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MODEL BGS-250 Grinder



CONTENTS – SECTION 1

- 1.1 Rating
- 1.2 Unit specifications
- 1.3 Operative range and correct usage
- 1.4 Stand-by power supply
- 1.5 Machine type designation

OPERATING MANUAL



1.1 RATING

Unit / Designation: Diamatic Grinding Machine

Machine Type: BGS-250

Manufacturer:



Diamatic BV	Diamatic US
Utrechthaven 12	13201 North Santa Fe
3433 PN Nieuwegein	Oklahoma City, OK 73114
THE NETHERLANDS	United States of America
T +31(0)30 – 601 88 66	Local: 405/478-3440
F +31(0)30 – 601 83 33	toll-free: 800/256-3440

1.2 UNIT SPECIFICATIONS

Technical Data:

Grinding machine	BGS-250
Tool diameter	250 mm \varnothing (~10 in.)
Working width	250 mm (~10 in)
Dust hose connection	50 mm \varnothing (~2 in)
Recommended Dust Collector	Contact Diamatic for a suitable dust collector

230V Machines:

Power consumption	2,2 kW
Connected loads	230V, 50 Hz for CEE-plug Fuse protection 16A
Cable Connected loads	CEE plug and Coupling 16Amp Up max 50M in 2,5mm ²



115V Machines:

Rated HP Output	1.75 HP
Connected loads	115V single phase, 15 FLA
R.P.M.	1725

Dimensions:

	BGS-250
Length	46.4 in / 1180 mm
Width	20.5 in / 520 mm
Height	45.3 in / 1150 mm
Weight	154 lbs / 70 kg

1.3 OPERATIVE RANGE AND CORRECT USAGE



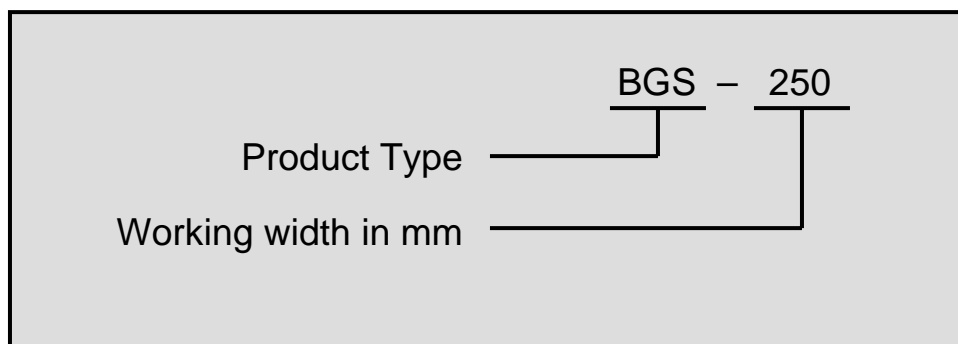
The BGS-250 is exclusively designed to process horizontal surfaces. The machine must not be used for other purposes. The manufacturer will not be liable for damage resulting from incorrect usage. In these cases, the user takes responsibility for all risks.

1.4 STAND-BY SUPPLY (GENERATOR)



If the BGS-250 is to be operated using power from a generator, the generator must be operated in accordance with the current U. S. National Electric Code guidelines or European VDE standards, as appropriate (this applies, but is not limited 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.

1.5 MACHINE TYPE DESIGNATION



CONTENTS – SECTION 2

- 2.1 Warnings and symbols
- 2.2 Organizational measures
- 2.3 Personnel selection and qualification
- 2.4 Safety precautions applicable to different operating conditions
- 2.5 Special work within the scope of use of the equipment and maintenance activities, as well as repairs during operation
- 2.6 Definition of the safety off position
- 2.7 General safety considerations
- 2.8 Electrical engineering regulations

OPERATING MANUAL



SECTION 2 SAFETY INSTRUCTIONS

2.1 WARNINGS AND SYMBOLS

The following denominations and symbols are used in the Operating Instructions to highlight areas of particular importance:



Symbol of operational safety.
In these Operating Instructions this symbol will be shown next to all safety precautions that are to be followed to maximize safety and equipment performance. Follow these instructions and take special care in these circumstances. In addition to these instructions, the general safety precautions and accident prevention guidelines are also to be followed.



Particular details regarding the economical use of the equipment



Information, instructions and restrictions with regard to possible risks to persons or to extensive material damages



Warning of dangerous voltages



Indicates protective devices in electrical appliances

SECTION 2 SAFETY INSTRUCTIONS



Indicates where consultation with the manufacturer is required.



Instructions relating to periodic checks.



Reference to important instructions contained in the Operating Instructions.

2.2 ORGANIZATIONAL MEASURES



These Operating Instructions are to be kept with the machine, and must be within reach at all times!

In addition to these Operating Instructions, general and legal regulations regarding accident prevention and environmental protection must be complied with per local regulations.

Such duties may, for example, relate to the handling of hazardous substances, or the provision and wearing of personal protection equipment, as well as compliance with traffic regulations.

The Operating Instructions must be supplemented by other instructions, including the duty to supervise and report incidents relating to particular working practices, for example work organization, work procedures and personnel safety.

Personnel entrusted with working with the machine must read and understand the Operating Instructions before starting work, paying specific attention to the Safety information. To read these instructions after work has commenced is too late. This particularly applies to incidental activities such as setting up the equipment, carrying out maintenance work or training staff to work with the machine.

OPERATING MANUAL



SECTION 2 SAFETY INSTRUCTIONS

From time to time the working practices of the operators are to be checked by a supervisor, especially regarding awareness of safety and hazards.

Operators must tie back long hair, and not wear loose clothing or jewelry including rings. There is a risk of injury by items getting caught, or being drawn into moving machinery.



Use personnel protection equipment if necessary or required by local regulations! Take notice of all safety and hazard notices on the machine!

All safety and hazard notices at or on the machine must be kept complete and legible.

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 remedied.



Changes, additions or conversions to the machine must not be made without the manufacturer's permission!

This applies in particular to the fitting and adjustment of safety devices.

Spare parts must comply with the technical requirements specified by the manufacturer. This is always guaranteed if original spare parts are used.



Intervals for recurring checks and inspections specified in these Operating Instructions must be complied with.

To perform maintenance work correctly, it is imperative to be equipped with the proper tools for the task.



The location and the operation of fire extinguishers must be made known on each work site.

Take note of the facilities for reporting and fighting fires.

OPERATING MANUAL



SECTION 2 SAFETY INSTRUCTIONS

2.3 PERSONNEL SELECTION AND QUALIFICATION

Fundamental duties:

Work on the machine may only be undertaken by trained personnel.

Only trained personnel may be employed. Note the statutory minimum age. Clearly specify the responsibilities of personnel for operation, setting up, servicing and maintenance work.

Make sure that only authorized personnel operate or work on the machine.

Define responsibilities of the machine operator, with regard to traffic safety regulations, and inform him not to take instructions from third parties who may not be complying with the local safety requirements.

Personnel, who are being trained to operate equipment, may only use the machine under constant supervision of an experienced person.



Work on electrical equipment may only be performed by a skilled electrician or by trained persons under the supervision of a skilled electrician, as well as in accordance with the local electrical engineering regulations.

2.4 SAFETY PRECAUTIONS APPLICABLE TO SOME
OPERATING SEQUENCES

Do not allow any method of working that **impairs safety!**

Recognized official procedures have to be used to ensure the machine is operated in the safest and best conditions.



Only operate the machine when all safety devices, and related safety equipment, are present and operational!



Check the machine visually for any damage and defects at least once a day!



SECTION 2 SAFETY INSTRUCTIONS

In the event of operational malfunctions the machine must be shut down immediately and secured.



Secure the work area around the machine in public areas providing a safety distance of at least 6.5 feet (2 meters) from the machine.

Faults must be immediately remedied.



Carry out the switch on, and switch off, operations in accordance with the operations manual.

Before turning on the machine verify that no one can be endangered when the machine starts up.

Do not turn off the dust collector while the machine is running.



All persons in the proximity of the machine must wear ear protectors and safety shoes. In addition, the machine operator must wear close fitting protective clothing.



Use only extension cables, used for extending the main cable, that are sized and marked in accordance with the overall power consumption of the machine and valid U. S. National Electric Code guidelines or European VDE standards, as appropriate.

OPERATING MANUAL



2.5 SPECIAL WORK WITHIN THE SCOPE OF USE OF THE EQUIPMENT AND MAINTENANCE ACTIVITIES AS WELL AS REPAIRS DURING OPERATION

Mechanical servicing work:

Put the machine in the Safety off position as described in Section 2.6 before carrying out any service work on the machine.

Follow any special safety instructions in sections on servicing the machine. See Sections 7.1 – 7.9.

Service and maintenance intervals specified in these Operating Instructions, as well as information on the replacement of parts must be undertaken and/or complied with.

These activities may only be undertaken by qualified personnel.

The operator must be given information about maintenance and work procedures before starting the cleaning process. This includes, but is not limited to the following:

- Procedures that are related to normal operation
- Methods of tools adjustment on the machine, and its safety devices
- All “ON and OFF” functions that have to be carried out according to the operation manual
- Methods for maintenance and repair.

If the equipment is switched off in order to carry out maintenance, repair, or adjustment, it must be secured against unintended restart.

Switch OFF and disconnect the machine from the power supply.

See Section 2.6 Safety off position for specific details.

Always dispose of the contents of the dust bin or of a connected dust collector before loading the machine onto a vehicle.

SECTION 2 SAFETY INSTRUCTIONS

Observe the local waste disposal regulations; in uncertain situations ask the next higher authority.

Do not use any aggressive cleaning materials.

Only use lint-free cleaning cloths.

Always verify that any bolted connections that were loosened during service and maintenance work are properly secure and tight.

If safety devices need to be removed or dismantled during service and repair, these safety devices must be reinstalled, and inspected immediately after completion of the servicing and repair work.

Make sure that process materials and replaced parts are disposed of safely and in an environmentally friendly manner.



Work on electrical equipment may only be performed by a skilled electrician or by trained persons under the supervision of a skilled electrician, as well as in accordance with the local electrical engineering regulations.

Make sure that electrical components used for replacement purposes comply with the original parts and are correctly adjusted if necessary.

2.6 DEFINITION OF THE SAFETY OFF POSITION

Definition: The machine is in a safe condition where it cannot be a hazard.

Putting the equipment in the Safety off position involves:

- Switching off the machine.
- Switching off the dust collector (if being used).
- Waiting for all drives to stop.
- Pulling out mains plug.
- Securing against unintended restart.



SECTION 2 SAFETY INSTRUCTIONS

2.7 GENERAL SAFETY CONSIDERATIONS



Any machine, if it is not used according to regulations, may be hazardous during operation, set-up and servicing. The machine owner is responsible for compliance with the safety regulations during operation and maintenance, and for the use of safety devices supplied with the machine, as well as the provision of appropriate additional safety devices!

2.8 ELECTRICAL ENGINEERING REGULATIONS



Work on electrical equipment 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 local electrical engineering regulations.



Use only extension cables, used for extending the main cable, that are sized and marked in accordance with the overall power consumption of the machine and the U. S. National Electric Code guidelines or European VDE standards, as appropriate.



The electrical components of the equipment must be inspected regularly. Defects such as loose connections or scorched cables must be replaced immediately. Call a skilled electrician or our Customer Service.

A second person must be in attendance while the electrician is working on the equipment.

The work area must be secured against any third party entering the work area, by means of a red and white safety chain and a danger sign. Use only tools that are insulated against electricity.

Only start work after you are familiar with the electrical engineering regulations that apply to the local area.

Only use multi-meters that comply with the regulations when troubleshooting. From time to time check multi-meters to ensure that they are operating correctly.

OPERATING MANUAL



CONTENTS – SECTION 3

- 3.1 Range of application
- 3.2 Scope of supply
- 3.3 Description of the machine
- 3.4 Operating elements
- 3.5 Electric components
- 3.6 The tools
- 3.7 Care and maintenance

OPERATING MANUAL



SECTION 3 GENERAL

3.1 RANGE OF APPLICATION

Typical ranges of applications for the BGS-250 are for example:

- To remove undulated concrete and asphalt surfaces
- To prepare the surface for coatings
- To remove coating defects
- To remove residual mineral adhesives

3.2 SCOPE OF SUPPLY

Scope of supply of the machine:

- ✓ Grinding machine (BGS-250)
- ✓ Dust hose (Optional)
- ✓ Operating manual (1x)

Using one of the dust collectors specified for your machine ensures nearly dust free operation and also improves the life of the machine and tools. Today, clean air is important in the workspace. Diamatic uses specially designed dust collection systems with a high separation and thus guarantee a high cleaning level.

Diamatic advises using a recommended Diamatic dust collector. This ensures an appropriate airflow and adequate heat removal.

To connect the dust collector to the machine, you need a connecting hose with a 50 mm (~ 2 in) inside diameter.

OPERATING MANUAL



3.3 DESCRIPTION OF THE MACHINE

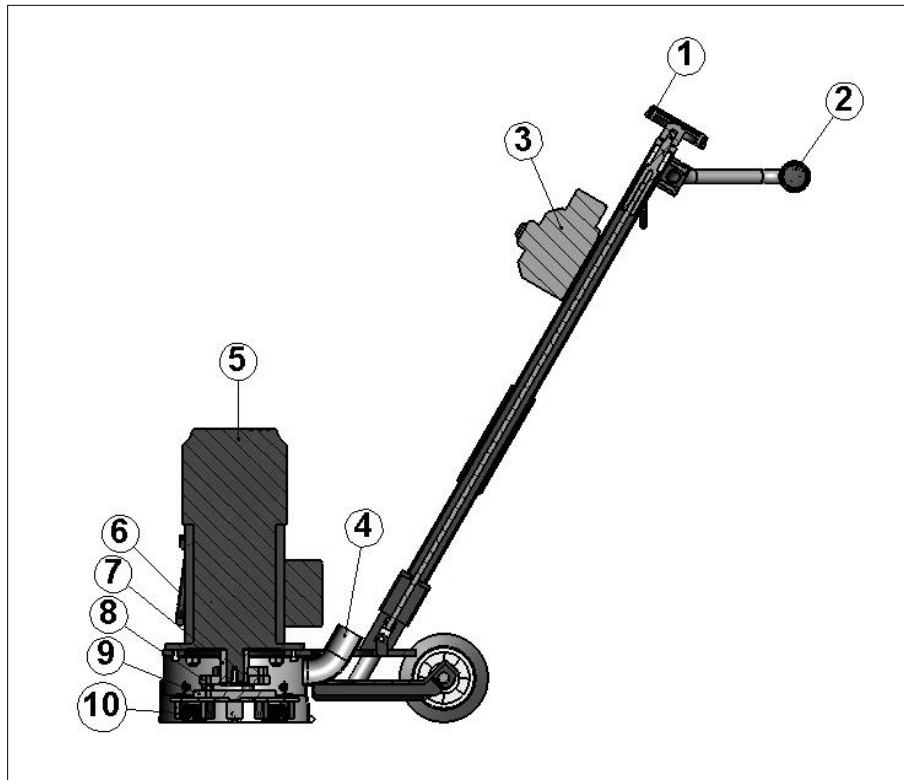
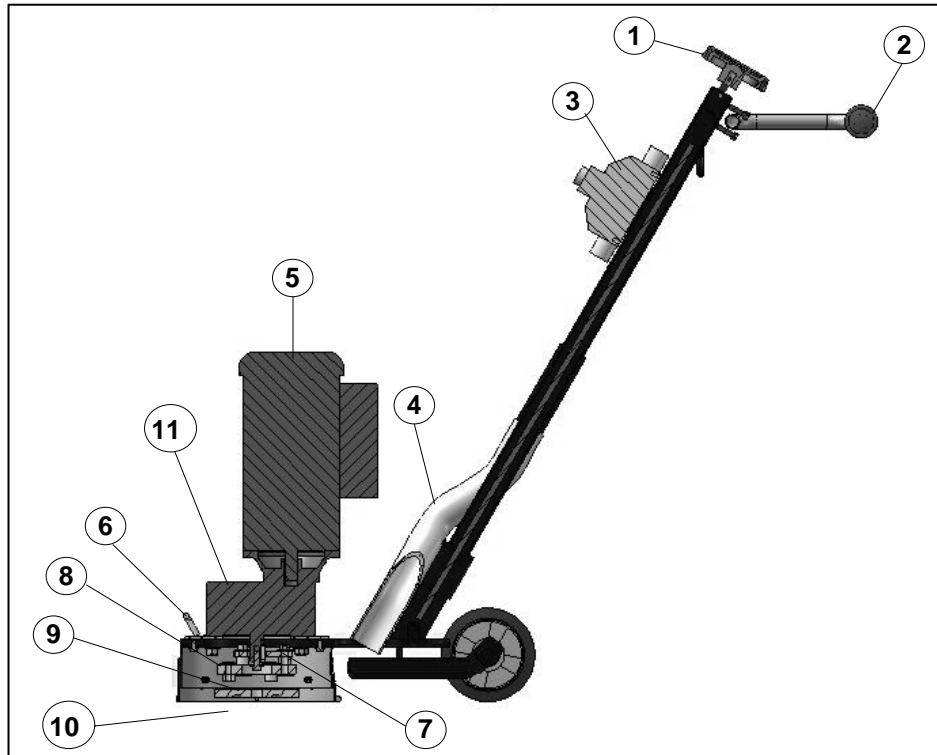
110V 50 Hz / 230V 50 Hz / 400V 50Hz Machines:

Figure 3.3.1a

- | | | | |
|---|--------------------------|----|----------------------------|
| 1 | Height adjusting handle | 6 | Lifting handle |
| 2 | Hand grip | 7 | Coupling |
| 3 | ON/OFF Emergency switch | 8 | Flexible coupling |
| 4 | Suction connection piece | 9 | Adapter |
| 5 | Driving motor | 10 | Cutter plate/diamond plate |

115V 60 Hz Machine:

Figure 3.3.2b

- | | | | |
|---|--------------------------|----|-------------------------------------------|
| 1 | Height adjusting handle | 7 | Tool Adapter |
| 2 | Hand grip | 8 | Flexible coupling |
| 3 | ON/OFF Emergency switch | 9 | Adapter Disc |
| 4 | Suction connection piece | 10 | Cutter plate/diamond plate
(Not shown) |
| 5 | Driving motor | 11 | Gear Reducer (115V only) |
| 6 | Lifting handle | | |

The Diamatic Grinding machine BGS-250 can reach an output of 2500 mm and distinguish itself with its high economic efficiency and easy handling.

The machine levels when on uneven and undulated floors and therefore is also suitable for optimization of surfaces before blasting. Alternatively, the machine can be used to smooth floor surfaces as a preparation for economical coatings to be applied.

Depending on the application, the disc adapter can be fitted with several different types of diamond-grinding discs. The number of revolutions the tool runs at is 1400 rev/min (U/min). A special coupling distributes the load which is effective on the tool, and ensures a long working life of the machine.

3.4 OPERATING ELEMENTS

Hand wheel and mini leveler

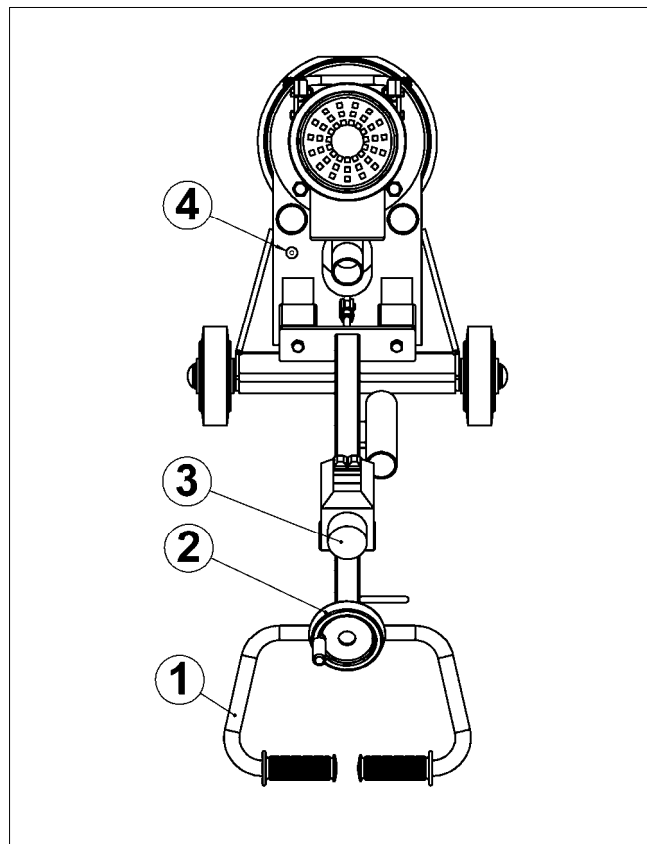


Figure 3.4.1

Before switching on the BGS-250, check that the cutter or diamond plate is in a horizontal position with the mini leveler (4). The adjusting can be done by turning the hand wheel (2) in the right or left direction.

3.5 ELECTRIC COMPONENTS

The control box (3) is equipped with all control elements and instruments to monitor the grinding machine.

ON Switch

Pressing the "ON" push button switches on the driving motor. This occurs only when the power supply works properly. See to it that the machine is lifted when you switch it on.

Emergency Stop Switch

The emergency stop switch is the red button located on the control box. Pressing this switch immediately stops the power supply to all units of the machine. This red button is also used as OFF switch.

3.6 THE TOOLS

110V 50 Hz / 230V 50 Hz / 400V 50Hz Models

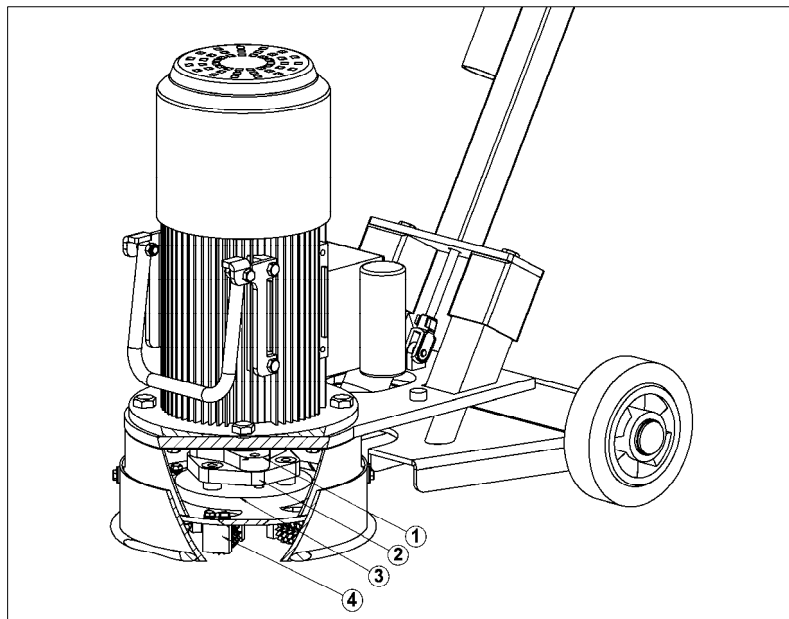
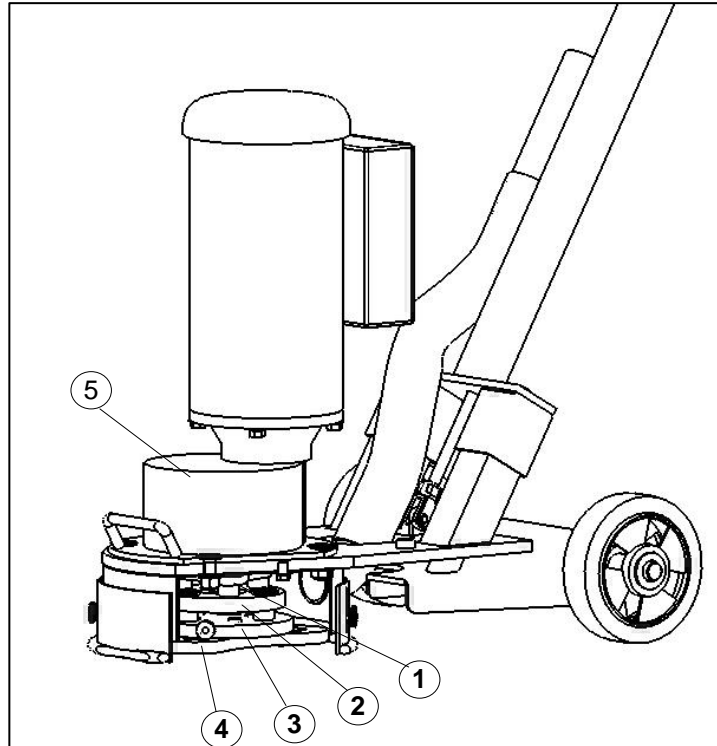


Figure 3.6.1a

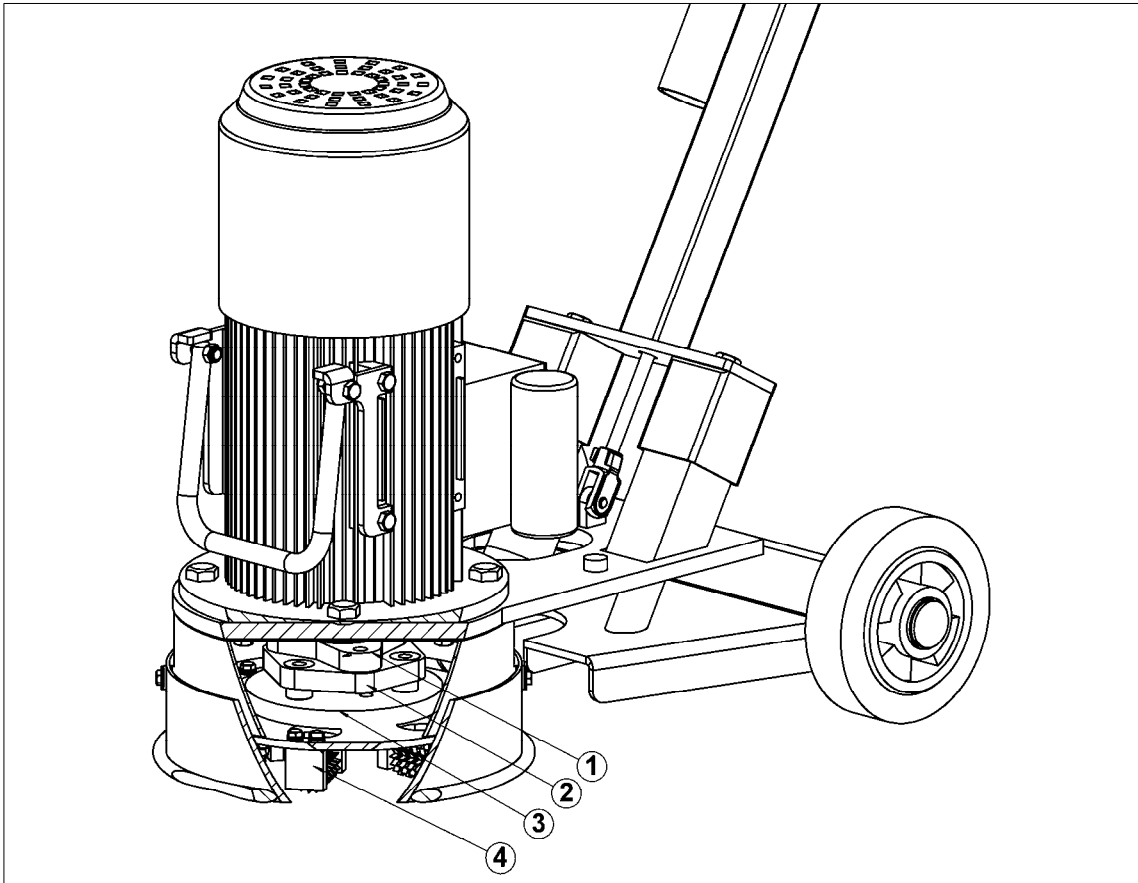
- | | | | |
|---|---------------|---|---------------------------|
| 1 | Motor Adapter | 3 | Adapter Disk |
| 2 | Flex Coupling | 4 | Tool (cutter plate shown) |

115V 60 Hz**Figure 3.6.1b**

- | | | | |
|---|---------------|---|---------------|
| 1 | Motor Adapter | 4 | Tooling plate |
| 2 | Flex Coupling | 5 | Gear Reducer |
| 3 | Adapter Disk | | |

Choose the tool most appropriate for the surface to be treated. This will ensure optimal work output and wear for the BGS-250. The tools available are described below.

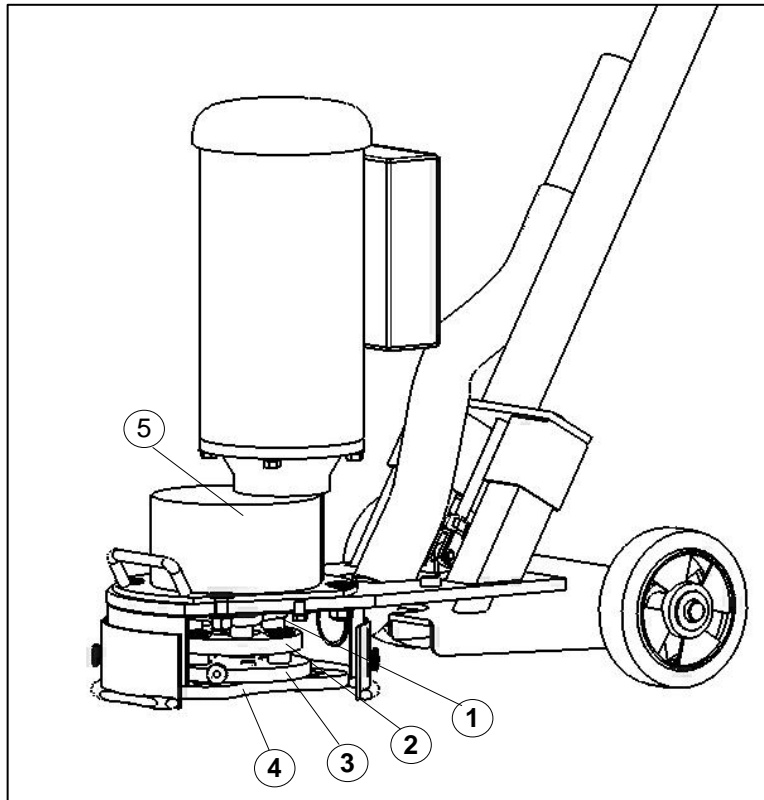
You must use Diamatic/Blastrac grinding discs for your warranty to remain in effect.

110V 50 Hz / 230V 50 Hz / 400V 50Hz Models**Figure 3.6.2a**

- | | | | |
|---|---------------|---|---------------------------|
| 1 | Motor Adapter | 3 | Adapter Disc |
| 2 | Flex Coupling | 4 | Tool (cutter plate shown) |

Cutter Plate (50Hz Machines only):

- Remove deposit of dirt
- Remove cement and glue rests
- Remove coatings
- Remove plasticizing
- Remove carpet and glue rests

115V 60 Hz Model:**Figure 3.6.2b**

- | | | | |
|---|---------------|---|---------------|
| 1 | Motor Adapter | 4 | Tooling plate |
| 2 | Coupling | 5 | Gear Reducer |
| 3 | Adapter Disc | | |

Tool: 10" Diamond Grinding Disc (remove tooling plate (4) and attach grinding disc to the adapter disc (3)).

Application: Concrete surfaces – general preparation

Part No: See section 10.2 for tooling available

Tool: Beveled segment diamond plugs

Application: Concrete surfaces – general preparation/polishing

Part No: See section 10.2 for tooling available

Tool: Beveled segment diamond plugs

Application: Concrete surfaces - polishing

Part No: See section 10.2 for tooling available

OPERATING MANUAL



3.7 CARE AND MAINTENANCE

Special attendance and regular maintenance of the machine are imperative for functioning and safety.

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 does not seem possible without damages.



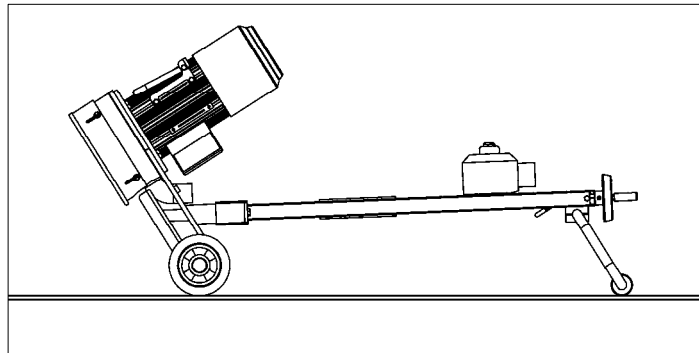
Use of non-original replacement components or wear parts may void the machine warranty.

Generally, the Diamatic BGS-250 requires very little attention regarding its maintenance.

Verify that any wastes or fiber residues do not remain in the area of the grinding disc. Never clean the machine using high pressure water jet.

When the machine is not in use, place it on the steering handle. This will prevent deformation of the flexible coupling, due to a combination of mechanical pressure and heat.

Before using the machine you should always verify that all bolted connections are secure and tight.



CONTENTS – SECTION 4

- 4.1 Unit specifications
- 4.2 Manual mode of moving the machine
- 4.3 Transport with cranes or lifts
- 4.4 Transport of the machine with vehicle
- 4.5 Operation of the machine while grinding

OPERATING MANUAL



SECTION 4 TRANSPORT

4.1 UNIT SPECIFICATIONS

Model	BGS 250
Dimensions in inches	46.4 x 20.5 x 45.3
Dimensions in mm	1180 x 520 x 1150
Weight	154 lbs / 70 kg

4.2 MANUAL MODE OF MOVING THE MACHINE

To move the machine press down the handgrips (1) (see fig.4.3.1) of the machine until the front part rises approximately 4 inches (10 cm) from the ground. It can now be pushed around on its wheels.

The machine can only be moved around after attachments are disconnected, such as:

- Generator, if used
- Dust collector
- General accessories

OPERATING MANUAL



4.3 TRANSPORT WITH CRANES OR LIFTS

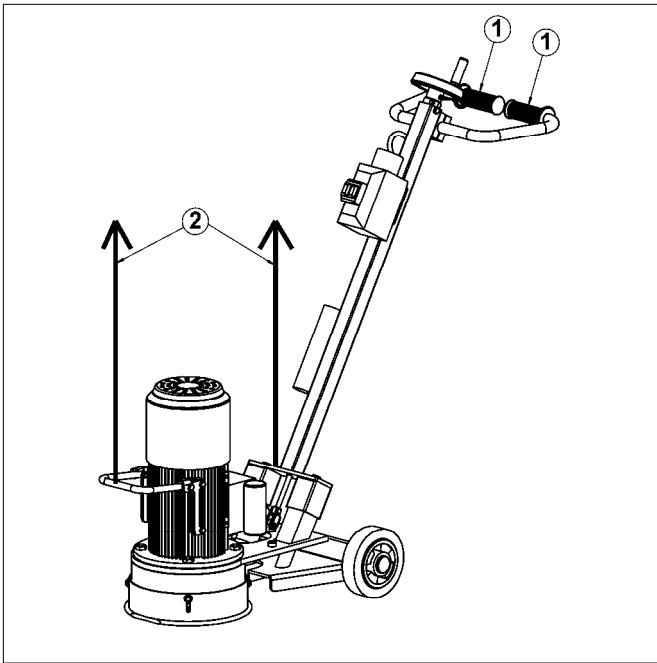


Figure 4.3.1a

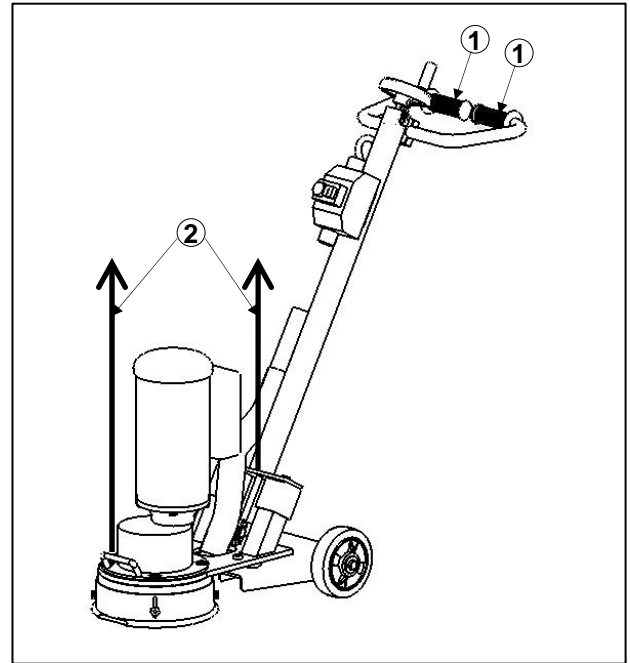


Figure 4.3.1b

If the machine is to be transported by a crane or a fork lift, verify that the lifting strap(s) has sufficient capacity to support the weight of the machine (the gross weight is shown in Section 4.1 Unit specifications).

Fasten any lifting slings to the points (2) on the machine frame. These points are NOT suitable as a fixing point for fastenings or tie-downs, during transportation of the machine on a vehicle.

SECTION 4 TRANSPORT

4.4 TRANSPORT OF THE MACHINE WITH VEHICLE

When transporting the machine in a vehicle, always drive carefully and in a manner to avoid the machine shifting. Secure the machine with a tightening load strap over the lower frame (2). Use at least two straps, and tighten down with the load straps to the body of the vehicle.

4.5 OPERATION OF THE MACHINE WHILE GRINDING

The machine must always be operated in accordance with the instructions given in Section 5.2 Initial operation.

OPERATING MANUAL



CONTENTS – SECTION 5

- 5.1 Preparation for initial operation
- 5.2 Initial operation

OPERATING MANUAL



SECTION 5 INITIAL OPERATION

5.1 PREPARATION FOR INITIAL OPERATION



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

- Put the grinding machine and the dust collector onto the surface to be processed.
- If you have not installed a diamond grinding disc or cutter plate, you have to install it now. Please read Section 7 Maintenance of this manual.



- Using the correct cables, connect the machine and the dust collector to the electricity supply point. These electric supply points should be protected and equipped with an FI-switch. In case of doubt, ask the local safety officer.
- Check the extension cable for external damages.
- Check the dust hose for damages.
- Connect the grinding machine and the dust collector with the dust hose. Use hose clamps at the connections.
- Make sure the dust bin of the dust collector unit is empty.
- Connect the electric cable of the dust collector with the supply.



If problems with the BGS-250 arise during the assembly or start-up, call a qualified person for help. Work on electrical equipment may only be undertaken by qualified personnel.



Any machine, if it is not used according to the regulations, may be hazardous to the operating, set-up and service personnel. The equipment owner is responsible for compliance with the safety regulations during operation and maintenance of safety devices supplied with the machine as well as the provision of appropriate additional safety devices.

5.2 INITIAL OPERATION

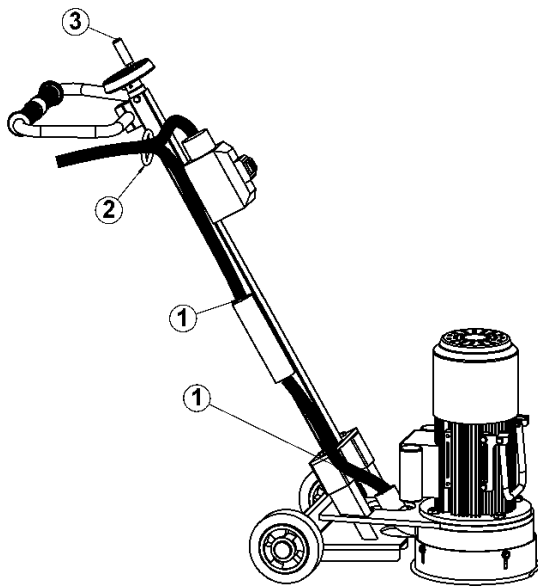


Figure 5.2.1a: 110V 50 Hz / 230V 50 Hz / 400V 50Hz

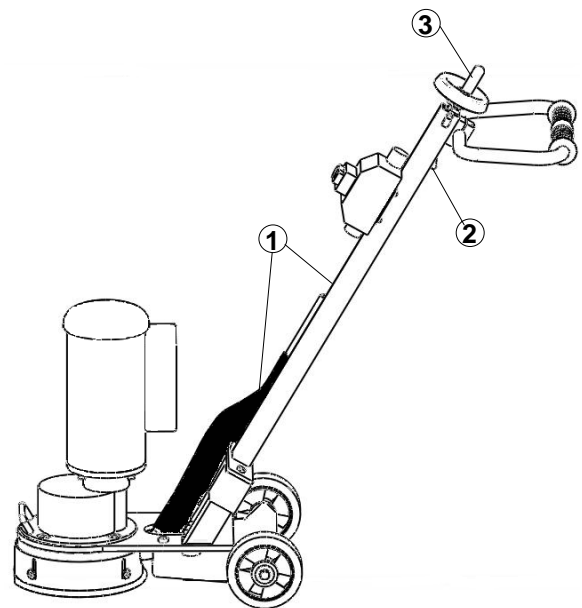


Figure 5.2.1b: 115V / 60Hz

Use the following sequence to start the machine:

- Be sure that the grinding disc or cutter plate is fixed.
- Connect dust collector to the grinder (1).
- Switch on the dust collector.
- Connect the machine to the electrical outlet with an extension cable that complies with the appropriate European or U.S. NEC guideline, as appropriate. Hang the extension cable on the support eye of the machine (2).
- Verify that the grinding disc is parallel with the floor using the mini leveler. Adjust handle if necessary (3).
- Push the start button. (4).



Pay attention that you always lay down the machine on its steering handle. If you lay down the machine on the grinding disc, the flexible coupling could be deformed. That carries on a one side wear of the grinding disc.

CONTENTS – SECTION 6

- 6.1 Operation
- 6.2 Switching-off the machine
- 6.3 Trouble shooting
- 6.4 Safety shutdown
- 6.5 Restarting after a fault
- 6.6 Proceedings- before and after a stationary period

OPERATING MANUAL



SECTION 6 OPERATION

6.1 OPERATION



These Operating Instructions are to be kept with the machine and must be within reach at all times.

Only trained personnel may be employed. Note the statutory minimum age. Specify clearly the responsibilities of personnel for operation, set up, service and maintenance work.



Make sure that only authorized personnel operate or work on the machine.



Regular inspection is necessary to prevent unplanned down time of your grinding machine. See Section 7.2 Maintenance.

Pay attention to the following aspects during operation of the Diamatic BGS-250.



Before beginning the grinding work, verify that all bolted connections are properly secured and tight, especially those of the driving and handling devices.

Before switching the machine on, make sure that all protective housings are fitted and the dust collector is correctly connected.

Diamatic specially recommends operating the machine with only one dust collector, which has enough suction capacity and high filtration efficiency.

Diamatic specially advises using a recommended Diamatic dust collector. This ensures an appropriate airflow and adequate heat removal.

Handle all plugs, cables, hoses and operating elements carefully. Avoid contact with live wires.

Before grinding, clean the surface to be treated with a broom. There should not be any debris such as stones, cloths or standing liquid on the surface.

Any obstructions in the surface to be treated, like concrete reinforcing steel or other objects, should be removed from the work surface to prevent damage to the machine seals and diamond discs.

OPERATING MANUAL





While using the dust collector, observe any special workers' protection rules, and also the local regulations regarding waste ..



The normal start up of the Diamatic BGS-250 for daily operation is the same as that described in Section 5.2 Initial Operation.

If you have doubts how to start up the machine, read Sections 5.1 and 5.2 of this operating manual.

Verify that the electric cable and dust hose are clear from vehicle traffic, such as forklifts and other equipment.

After connecting the suction tube ($\varnothing 50$) to the air intake (2) of the machine, you can treat the surface as described.

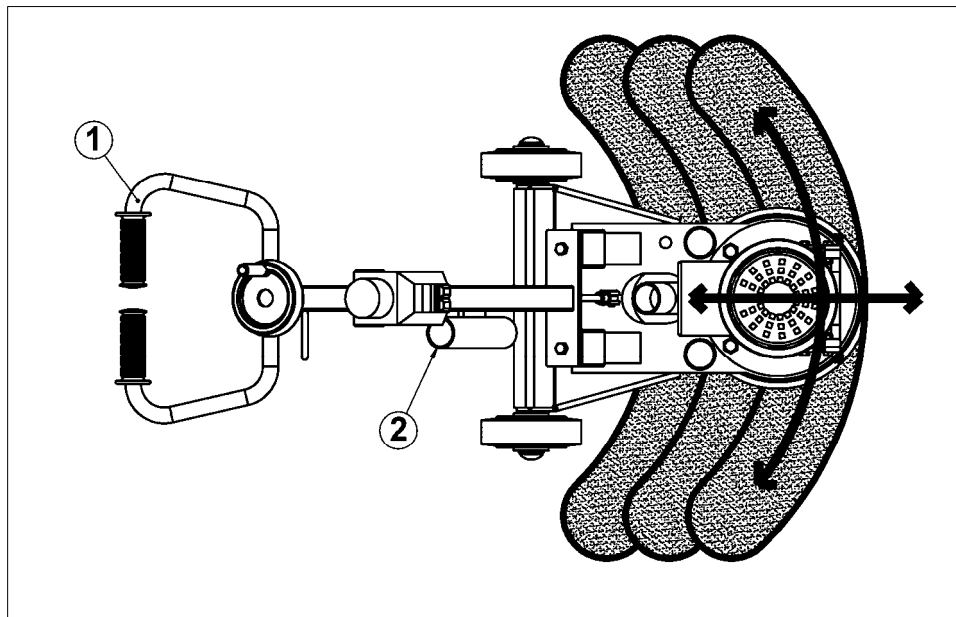


Figure 6.1.1

You should grind in fan-shaped movements. Swing the machine at the handgrips (1) and push it during the swing movements forward or pull the machine reverse.

The working direction should always be away from the dust collector, so that neither the dust hose nor the electrical cable could be damaged.

6.2 SWITCHING OFF THE MACHINE

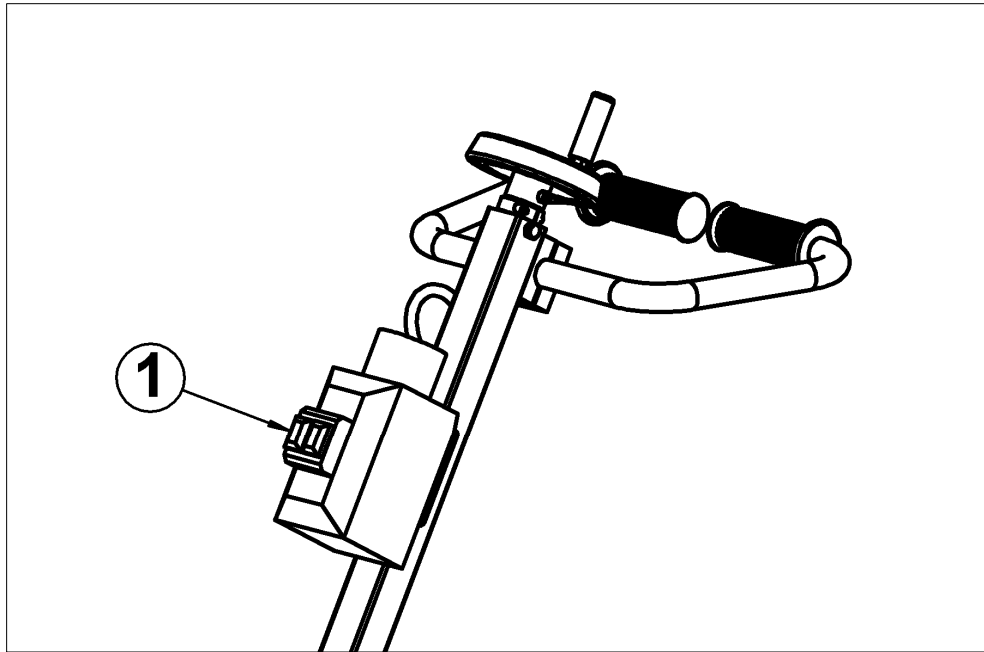


Figure 6.2.1

Use the following sequence to shut down the machine:

- Press the red OFF switch (1) to switch off the motor.
- Disconnect the extension cable from the socket and keep it in a safe place to secure the machine from unauthorized use.
- If the machine stays at the job site, you should cover it with a tarp to protect it from moisture and excessive soiling.



Always lay the machine down on the steering handle. If you lay the machine down on the grinding disc, the flexible coupling could deform, due to a combination of mechanical pressure and heat. That could cause uneven wear of the grinding disc.

SECTION 6 OPERATION

6.3 TROUBLE SHUTDOWN



In case of emergency or operating trouble, such as vibrations or loud noises, switch the machine off immediately by pushing the red OFF- button (1) on the power box.

6.4 SAFETY SHUTDOWN



The machine must be into its Safety off position before starting repair work. See Section 2.6.



Before performing inspection or maintenance work make sure - that all moving machine parts are stopped. Observe the Safety off position, Section 2.6.

The local safety regulations are valid in all cases regarding the operation of the machine and will always supersede any instructions provided in this manual.

6.5 RESTARTING AFTER A FAULT



The results of all electrical repair work must be verified using the appropriate measurement techniques per the regulations stated in the European VBG4 and VDE 0701 standards or per the applicable U.S. guidelines, as appropriate. See also Section 5.2 Initial operation.

6.6 PROCEEDINGS – BEFORE AND AFTER STATIONARY PERIOD

Before a long stationary period

If the Diamatic grinding machine will be out of action for a long period of time, preserve the equipment as described below:

- Lay down the machine onto the steering handle so that the flexible coupling is not loaded.
- Clean the machine and cover it with a tarp.
- Protect the electric motors from moisture, heat, dust and shocks.
- Clean the disc and the drive plate area. Never do this with high-pressure water jets.

After a long stationary period

See Section 5 Initial operation.



CONTENTS – SECTION 7

- 7.1 Recommendations
- 7.2 Maintenance and inspection list
- 7.3 Repairing
- 7.4 Grinding disc replacement / assembly
- 7.5 Machine maintenance
- 7.6 The driving motor
- 7.7 Other maintenance
- 7.8 Influences on the grinding pattern

OPERATING MANUAL



SECTION 7 MAINTENANCE

7.1 RECOMMENDATIONS



Prior to any repair work on the machine and its drives, secure the machine against unintentional activation. Put the machine in its safety off position. Section 2.6

Failures due to inadequate or incorrect maintenance may generate very high repair costs and potentially long periods of down time for the machine. Therefore, regular maintenance is required.

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

The table in section 7.2 shows recommended service intervals for normal use of the 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.

Due to different working conditions, inspection and maintenance intervals may vary. Prepare a suitable inspection schedule considering known working conditions and experience.



Our specialists will be happy to assist with more advice.

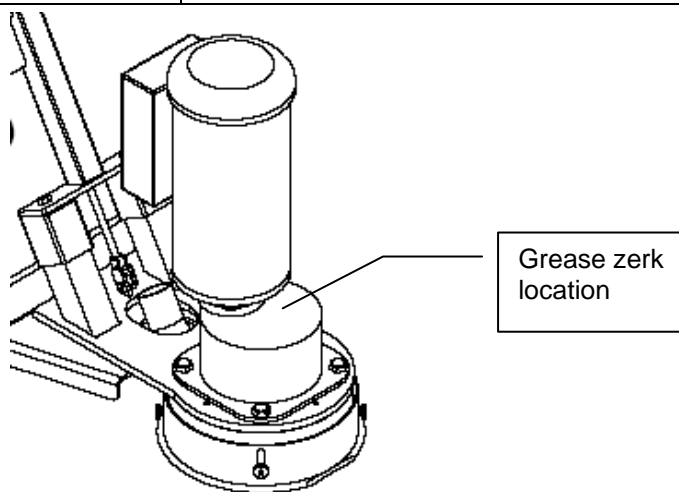


Follow additional operating and maintenance procedures of OEM parts, if included, during your service and maintenance work.

Pay attention to special notice given in instructions for electric-motors.

7.2 MAINTENANCE AND INSPECTION LIST

Operating hours/time period	Inspection points and maintenance instructions
12 hours after repairing	Check all accessible screw connections for tightness.
Every 100 hours	Clean the grease zerk and add one pump of NLGI-2 grease to the gear box. (see below image for location.) <i>For 115V 60 Hz models only.</i>
Daily and prior to starting work	Check that all safety devices are working correctly. Check the power supply cable for damage. Check the hose to the dust collector for damage. Check whether there is any foreign matter in the coupling of the grinding disc. Make sure that the dust bin of the dust collector is emptied. Check the grinding disc and the coupling for wear. Check the countersunk head screw of the grinding disc for tightness.
After 203 used discs	Check the flexible coupling. Clean the motor.
After 5-10 used discs	Replace the flexible coupling.
Quarterly (Monthly)	Lubricate the castor.
Annually	Full overhaul and cleaning of the complete machine.



For 115V 60 Hz models only

SECTION 7 MAINTENANCE

7.3 REPAIRING



As previously mentioned in Section 5.1 Initial operation, we recommend conducting initial repair work on the machine with the support of Diamatic personnel, by taking this advice, maintenance personnel get the opportunity to be trained by an expert on the machine.

If parts or components are to be replaced, the following sequence of maintenance must be followed.



It is advisable to stock all spare or wear parts that cannot be obtained quickly. As a rule, production standstill periods are more expensive than the cost for carrying the corresponding spare part.

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

7.4 GRINDING DISC REPLACEMENT/ASSEMBLY



Prior to any repair work on the machine and its drives, secure the machine against unintentional activation. Put the machine in the safety off position. See Section 2.6.

Disassembly

1. Make sure that the power supply is disconnected from the electrical inlet.
2. Tilt the machine to the back using the handgrips (2) and lay it down on the chassis.
3. Remove the grinding disc/cutter plate downwards.

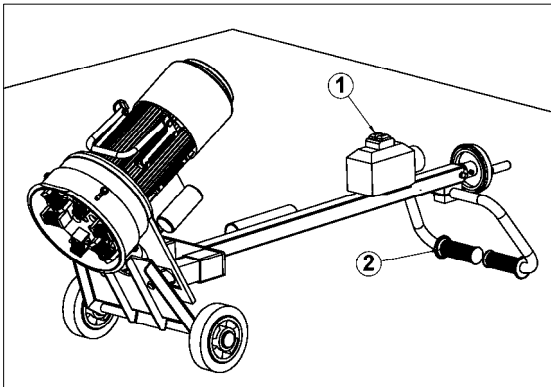


Figure 7.4.1

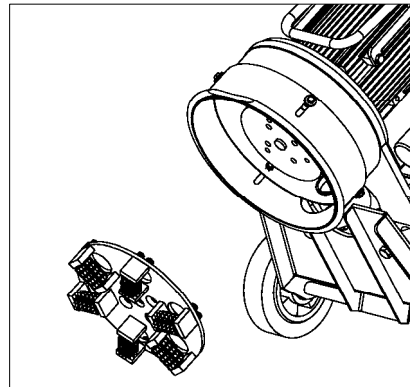


Figure 7.4.2



Use of non-original replacement components or wear parts may void the machine warranty.

Assembly

1. Clean the adapter grinding disc thoroughly.
2. Adjust the grinding disc in the centering.
3. Set in and tighten the countersunk head screw.
4. Remove the block and tilt the machine forward.



When replacing the grinding disc, or at least after the use of 2-3 discs, check the condition of the coupling and also of the adapter of the grinding disc.

Always replace any worn parts.



Use of non-original replacement components or wear parts may void the machine warranty.

7.5 MACHINE MAINTENANCE

Disassembly:

Step 1:

Make sure that the power supply is disconnected from the electrical inlet.
Remove switch from steering handle.

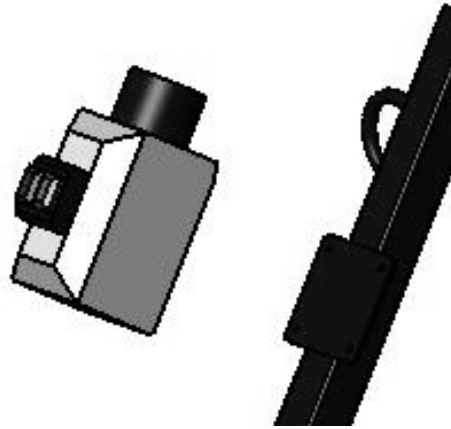


Figure 7.5.1

Step 2:

Remove clip (1) of the spindle and remove bolts (2).

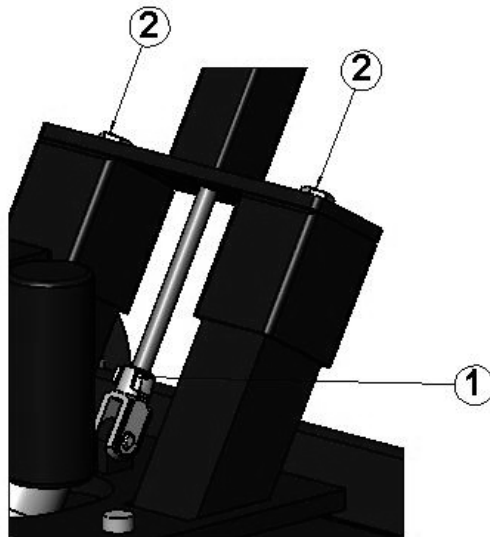


Figure 7.5.2

Step 3:

Remove bolts (1) and move the complete spindle out of the tube. Unscrew bolt (2) and remove the hand wheel. Remove clamping ring (4) and remove sleeve bearing (6) and shims (5). It's important that no dust gets into the spindle (7).

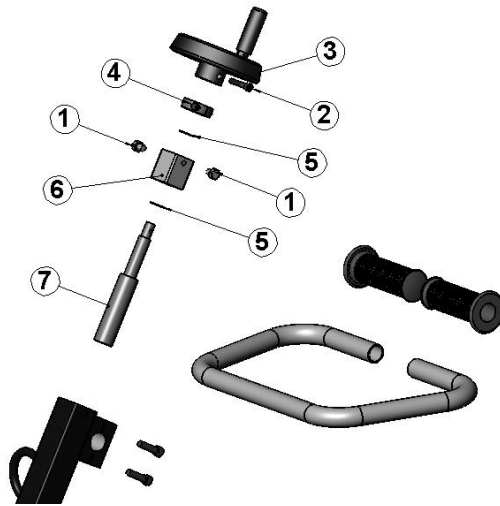


Figure 7.5.3

Step 4:

Remove cutter plate (50Hz only) or grinding disc (1). Unscrew the little bolts (2) inside the dust hood. Remove dust hood (3).



Figure 7.5.4

Step 5:

Now it's possible to take out the wheel bracket (1). Remove star lock ring (2) and remove the wheel and washers (3). Use a new star lock ring when assembling the wheel again. Remove felt seal (4). Replace this part with a new one and fix the felt seal with glue.

**Figure 7.5.5**

Step 6 – 110V 50 Hz / 230V 50 Hz / 400V 50Hz Machines:

Unscrew adapter plate (1) and remove spacer rings (2). Unscrew flexible coupling (3). Remove bolt (4). Remove the coupling (6) with a pulley puller. When you do this: screw a M10 bolt into the motor shaft. This prevents damage to the thread inside the motor shaft. Unscrew the nuts (7) to remove the motor. Unscrew bolts (10) to remove the lifting handle.

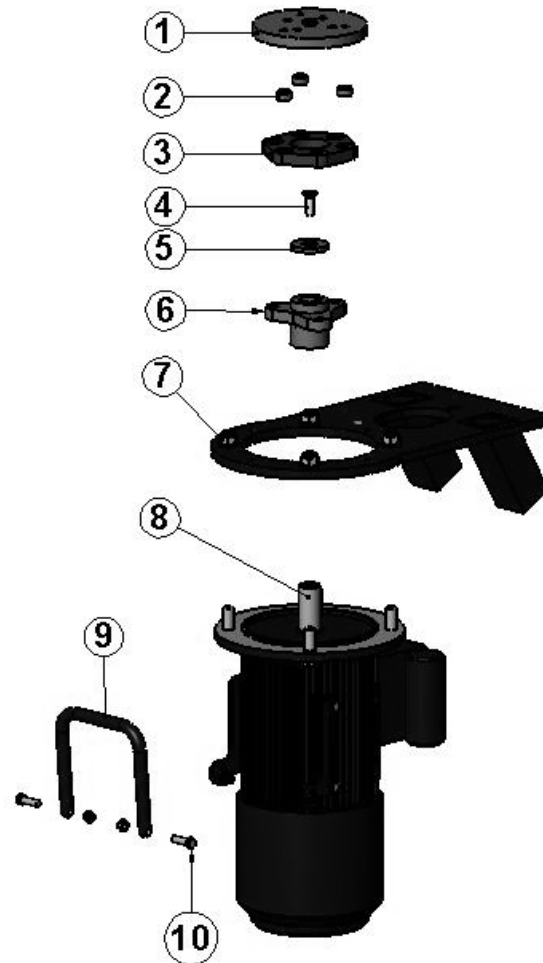


Figure 7.5.6a

Step 6 – 115V 60Hz Machine:

Unscrew adapter plate (1) and remove spacer rings (2). Unscrew flexible coupling (3) and remove spacer rings (4). Remove bolt (5). Remove the tooling adapter (6). When you do this: screw a 5/16-24 bolt into the gearbox shaft. This prevents damage to the thread inside the gearbox shaft. Unscrew the nuts (7) to remove the gearbox adapter plate (8). Unscrew bolts (9) to remove the gearbox (10). Unscrew bolts (11) to remove motor (12).

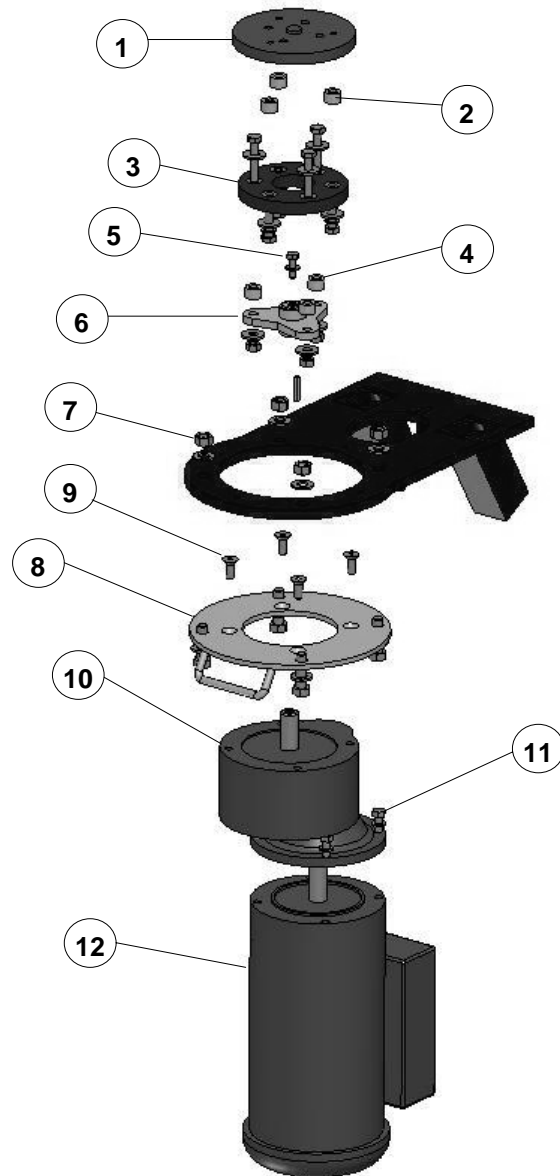


Figure 7.5.6b

SECTION 7 MAINTENANCE

7.6 THE DRIVING MOTOR

The motor is designed for a long working life.

Damages to the motor can be detected through unusual noises, malfunctions or other interruptions.

Keep the driving motor free from excessive soiling to avoid overheating.

Keep the fan covering free and do not lay objects on the covering.



In case of malfunction of the motor, please contact a skilled electrician.

If the malfunction cannot be repaired, please contact Diamatic customer service toll-free at 800-256-3440.

7.7 OTHER MAINTENANCE

Check the seals for wear, and replace them when they no longer provide a good seal against dust emissions from the machine.

Clean the machine with a damp cloth.

7.8 INFLUENCE ON GRINDING PATTERN

Based upon the working surface, you may have to change the tools (grinding disc/cutter plate). In order to get the best result, compare the individual results of the tools.



A check on the grinding pattern should always be done after new or other types of tools have been fitted.

This allows for the most efficient work possible and prevents unnecessary wear and repair costs.

CONTENTS – SECTION 8

8.1	Directions for electrical engineering	
8.2	Electric circuit diagram of E00587-1	230V/ 12.9A/ 50Hz
8.3	Electric circuit diagram of E01521	230V/ 12.9A/ 60Hz
8.4	Electric circuit diagram of E01532	110V/ 28.0A/ 50Hz
8.5	Electric circuit diagram of E03951	400V/ 6.0A
8.6	Electric circuit diagram of P004562	115V/ 15.0 A/ 60Hz



SECTION 8 ELECTRICAL SYSTEMS

8.1 DIRECTIONS FOR ELECTRICAL ENGINEERING



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.



To identify electrical components refer to the electrical schematics in Section 8, as appropriate, or call a Diamatic service center.




The results of all electrical repair work must be verified using the appropriate measurement techniques per the regulations stated in the European VBG4 and VDE 0701 standards or per the applicable U.S. guidelines, as appropriate. See also Section 5.2 Initial operation.

SECTION 8 ELECTRICAL SYSTEMS

8.2 ELECTRIC CIRCUIT DIAGRAM – E00587-1

230V/ 12.9A/ 50HZ

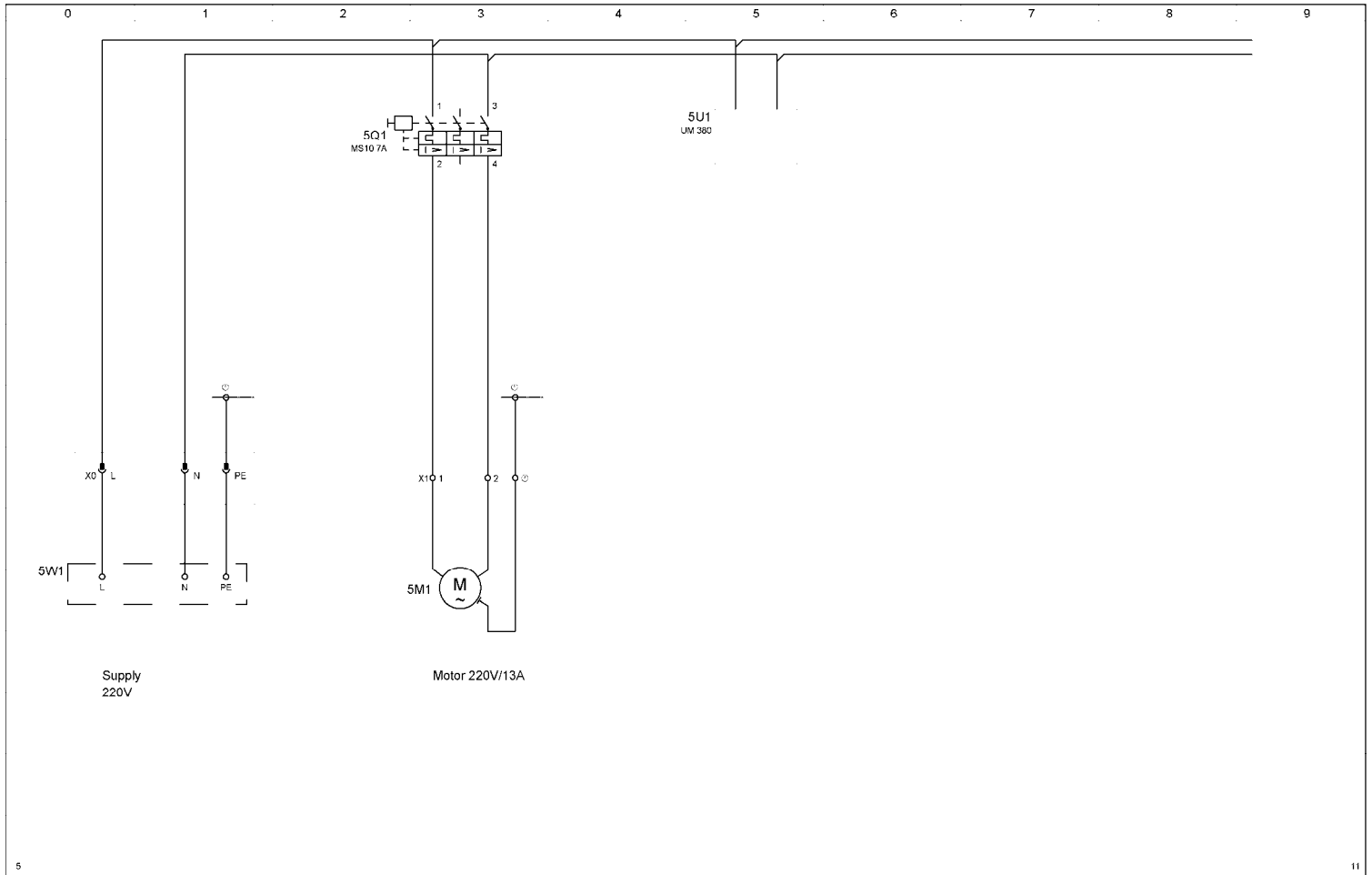
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		Contact NO / NC Thermal		Working hour counter		Earth-leakage switch Earth-leakage protection			
		Key switch NO / NC		Current coil		Installation automatic Short-circuit and overcurrent protection			
		Thermostat NO / NC		Motor		Autotransformer			

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SECTION 8 ELECTRICAL SYSTEMS

8.3 ELECTRIC CIRCUIT DIAGRAM – E01521

230V/ 12.9A/ 60HZ

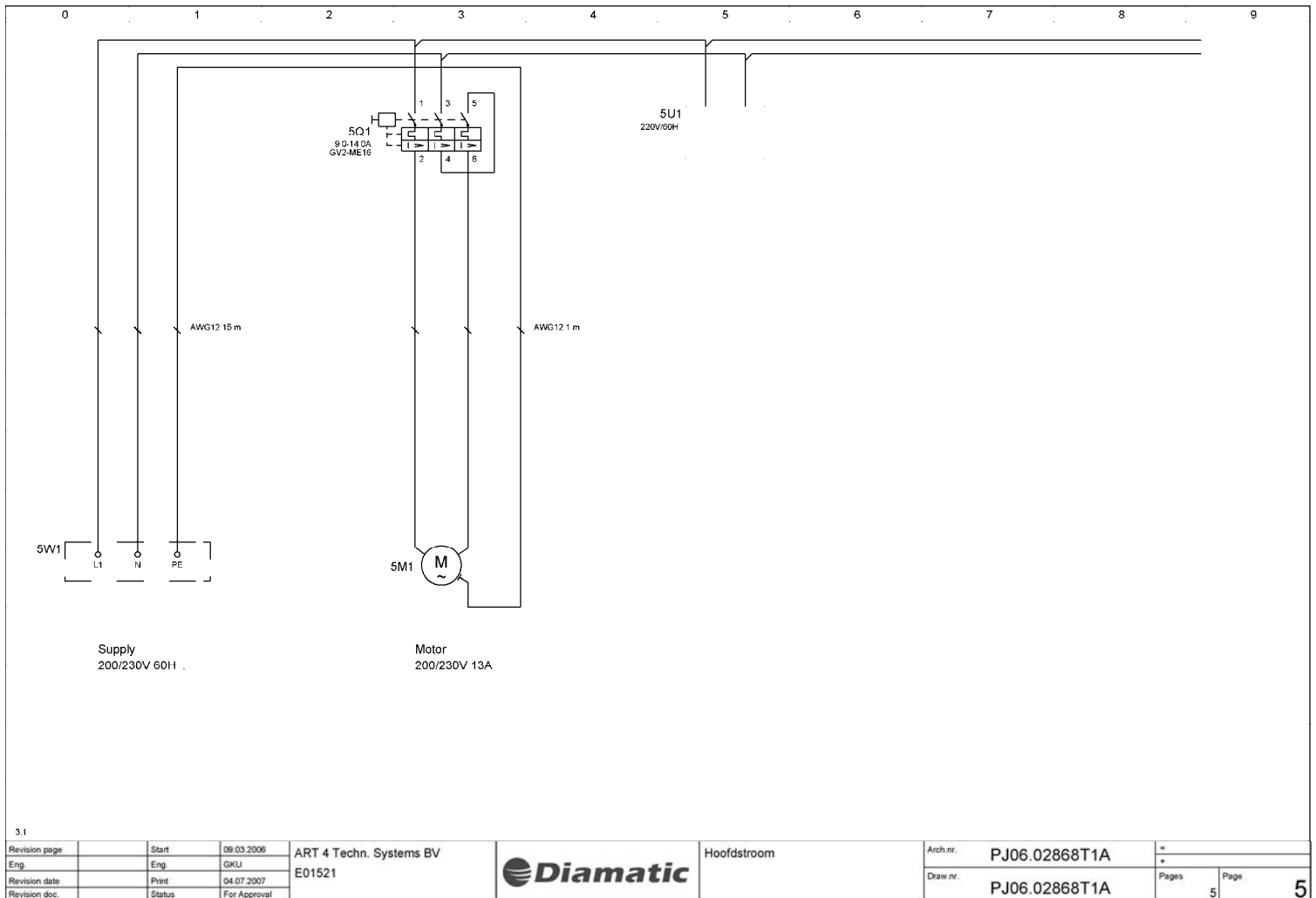
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SECTION 8 ELECTRICAL SYSTEMS

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SECTION 8 ELECTRICAL SYSTEMS

8.4 ELECTRIC CIRCUIT DIAGRAM – E01532

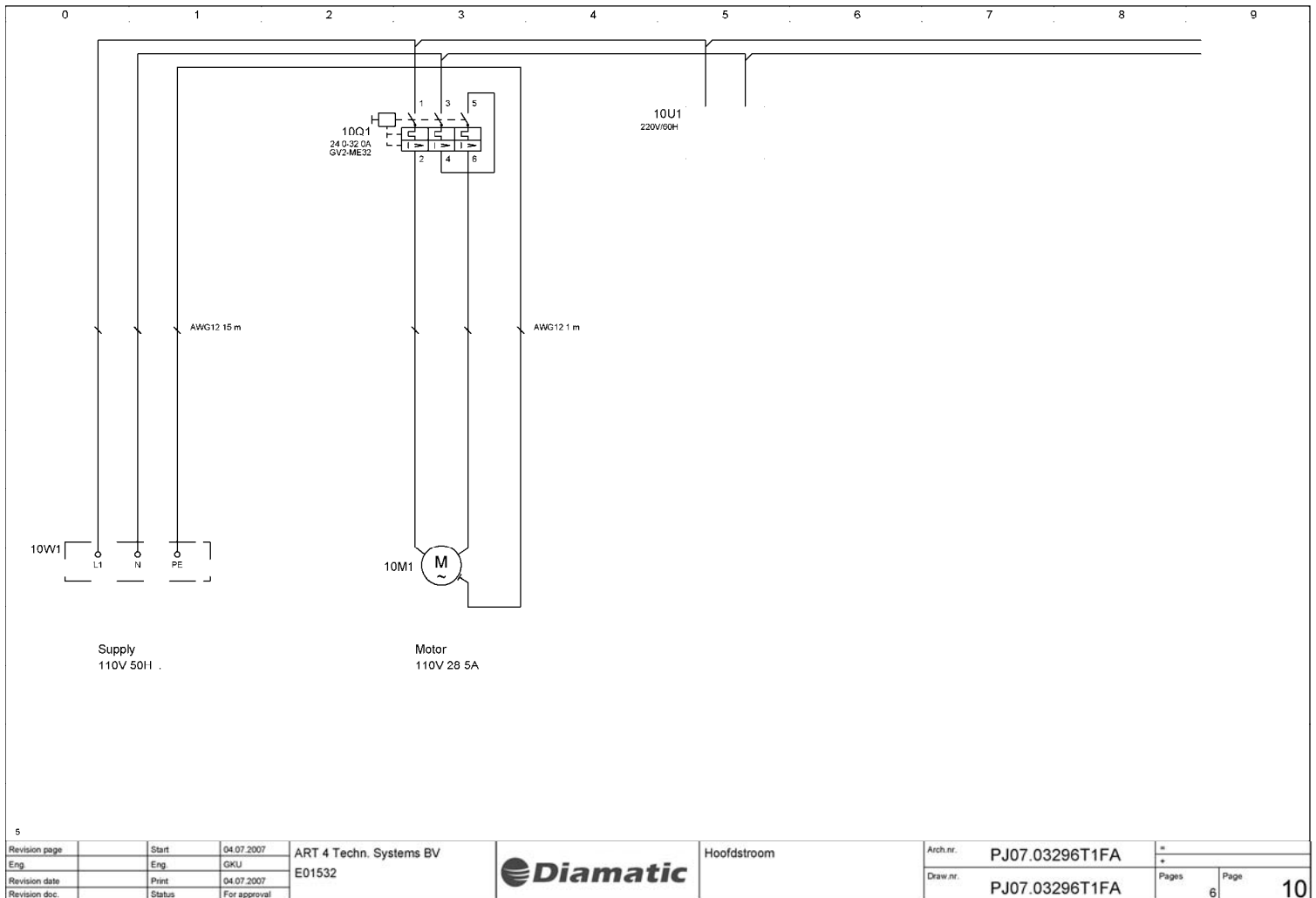
110V/ 28.0A/ 50HZ

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SECTION 8 ELECTRICAL SYSTEMS

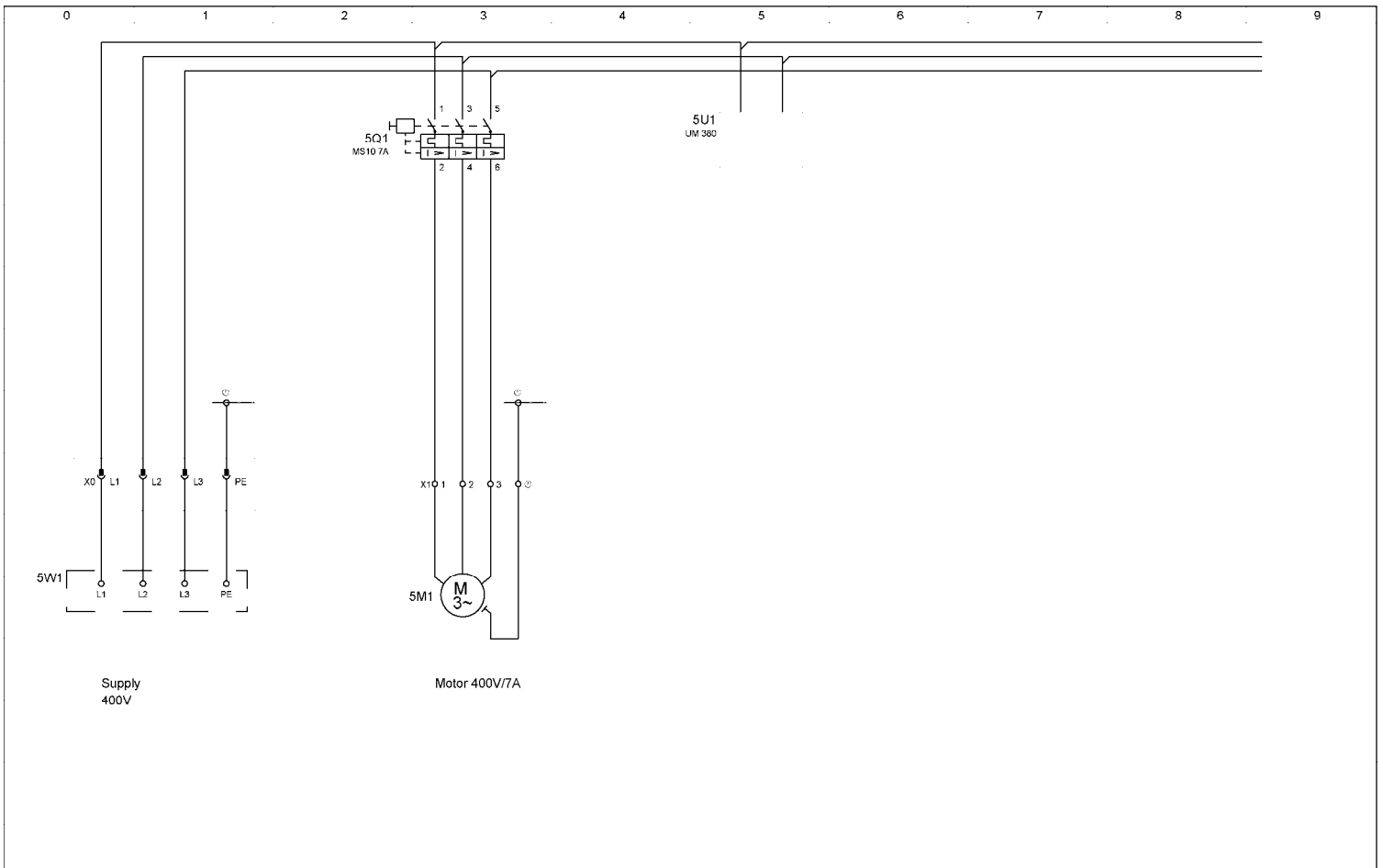
8.5 ELECTRIC CIRCUIT DIAGRAM – E03951
400V/ 6.0A

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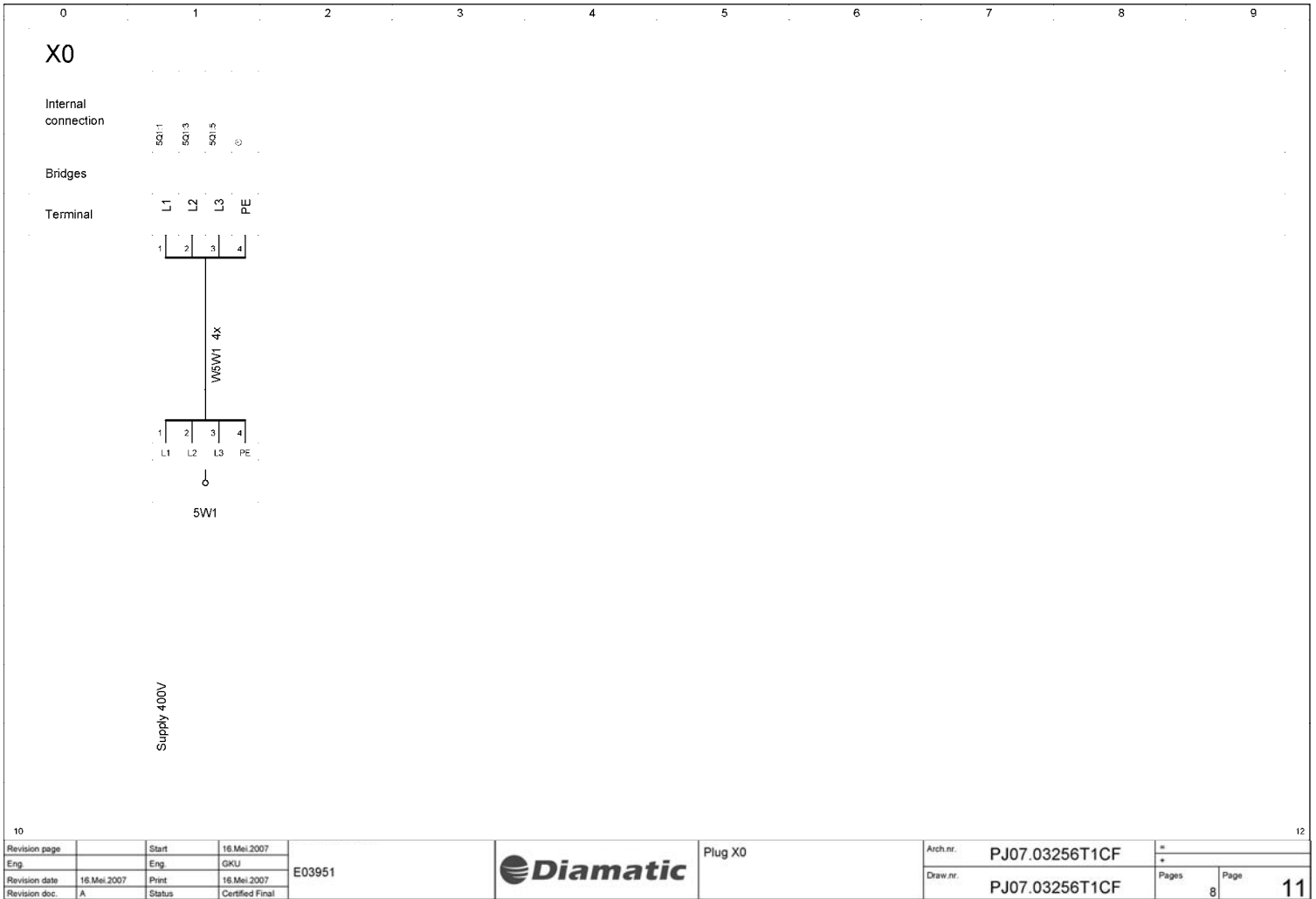
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		Key switch NO / NC		Current coil		Installation automatic Short-circuit and overcurrent protection			
		Thermostat NO / NC		Motor		Autotransformer			

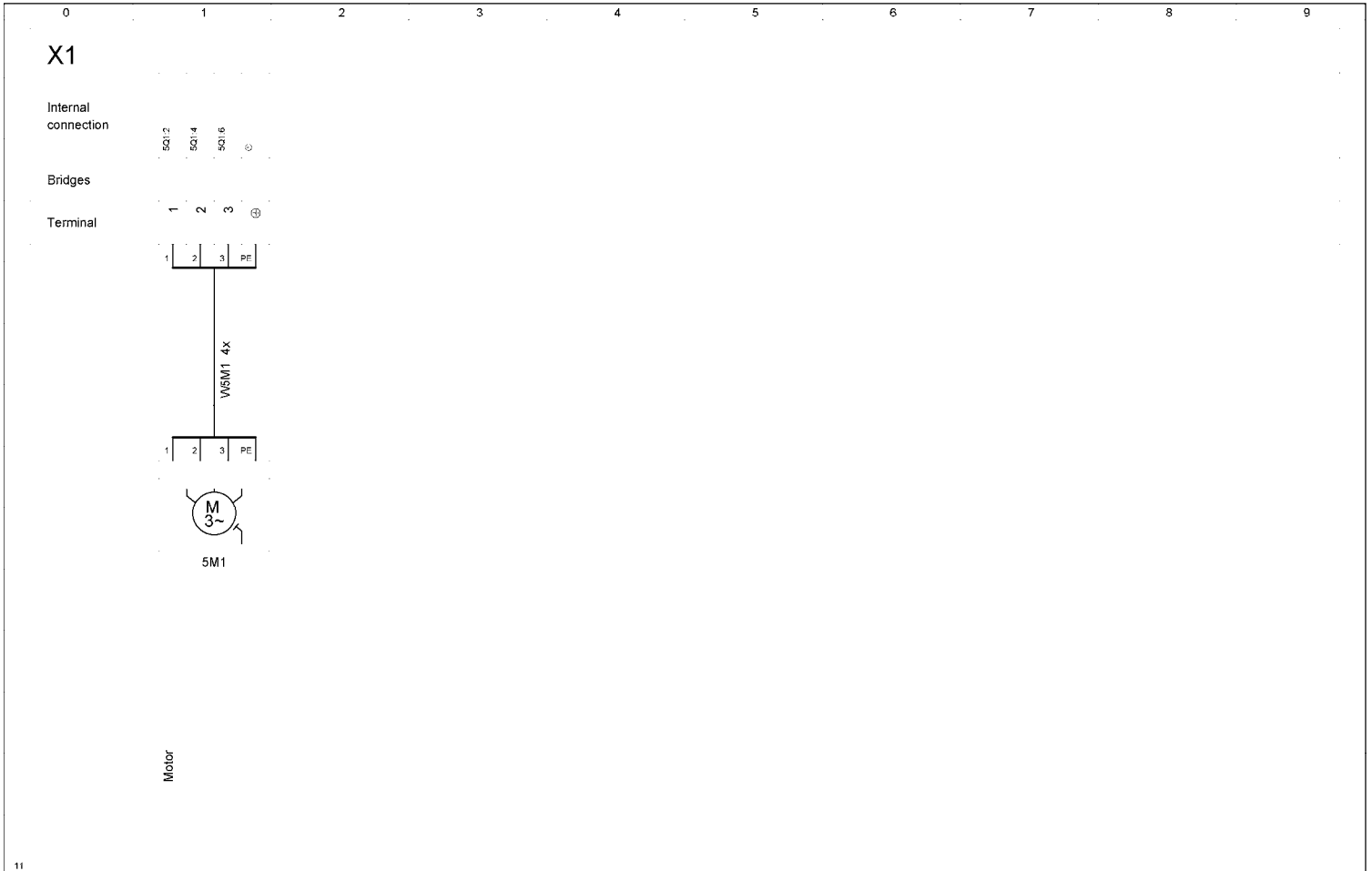
Revision page	Start	16.Mei.2007	E03951		Symbol explanation	Arch.nr.	PJ07.03256T1CF				
Eng.	Eng.	RJD				Draw.nr.	PJ07.03256T1CF	Pages	8	Page	5
Revision date	16.Mei.2007	Print				16.Mei.2007					
Revision doc.	A	Status				Certified Final					



Revision page	Start	16.Mei.2007	E03951		Main-voltage	Arch. nr.	PJ07.03256T1CF	=		
Eng	Eng	GKU				Draw. nr.	PJ07.03256T1CF	Pages	Page	10
Revision date	16.Mei.2007	Print				16.Mei.2007	8			
Revision doc.	A	Status				Certified Final				





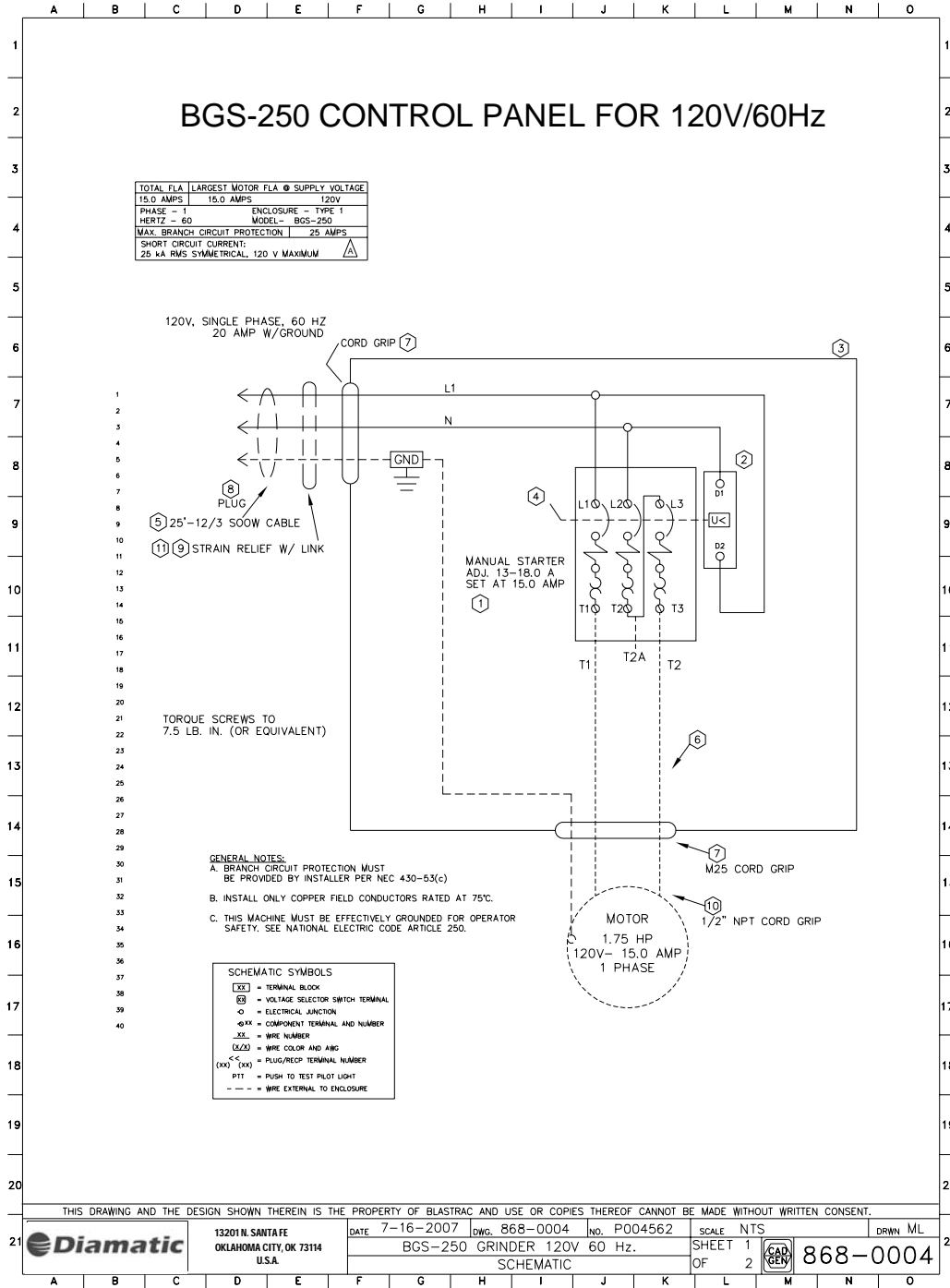


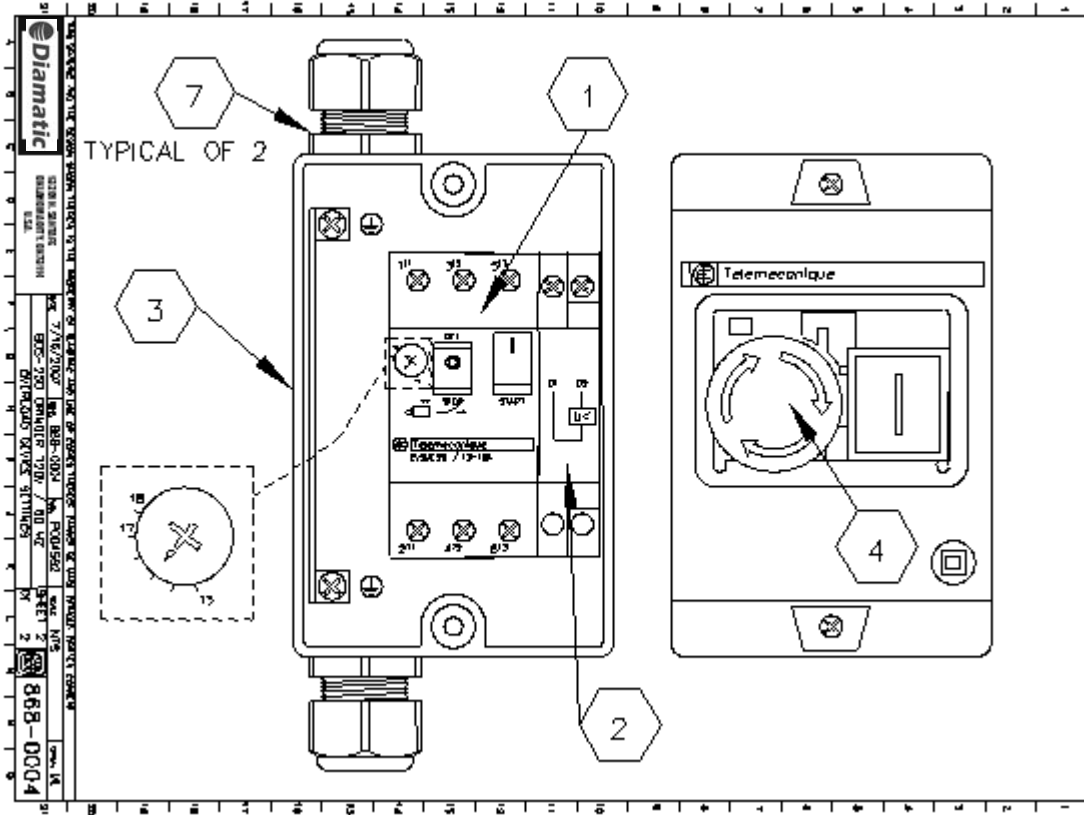
Revision page		Start	16.Mai.2007	E03951		Terminal strip X1	Arch.nr.	PJ07.03256T1CF	=	
Eng.		Eng.	GKU				Draw.nr.	PJ07.03256T1CF	Pages	8
Revision date	16.Mai.2007	Print	16.Mai.2007							
Revision doc.	A	Status	Certified Final							



SECTION 8 ELECTRICAL SYSTEMS

8.6 ELECTRIC CIRCUIT DIAGRAM – 115V





ITEM NUMBER	PN	QTY	DESCRIPTION
1	P003743	1	MANUAL STARTER
2	P003755	1	UNDervOLTAGE TRIP
3	P003741	1	SURFACE MOUNT ENCLOSURE
4	P003740	1	MUSHROOM HEAD STOP BUTTON, TWIST RELEASE
5	5330005	25	12/3 CORD - 25' SECTION
6	P003757	5	12/3 CORD - 5' SECTION
7	P003739	2	CORD GRIP
8	P000712	1	PLUG, 2 POLE W/ GROUND, 120VAC, 15 AMP
9	714657	1	STRAIN RELIEF
10	P003756	1	CORD GRIP
11	P000329	1	LINK, QUICK, CLIP CLOSURE

CONTENTS – SECTION 9

- 9.1 Fault diagnosis - grinding machine
- 9.2 Fault diagnosis - electrical system

OPERATING MANUAL



SECTION 9 FAULT DIAGNOSIS

9.1 FAULT DIAGNOSIS – GRINDING MACHINE



Prior to any repair work on the machine or its drives, the machine must be secured against unintentional activation. Put the machine in its Safety off position. See section 2.6.

Fault	Possible Cause	Remedy
Excessive vibration	Imbalance due to worn or broken grinding tools.	Replace all worn or broken parts.
	Screws worked loose on the grinding disc.	Tighten the counter-sunk head screws on the grinding disc.
Unusual noises	Defective motor bearing.	Change the motor.
	Debris deposit on the coupling.	Clean the coupling.
Reduced or no grinding performance	Grinding tools have reached the maximum permissible wear.	Replace the worn parts.
	Inappropriate grinding tool for the application.	Replace the grinding tools with appropriate grinding tools for the surface to be treated.

SECTION 9 FAULT DIAGNOSIS

9.2 FAULT DIAGNOSIS – ELECTRICAL SYSTEM



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.



Prior to any repair work on the machine or its drives, the machine must be secured against unintentional activation. Put the machine in its Safety off position.

Fault	Possible Cause	Remedy
Motor does not switch on	Under voltage trip due to power interruption Defective Component GFCI device tripped	Check the main power supply for proper voltage and switch on again. Troubleshoot and replace defective component. Reset GFCI device and retry. If device trips again, determine cause and replace.
Motor turns off while running	Motor protection switch triggered because of overload. Motor protector switch tripped because of low or under voltage condition. Motor defective.	Reduce additional load or increase extension cord wire size. Increase extension cord wire size. Have motor checked by a trained professional to confirm.

CONTENTS – SECTION 10

10.1 Spares Parts List BGS-250

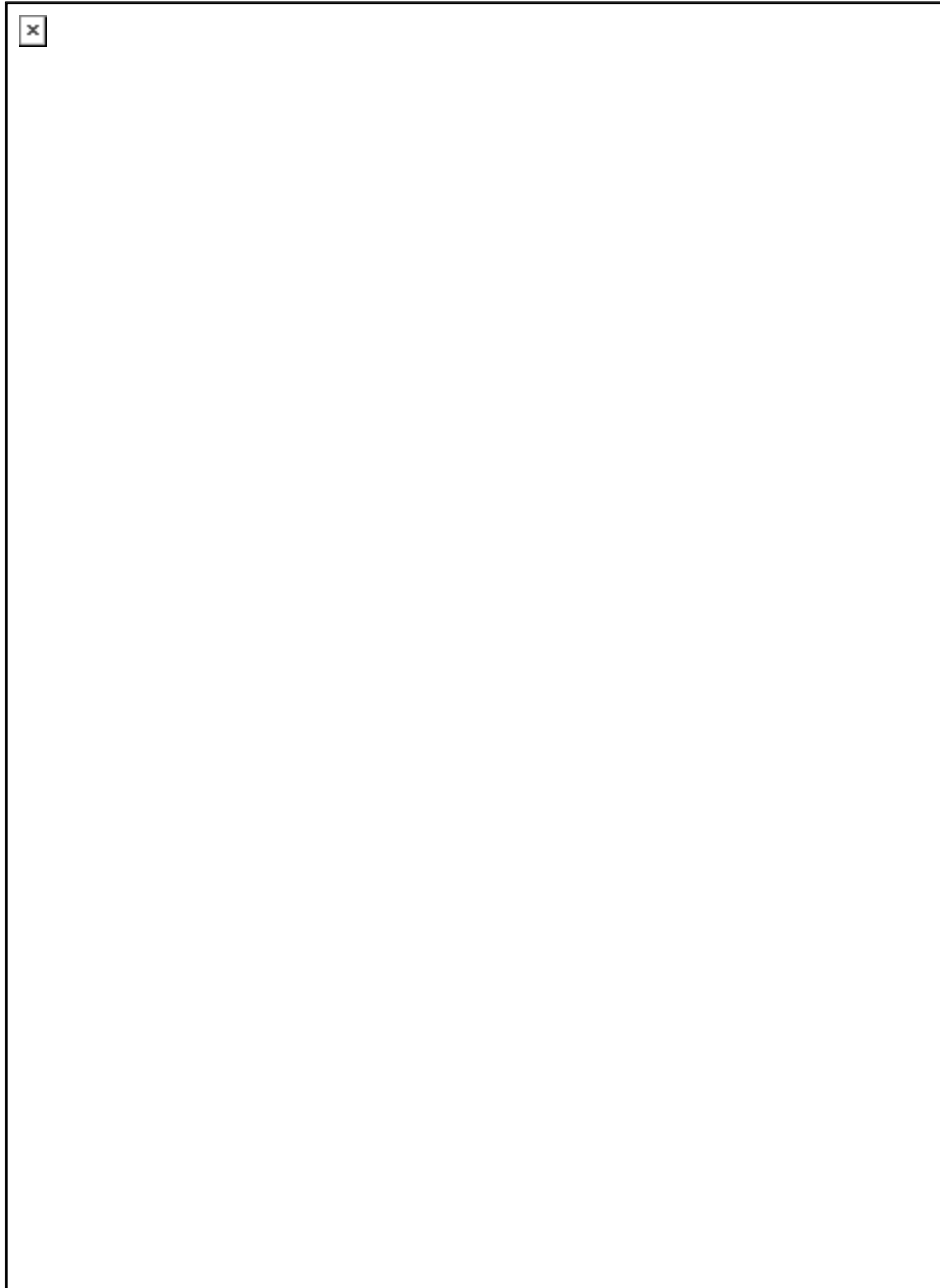
10.2 Tooling BGS-250

OPERATING MANUAL



SECTION 10 SPARE PARTS

10.1 SPARE PARTS LIST – BGS-250



OPERATING MANUAL



SECTION 10 SPARE PARTS

ITEM	PART-NO.	DESCRIPTION	QTY.
1	E03786	Hand wheel	1
2	BE0093	M6 x 35 hex Socket head cap	1
3	BE0094	Clamp adjusting ring	1
4	BE0095	Shim Ø16x22x0.5	2
5	BE0098	Bolt M8x10	2
6	E03754	Spindle sleeve	1
7	E03824	Handle grip	2
8	E03758	Handle bar	1
9	BE0083	M8x30 hex. Socket head cap	2
10	E03756	Spindle	1
11	E00587-1	Switch inc. Break and cable	1
	E01532	Electra kit 110V / 50Hz	1
	E03951	Electra kit 400V	1
	P004562	Electrical control panel and harness 115V / 60Hz	1
12	E03753	Handle	1
13	E03757	Sleeve Bearing	1



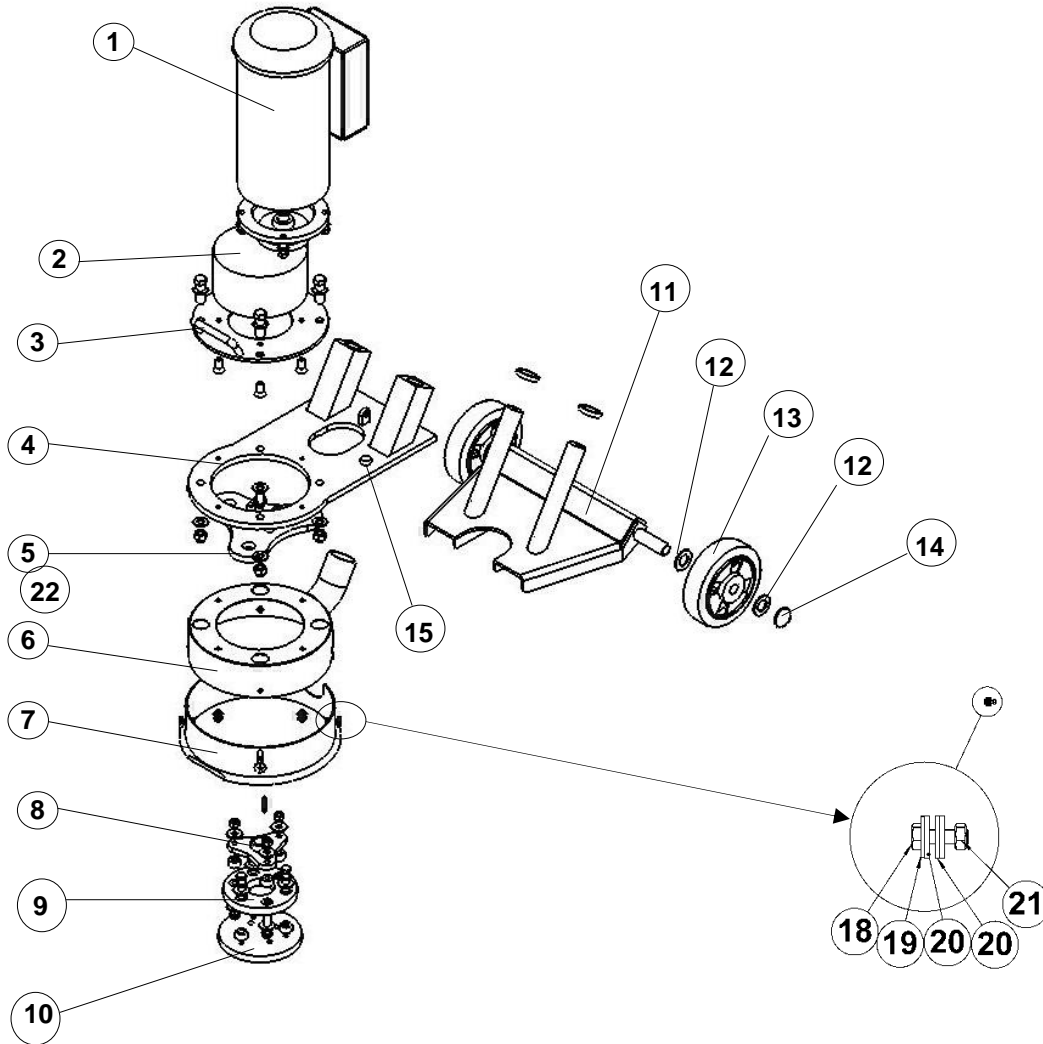
110V 50 Hz / 230V 50 Hz / 400V 50Hz:



110V 50 Hz / 230V 50 Hz / 400V 50Hz:

ITEM	PART-NO.	DESCRIPTION	QTY.
1	E01493 BL	Motor 230V / 50Hz (colour= blue)	1
	E01493 RD	Motor 230V / 50Hz (colour=red)	1
	E01525 BL	Motor 400V (colour=blue)	1
	E01518	Motor 110V / 50Hz	1
2	E03788	Handle bracket left	1
3	E03789	Handle bracket right	1
4	E03775	Lifting handle	1
5	E03751	Base plate	1
6	E03761	Felt seal	1
7	E03752	Drive bracket	1
8	BE0096	Washer M20	4
9	E03603	Wheel	2
10	BE0097	Starlock ring Ø20 with cap	2
11	E03759	Upper dust hood	1
12	E03760	Lower dust hood	1
13	E03784	Washer	1
14	E03762	Coupling	1
15	000118	Flexible coupling	1
16	E03250	Spacer ring	3
17	DG05	Adapter	1
18	BE0020	M6x20 bolt	4
19	BE0016	M6 washer	4
20	E03826	Nylon washer Ø18x6x1.6	8
21	BE0018	M6 nut	4
22	E03563	Mini leveler	1
	004583	Dust hose	0.5

115V 60 HZ:



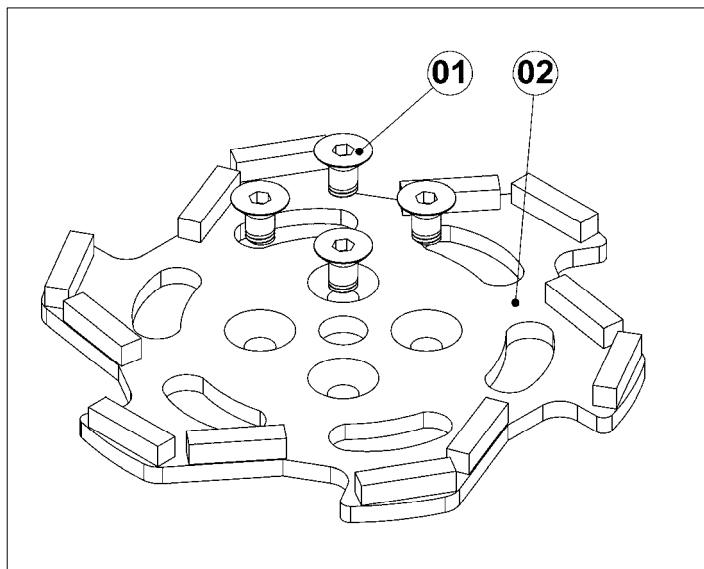
115V 60 HZ:

ITEM NO	PART-NO.	DESCRIPTION	QTY.
1	P004621	Motor 115V / 60 Hz	1
2	P004623	Gear reducer	1
3	PG-10094	Adapter Plate with handle	1
4	E03751	Base plate	1
5	PG-10071	BSDP Adapter Plate	1
6	E03759	Upper dust hood	1
7	E03760	Lower dust hood	1
8	PG-10063	Tool Adapter	1
9	CP-10061	Flexible Coupling	1
10	DG05	Adapter Disc	1
11	E03752	Drive bracket	1
12	BE0096	Washer M20	4
13	E03603	Wheel	2
14	BE0096	Starlock ring $\varnothing 20$	2
15	E03563	Mini leveler	1
18	BE0020	M6x20 bolt	4
19	BE0016	M6 washer	4
20	E03826	Nylon washer $\varnothing 18 \times 6 \times 1.6$	8
21	BE0018	M6 nut	4
22	PG-10096	Bolt Kit, Adapter Disc	1
**	004583	Dust hose	1

*Note: Items listed with a "***" in the item number column are not shown in the diagram.*

10.2 TOOLING – BGS-250

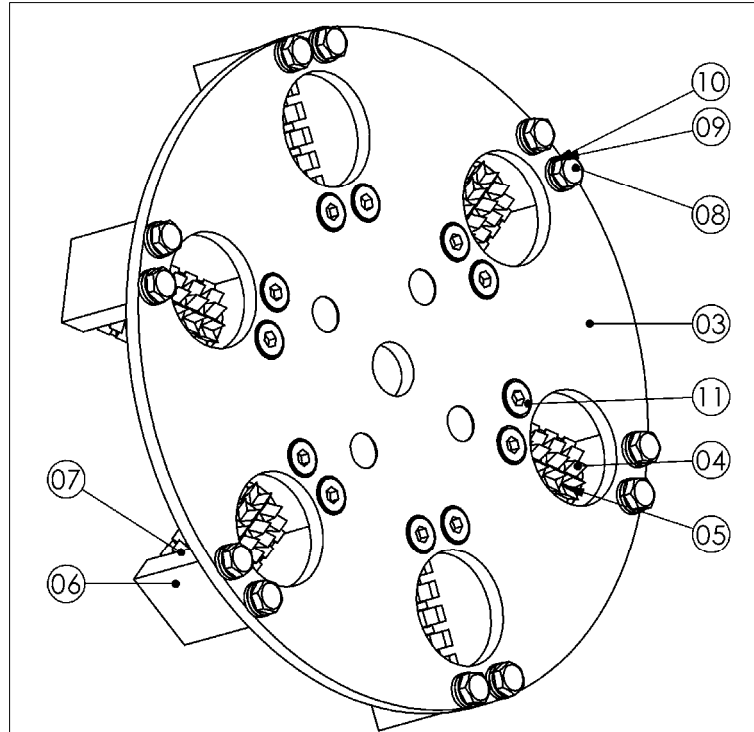
110V 50 Hz / 230V 50 Hz / 400V 50Hz:



ITEM	PART-NO.	DESCRIPTION	QTY.
1	B21065	Bolts for diamond / cutter plate	4
2	E01443	"NINJA" Diamond blade	1

110V 50 Hz / 230V 50 Hz / 400V 50Hz / 115V 60 Hz:

PG-10158 - Scarifier Head Assembly



ITEM	PART-NO.	DESCRIPTION	QTY.
3	PA-10672	Drive Plate	1
4	STS15-1130-4P	Cutters	42
5	AT-999-664	Washer	54
6	PA-10673	Shaft Support Block	12
7	PA-10674	Shaft	6
8	5028750	Hexagon head screw	12
9	5037600	Spring lock washer	12
10	800772	Washer	12
11	800770	Hexagon socket countersunk head screw	12

115V 60 Hz:

Below is a listing of tooling options available for the BGS-250-115. These tools are not included with the machine when purchased.

10" Grinding Disc

1 EACH/MACHINE:

CG-1020DB: 10" DIA. 20SEG GRINDING BLADE
CG-1020DBBT: 10" DIA. 20SEG. BI-TURBO BLADE
CG-1020DBH: 10" DIA. 20 SEGMENT GRINDING BLADE
CG-1020DBS: 10" DIA. 20 SEG GRINDING BLADE
CG-1020DBT: 10" DIA. 20SEG. TURBO BLADE
CG-1020GTP: 10" DIA. 20SEG. TURBO PREMIUM BLADE

Beveled Segments and Polishing Pads

3 EACH/MACHINE:

PG-10089: POLISHING PAD ADAPTER

DP25-BSD50: DIAMOND PLUG 2.5" - BEVELED SEGMENT 50 GRIT
DP25-BSD80: DIAMOND PLUG 2.5" - BEVELED SEGMENT 80 GRIT
DP25-BSD150: DIAMOND PLUG 2.5" - BEVELED SEGMENT 150 GRIT
DP25-BSD300: DIAMOND PLUG 2.5" - BEVELED SEGMENT 300 GRIT
DP25-BSD500: DIAMOND PLUG 2.5" - BEVELED SEGMENT 500 GRIT

BG200982-P: DRY POLISHING RESIN - BLACK (100 GRIT)
BG200983-P: DRY POLISHING RESIN - BLUE (200 GRIT)
BG200984-P: DRY POLISHING RESIN - RED (400 GRIT)
BG200985-P: DRY POLISHING RESIN - WHITE (800 GRIT)
BG200986-P: DRY POLISHING RESIN - YELLOW (1500 GRIT)
BG200987-P: DRY POLISHING RESIN - GREEN (3000 GRIT)

