strap.
- 5 Turn the rotating valves on by pushing the green button on the control box.

# 5.7 Silencers

The silencers on top of the dust extractor reduce the noise emission.

The 1<sup>st</sup> silencer will close automatically when starting up the fan-units. Starting up with open silencers can cause start-up failures and could cause excessive wear of the v-belts.



# **IMPORTANT NOTE!**

Always close off the inlet of the dust collector when running the pulse cleaning cycle! Failure to do so results in blown out dust, which can be hazardous to the health!



# 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 dust collector. **Regular** maintenance therefore is imperative.

Operational safety and service life of the dust collector depend, among other things, on proper maintenance.

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

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 all safety devices working adequate. Check the function of the residual current operated device. Check the hose connections for tightness and fixed seat. Check the hose to the filter for damages. Make sure there is no water in the air pressure tank. Check the electric connections and motors for sediments of dirt, foreign bodies and other contaminants. Check the belt tension of the compressor.
Weekly	Clean the air filter of the compressor. Check the oil level and quality of the compressor. Check the shaft seals of the rotating valves for release of dust.
	Check the bearings of the rotating valves for more/higher noises.
Every month	Check the motor and drives of the rotating valves for oil leakage.
	Check the rotor blades of the rotating valves for wear and leaking air.
Every 3 months	Clean the upper section of the filter unit. Clean or replace the air filter of the compressor. Clean or replace the filter inside the water separator. Check the tension of the V-belts Clean the chain drive of the drive unit and check the tension.
Annually or 400 hours, whatever comes first	Full overhaul and cleaning of the complete dust collector. Change oil of compressor unit.

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 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 dust collector and its drives, secure the dust collector against unintentional switching on. Put the dust collector to its safety off position. Also make sure there is no air pressure on the pulse system. 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.

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

Any guarantee on the machine is expired when:

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

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

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



# **BLASTRAC**



### **Pressure Diff.**

This indicates the pressure difference between the clean and dirty side of the filters. To check the status of the filters.

A vacuum gauge measures the difference between the under pressure above the filters and inner filter house. This readout indicates the degree of pollution of the filters, with this system you can always keep an eye on the condition and pollution of the filters inside the dust extractor. It can also help you fine-tune the airflow when precise adjustment is required for the job.

# 6.1 When to change the filters?

When the "Pressure Diff" gauge is above 20 cm H2O, the filters are probably clogged.

If the vacuum cleaner loses suction power first try the following before continuing:

- 1. Check if the blower throttles on the silencers are fully opened.
- 2. Ensure that the compressor is fully pressurized and then turn it off. Remove all moisture from the compressed air tank by using the drain valve. Turn on the compressor again until it is fully pressurized again, now use the air gun to completely empty the pulse tank.
- 3. Only turn on the compressor, and keep the fan unit turned off. Let the machine pulse for about a half an hour. This action will clean the filters from the inside.

When the "Pressure Diff" gauge keeps indicating more than 20 cm H2O, the filters probably need to be exchanged.

Or when the machine still does not perform adequately, the filters probably need to be exchanged.

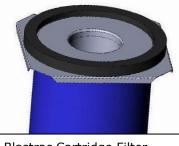
# If the silencers blow out dust, stop the machine immediately!

This means probably that a filter is damaged or not fitted properly inside the filter chamber. Check the filters and replace if necessary.

When a filter was damaged, has leaked or was mounted incorrect, it has to be replaced. The compartment above the filters, the connecting air hoses and the silencer also have to be cleaned thoroughly.

Continuing work with a broken/leaking filter can cause serious damage to the machine and is a health hazard!

Never expose the filter cartridges to moisture!



Blastrac Cartridge Filter IFA/BIA certificate M-class

Order nr. E10600



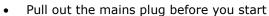


# 6.2 Changing the filters

Read chapter 3 Safety before changing the filters.

Operators should observe any safety regulations appropriate to the materials being handled.

Warning! Always wear Personal Protective Equipment, the dust can be hazardous to the health!



- Always wear gloves and a dust mask of at least class FFP3
- Use an extra vacuum cleaner in order to work as dust free as possible

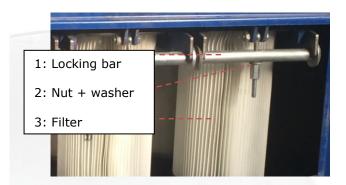








Make sure you have enough sturdy plastic bags or use big bags for the disposal of the old filters. Observe the national regulations in force both during exchange and disposal of the old filters.

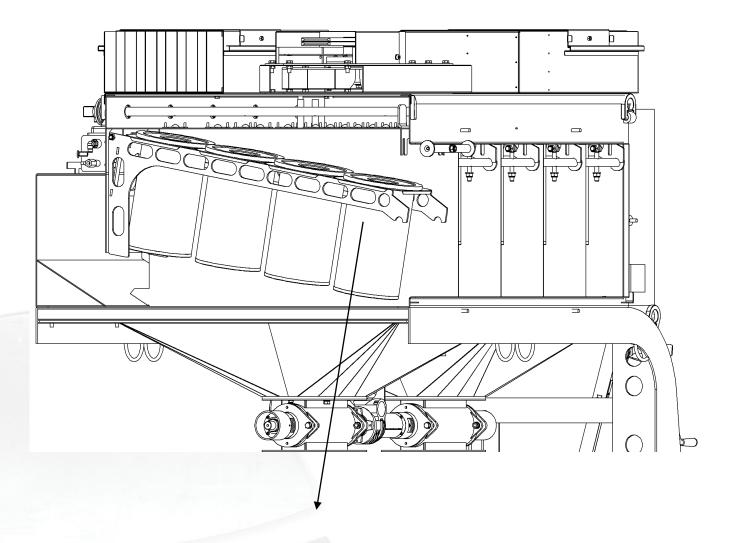


- · Remove the filter house door.
- Loosen the nut+washer (2).
- Remove the locking bar (1).
- The filter bracket will now be tilted downwards so the filters can be taken out easily.
- Slide out the filters (3) and put it in a sturdy plastic bag.
- Close the bags properly.

When a filter was damaged, has leaked or was mounted incorrect, it has to be replaced. The compartment above the filters, the connecting air hoses and the silencer also have to be cleaned thoroughly.



When mounting new filter cartridges pay attention that their gasket at the upper side lies firm at the sheet steel of the filter chamber. A tilt of the filter cartridge result in leakage and they suction contaminants in the clean part and consequently blow they backwards in the outer air.



# If the silencer blows out dust, stop the machine immediately!

This means probably that a filter is damaged or not fitted properly inside the filter chamber. Check the filters and replace if necessary.

Continuing work with a broken/leaking filter can cause serious damage to the machine and is a health hazard!



# 6.3 Pulse system

The Dust collector is provided with an air pulse cleaning system which increases the life of the filter cartridges and ensures a constant suction power. The system works by use of pressurized air, built up by a compressor The air is leaded through a water separator to the pulse system.

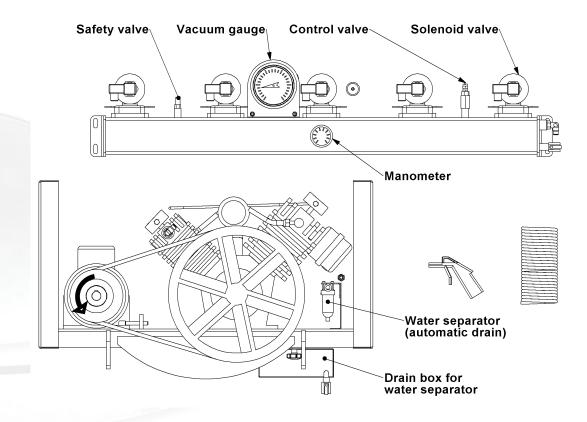
The cooled air passes a control valve, which regulates the systems pressure , and then builds up pressure in the pulse tank.

Normally the pressure in the system lies between 6 and 7 bar. The control valve is activated above 7 bar. The safety valve mounted on the compressor is activated at approximately 10 bar.

This provision is to ensure that when there is a defect in the Control valve, the pressure in the pulse tank remains within safe limits.

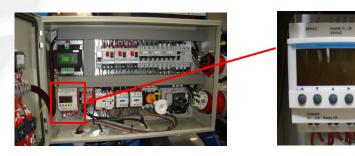
If the pressure of 7 bar is not reached, it is possible that either the filter of the water separator or the air filter of the compressor is dirty.

If inspection of the water separator and compressor shows no abnormalities, it is possible that either there is a leakage in the air tubing, or the control valve is defect. In that case replace the defective parts or have it checked by Blastrac.



When there is pressure but the pulse system does not function, there might be a problem in the electrical system which controls the pulsing system. Check the wiring and the PLC-settings.

This unit is at delivery of the dust collector already programmed with regard to optimal filter cleaning. If however doubts arise about settings, this unit can be checked. We advise to contact **Blastrac** support in order to prevent operational problems.





# 6.4 Water separator

The water separator filters dirt particles, oil and water from the air. It is recommended to replace the filter after every 450 operating hours.

**<u>NEVER</u>** remove the water separator from the pulse system. The water separator keeps the pulse system from clogging up with oil, dirt and water.

- 1. Head
- 26. Valve
- 27. Floater
- 28. O-ring
- 29. Bowl
- 30. O-ring
- 31. Filter element
- 36. Louver

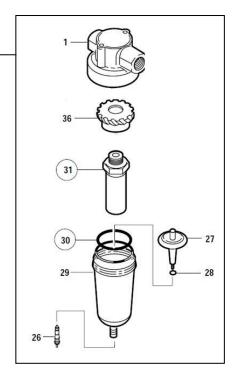
This spitter type drain operates momentarily when a rapid change in air flow occurs or when the supply pressure is reduced.

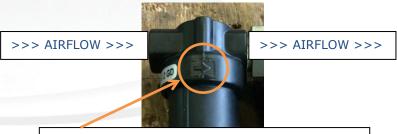
The separated water will be drained in the 'Drain Box' It has to be emptied daily.

# Checking the filter:

Unscrew 29. Bowl and keep it upright, so that the vlotter and o-ring will stay in place.

Check 31. Filter element on contaminants and calcium deposits. Clean the filter with warm water and pressurised air or replace if needed.





Notice the arrow on the water separator, showing the correct airflow.





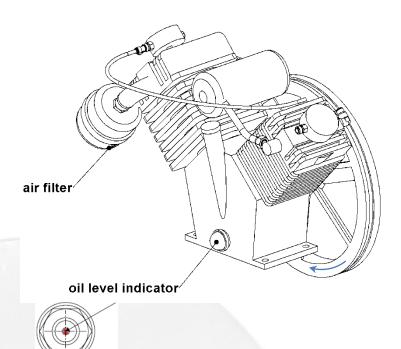
# 6.5 Compressor

The oil level and oil colour of the compressor should be inspected once per week. The air filter of the compressor should be cleaned every 48 hours. Only use air to clean the air filter. Replace the air filter at least once every 6 months or 450 working hours (whichever comes first).

The red point on the oil level glass indicates the normal oil level. (About 0.25 liter.)

The oil in the crank case lubricates all moving parts so that no other lubrication is necessary.

The oil in the compressor should be clear and transparent. If the oil is dark and dirty it has to be replaced.



# Oil change

Carry out the first oil change after 48 working hours, then after maximum 450 working hours when using synthetic oil, and after 150 working hours when using mineral oil. Please note that oil change must be carried out at least once every 6 months.

Use only oil especially intended for compressors, according specification C.T. 68 (ISO 68-viscosity).

Blastrac Compressor oil - Part nr. E00498

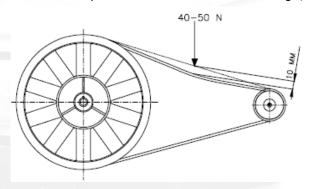
Prior to draining off the oil, the compressor unit should have operating temperature.

Check oil level 2 or 3 minutes after stopping.

The compressor is factory filled with synthetic oil. Because of the rough conditions Blastrac recommends to use synthetic oil.

Oil must be visible in oil sight glass but never above or below the red point.

After approximately 20 operating hours check the belt tension of the compressor. When the tension is too low the belt will slip and when the tension is too high, the belt may break and cause damage to the bearings.



When the belt can be pressed in by hand 5 - 10mm, it has the correct tension. (At +/- 10 kg pressure)

If the compressor does not attain the required working pressure or becomes too hot, check the following:

- Suction filter
- V-belt tension
- Oil level and quality of oil
- Leaks in the system
- Dirty cooling ribs

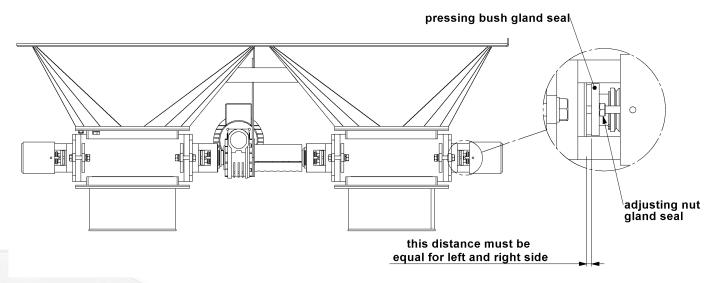
- Valves and seals
- Rotating direction of the flywheel
- Loose bolts
- Non-return valve
- Drain valve for water release

IMPORTANT Make sure the compressor cannot turn on and make sure there is no pressure in the system before dismantling any part of the compressor.



# 6.6 Rotating valves

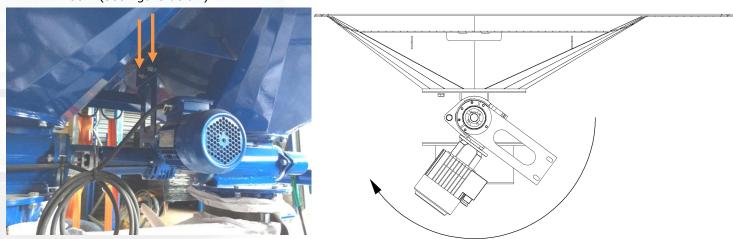
The rotating valves have gland seals that must be tightened by the adjusting nuts when the gland seals are leaking dust. It is important that the pressing bush is not on a angle. Tighten the nuts 180° and test the rotating valves are still leaking dust. Do not over tight because that will damage the gland seal.



# Replace rotating valve seals

Replace the rotating valve seals when they are damaged or worn out.

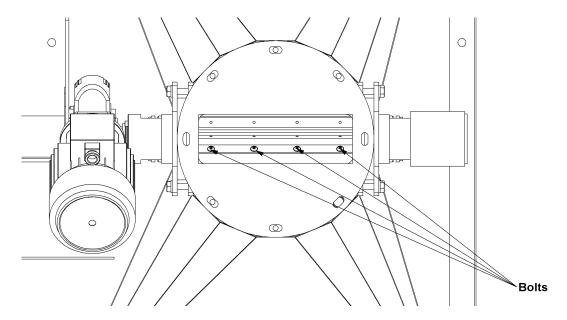
- 1) Remove the two big bag adapters by removing the 8 bolts.
- 2) Remove the two bolts of the drive motor plate that is fixed to the body of the dust hopper. Now it is possible to rotate the rotating valves by rotating the drive motor with drive motor plate for more than 180°. (see figure below).



3) Pull out the main plug and remove the bolts and clamp strip of the rotating valve blade.



4) Place the new blade and clamp strip and bolts. Apply Loctite 243 on the bolts. First tighten the two outside bolts, than tighten the two inside bolts. Make sure that the seal is in one line with the valve housing and check that the seal has a minimum clearance with the valve housing.







### 6.7 The V-belts

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.

# 6.8 V-belt mounting

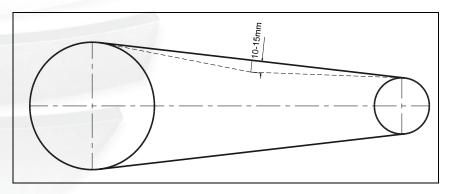
Remove the belt guard only when the driving motor is in standstill and the power supply cable of the machine is disconnected from the power source.

- 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.

# 6.9 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 to 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.





#### 6.10 The chain drive

A chain drive needs relatively little maintenance when the correct chain is selected, when it is mounted correctly and, in this case of application, is not lubricated. The drive chain is protected by a chain guard. The chain guard prevents excessive contamination and prevents accidents.

The chain drive should be cleaned every three months. On these occasions check the aligning of the chain wheels and the chain tension.

# Cleaning

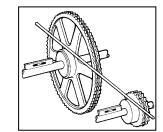
In order to clean thoroughly first remove the dirt adhering to the outside of the chain drive using a hard or wire brush. Then wash the chain in petroleum ether or similar.

After that clean the dirt from the internal parts of the chain.

# Alignment of the chain wheels

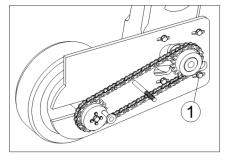
Check the mounting precision by means of a ruler to be put to the chain wheels.

Incorrect mounting makes the internal link plates press against the external link plates and, thus, accelerates the chain wear or even causes the chain wheels to lock up.



#### Chain tension

The travel drive motor is mounted on a receiver plate with slotted holes. When it is necessary to re-tense the chain, this can be carried out by shifting the motor in the slotted holes (1). The correct chain tension is achieved when the chain allows to be pressed for about 5 mm between the chain wheels.

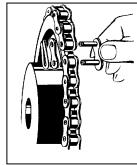


## Fitting the chain

Before mounting the chain it must be degreased to prevent any abrasive or abrasive particles from adhering.

The chain is supplied as a chain string and has to be prepared during mounting. This is done as follows: Place the chain on the chain wheels so that the links lie in tow adjacent gaps between the teeth. Now close the chain using the coupling link. With heavy chains or big distances between the shafts use a pre-stressing tool in order to bring the two end links so close together that the coupling link can be inserted without being deformed.

On mounting coupling links with springs, their closed sides should point to the running direction of the chain (see figure). Put the spring onto the link plate and press it over the pin into the ring groove by means of a pair of tongs. Demount the spring in the opposite order.





# Re-lubrication of the traction wheel bearings

The bearing units of the traction wheel are equipped with a grease fitting which allows the bearings to be relubricated in service. Re-lubricating the bearings once every 2 years should be more than sufficient.

When lubricating, care must be taken to use greases that are compatible with the original grease. We suggest a medium temperature, lithium calcium bace, NLGI Grade No. 2 grease having an oil with a viscosity of 200mm²/s at 40°C. When a unit is being re-lubricated, avoid excessive pressure which may cause damage to the bearing seals.



# Other maintenance

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

# 7. Troubleshooting

Prior to any repair works on the equipment or its drives the equipment must be secured against unintentional switching-on. Disconnect the power supply.

Fault	Possible cause	Remedy	
Unusual noises	To little clearance or wrong adjustment of the rotating parts	Check the alignment and adjustment of the rotating parts. Check screws and all parts for tight seat.	
	Too little grease in the bearing	Lubricate the bearing.	
	Silencer assembly defective	Check and replace if needed.	
Too low or no pressure	Check the whole pneumatic system for leaks.	Fill the leaks or replace the damaged components.	
	Dirty airfilter	Clean or replace the air filter of the compressor.	
	Check the tension of the compressors V-belt.	Adjust the tension of the V-belt.	
	Dirty/too little oil in the compressor	Change or refill the oil.	
Bad or no filter cleaning	Pressure too low.	See above.	
	Pulse timer / PLC defective or wrong settings.	Contact Blastrac.	
No suction power	Dirty filter cartridges.	Clean or replace the filter cartridges.	
	Foreign air leaks in the dust container.	Check the alignment or replace the seal.	



	Obstructed or ripped dusthose.	Check and replace if necessary.
	Check the tension of the blower/fan V-belt.	Adjust the tension of the V-belt.
Motor failure warning light is lit	The motor protection switch was triggered, for example: caused by wrong power supply or defective equipment.	Check the power supply for the correct voltage and Hertz.  Call for a skilled electrician to check the motor protection switch inside the electrobox.
Phase sequence warning light is lit	The phases of the power supply are connected wrong.	Call for a skilled electrician to change the phase inversion switch inside the electrobox.

Note: If a motor protection switch has been triggered by overload, it can be switched on again after a short cooling down period.

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

Despite the fact that this guide is made with care, Blastrac takes no liability for errors in the manual and the possible consequences. We are naturally very interested in your findings and additions. No part of this publication may be reproduced and / or published in print, photocopy, or other form without prior permission by Blastrac.



# 8. Technical data

	2-48DC
Power consumption	18 kW
Electrical connection 2-48DC	400-440V / 50 or 60Hz (is given on elektro box) 32A CEE plug 5 pole
Air stream	(2x) 2200 m3/hr
Dust hose connection	(2x) Ø150 mm
Dust hose length	20m
Big bag capacity	385 L
Filter surface	94m²
Length	2293 mm
Width	1410 mm
Height	1956 mm
Weight	1107 kg
Pressure adjusting compressor	6-7 bar
Pressure differential filter surface (MAX)	50-150 mm/WS 2-6 inch / WG
Noise level (at 1 mtr. distance)	Up to 83 dB(A)

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

# **Extension cables**

Cable length	Cross section				
Cable length	≤ 16 A	≤ 32 A	≤ 63 A	≤ 125 A	
Calculated at a pre-fuse GG:	16amp*	32amp*	63amp*	125amp*	
> 20m	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	10 mm²	25 mm²	
20m > 50m	2.5 mm <sup>2</sup>	4 mm²	10 mm²	25 mm²	
50m > 75m	4 mm <sup>2</sup>	6 mm <sup>2</sup>	16 mm²	35 mm²	

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



# **IMPORTANT NOTES:**

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

The values may be measurements from a representative sample of technically comparable machinery. The values may be used for a preliminary assessment of exposure.

Always use ear protection when working with this machine.

The original Operating Instructions are in the English language. Any other language is a translation of the original version.





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WE'RE READY TO ASSIST YOU!

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