USE AND MAINTENANCE MANUAL

Professional combined bench grinder
Art. 0554 e Art. 0554/400V

FERVI
PRO SMART EQUIPMENT

TRANSLATION OF THE ORIGINAL INSTRUCTIONS

FOREWORD

Read this manual before any operation

ORIGINAL INSTRUCTIONS

Before starting any operation it is compulsory to read this instruction manual. The guarantee that the machine will function and perform properly is strictly dependent upon the application of all the instructions contained in this manual.

Operator Qualification

The operators assigned to using this machine must be supplied with all of the necessary information and instruction and should be provided with adequate training regarding safety in pertaining to:

a) The conditions of use of the equipment;

b) Foreseeable abnormal situations, pursuant to Article 73 of Legislative Decree 81/08.

We guarantee the Machine's conformity to the specifications and technical instructions described in the Manual on the date of issuance and listed herein; On the other hand, the machine may also be subject to important technical changes in the future, without the manual being updated.

Therefore, see FERVI for information about modifications that could be implemented.

REV. 3 **April 2014**

CONTENTS

1 INTRODUCTION

This manual is delivered with the machine, and it must be regarded as an inseparable part of it.

The manufacturer holds all ownership to material and intellectual property of this manual; any disclosure or copying, even partial, of this publication without prior written consent is forbidden.

The purpose of this manual is to provide the knowledge necessary for the use and maintenance of the **Professional combined bench grinder Art. 0554 e Art. 0554/400V** and create a sense of responsibility and knowledge of the possibilities and limits of the device entrusted to the operator.

As the machine is entrusted to experienced and skilled operators, the following machine must be perfectly known by the operator if it is to be used safely and effectively.

Operators must be properly trained and prepared, so make sure that this manual is read and consulted by the staff responsible for commissioning, operation and maintenance of the **Professional combined bench grinder.** This is to make all operations the safest and most effective possible for those who carry out these tasks.

Therefore, it is imperative to strictly comply with the requirements in this manual, a necessary condition for safe and satisfactory operation of the machine.

Prior to installation and use of the **Professional combined bench grinder**, authorised personnel must:

- carefully read this technical document;
- know which protections and safety devices are available on the machine, their location and how they work.

The buyer is responsible for ensuring that users are properly trained, that they are aware of all the information and instructions in this document and that they are aware of the potential risks of operating the **Professional combined bench grinder.**

The manufacturer waives any and all responsibility for damage to people and/or things caused by non-observance of the instructions in this manual.

The **Professional combined bench grinder** has been designed and built with mechanical guards and safety devices designed to protect the operator / user from possible injury. It is strictly forbidden to modify or remove guards, safety devices and caution labels. If this must be done (for example, for cleaning or repair), make sure that no one can use the machine.

Modifications to the machine carried out by the user must be considered their sole responsibility, therefore the manufacturer waives any and all responsibility for any damage caused to persons and/or property resulting from maintenance performed by unqualified personnel and in a manner unlike the operating procedures shown below.

GRAPHIC REPRESENTATION OF SAFETY, OPERATIONAL AND RISK WARNINGS

The following boxes are designed to attract the attention of the reader / user for the **proper** and **safe** use of the machine:

Pay attention

This highlights behavioural rules to prevent damage to the machine and/or the occurrence of dangerous situations.

Residual Risks

This highlights the presence of dangers that cause residual risks to which the operator must pay attention in order to avoid injury or damage to property.

1.1 Preface

For safe and easy operation of the **Professional combined bench grinder**, this manual must be read carefully in order to acquire the necessary knowledge. In other words, durability and performance are strictly dependent on how it is used.

Even if already familiar with the **Professional combined bench grinder**, it is necessary to follow the instructions contained herein, in addition to the general precautions to be observed while working.

- Acquire full knowledge of the machine.
  Read this manual carefully to understand: operation, safety devices and all necessary precautions. All this is to allow safe use of the machine.
- Wear appropriate clothing for the job.
  The operator must wear appropriate clothing, so as to prevent the occurrence of unpleasant accidents.
- Maintain the machine with care.

Using the machine

The machine must only be used by qualified personnel trained to use the machine by authorized personnel.

2 SAFETY WARNINGS

2.1 General safety rules for machine tools

Risks associated with the use of the machine

Do NOT underestimate the risks related to the use of the machine and stay focused on the work you are carrying out.

Risks associated with the use of the machine

Despite the implementation of all safety devices for safe use of the machine, it is necessary to take note of all the accident prevention requirements highlighted in various parts of this manual.

Risks associated with the use of the machine

Every person who is responsible for the use and maintenance of the machine should first have read the instruction manual, particularly the chapter dealing with safety.

It is recommended that the plant safety manager get written confirmation of the above.

Risks associated with the use of the machine

- During all work phases with the machine, you should proceed with great caution in order to avoid damage to persons, to property or to the machine itself.
- Please only use the machine for its envisaged uses.
- Do not tamper with the safety devices provided by the manufacturer.

Risks associated with the use of the machine

Before starting any work on the machine, the operator must wear the appropriate personal protective equipment (PPE) such as gloves and eye protection.

1. Always check the efficiency and integrity of the machine.
2. Before connecting the machine to the mains make sure that the switch is in the rest position.
3. Do not start the machine in an enclosed or poorly ventilated area, or in the presence of a flammable and/or explosive atmosphere. Do not use the machine in damp and/or wet locations, or those exposed to rain or humidity.

4. Avoid starting accidentally.
5. Before starting the machine, get used to ensuring that no remaining adjustment or maintenance wrenches have remained inserted.
6. Keep the workplace tidy and free from hindrances; disorder causes accidents.
7. Make sure that the work environment is forbidden to children, non-employees and animals.
8. Do not perform tasks on the machine other than those for which it was designed. Only use the machine in the manner in which it was intended, as described in this instruction manual.
9. Work without disturbances.
10. Work areas must be well lit.
11. Always wear eye protection and protective gloves while working. If dust is produced, use the appropriate masks.
12. Wear appropriate clothing. Loose clothing, dangling jewellery, long hair, etc.., can get caught in the moving parts, causing irreparable injury.
13. Replace worn and/or damaged parts, check that the guards and protection devices work properly before operating. If necessary, have the machine checked by the service support personnel. Use only original spare parts.
14. **Cut the mains voltage supply to the machine when:**
    - the machine is not being operated;
    - is left unattended;
    - you are performing maintenance or adjustment because the machine does not work properly;
    - the power cable is damaged;
    - you are replacing its tool;
    - in case the machine is being moved to another location;
    - you are cleaning the machine.
15. Do not use the machine in areas with a risk of fire and/or explosion.
16. It is recommended that users of this publication, for maintenance and repair, have a basic knowledge of mechanical principles and of repair technique procedures.
17. **The person responsible for company safety is to make sure that the staff responsible for using the machine have read and understood this manual in its entirety.**
18. **The company safety manager is responsible for monitoring the company's risk status according to Legislative Decree no. 81/08.**

2.2 Special safety rules for grinders

1. Before connecting the machine to the mains, make sure that the rotating parts are not damaged or badly worn.
2. Do not hold tools in motion (wheels, brushes). Do not lift the machine by holding the tools.
3. To stop the tools on the machine, always only use the stop command device (red button).
4. Do not move away from the machine until the tools and other moving parts, have completely stopped.

2.3 Safety rules for electrical machine equipment

Risks associated with the use of the machine

1. Do not modify the electrical system in any way. Any attempt in this regard may jeopardize the operation of electrical devices, thus causing malfunction or accident.
2. Work carried out in the electrical system of the machine must, therefore, be carried out only by qualified and authorized personnel.
3. If one hears unusual noises, or feels something strange, immediately stop the machine. Then carry out an inspection and, if necessary, perform any repairs as required.

1. Ensure the supply voltage corresponds to that stated on the label and in the technical specifications (Art. 0554 230V/50Hz and Art. 0554/400V 400V/50Hz).
2. It is necessary to use a device for the automatic interruption of the power supply in case of failure, which is to be coordinated with the machine's electrical system. For more detailed information, contact a trusted electrician.
3. The socket must be earthed and extension cables must have sections that are the same or greater than the sections of the power cable of the machine.
4. The power supply cable (and its possible extension cable) should never come in contact with hot objects, sharp edges, wet or oiled surfaces.
5. The power cord should be checked regularly and before each use to check for signs of damage or wear. If these are not in good condition, replace the cable.
6. Do not use the power cord to lift the machine or to remove the plug from the socket.

2.4 Technical support

For any problems or concerns, please contact, without hesitation the Customer Service Department of your dealer, who has competent and specialized staff, specific equipment and spare parts.

2.5 Other provisions

IT IS FORBIDDEN TO TAMPER WITH SAFETY DEVICES

The first thing to do when starting work is to check for the presence and integrity of the protections and the operation of the safety devices.

If any defect is encountered do not use the machine!

Even more so, it is strictly forbidden to modify or remove guards, safety devices, labels and indication signs.

3 TECHNICAL SPECIFICATIONS

	Model	Art. 0554	Art. 0554/400V
Plate data	Weight (kg)	30	
	Voltage (V)	230	400
	Power (W)	900	
	Frequency (Hz)	50	
	Size (mm)	520 x 225 x 300	
1st Tool	Type of tool	Dry grinding wheel	
	Dimensions (mm)	Ø 200 x 25 x 20	
	Speed (r/min)	2950	
Tool 2	Type of tool	Brush	
	Size (mm)	Ø 200 x 25 x 20	
	Speed (r/min)	2950	
Idle acoustic pressure level (dB(A))		59.7 ± 3.16	
Operating acoustic pressure level (dB(A))		66.1 ± 4.0	

* The acoustic emission values were measured in compliance with UNI EN ISO 3744:2010.

* The acoustic emission values at the operator's workstation were measured in compliance with UNI EN ISO 11202:2010.

4 DESCRIPTION OF THE MACHINE

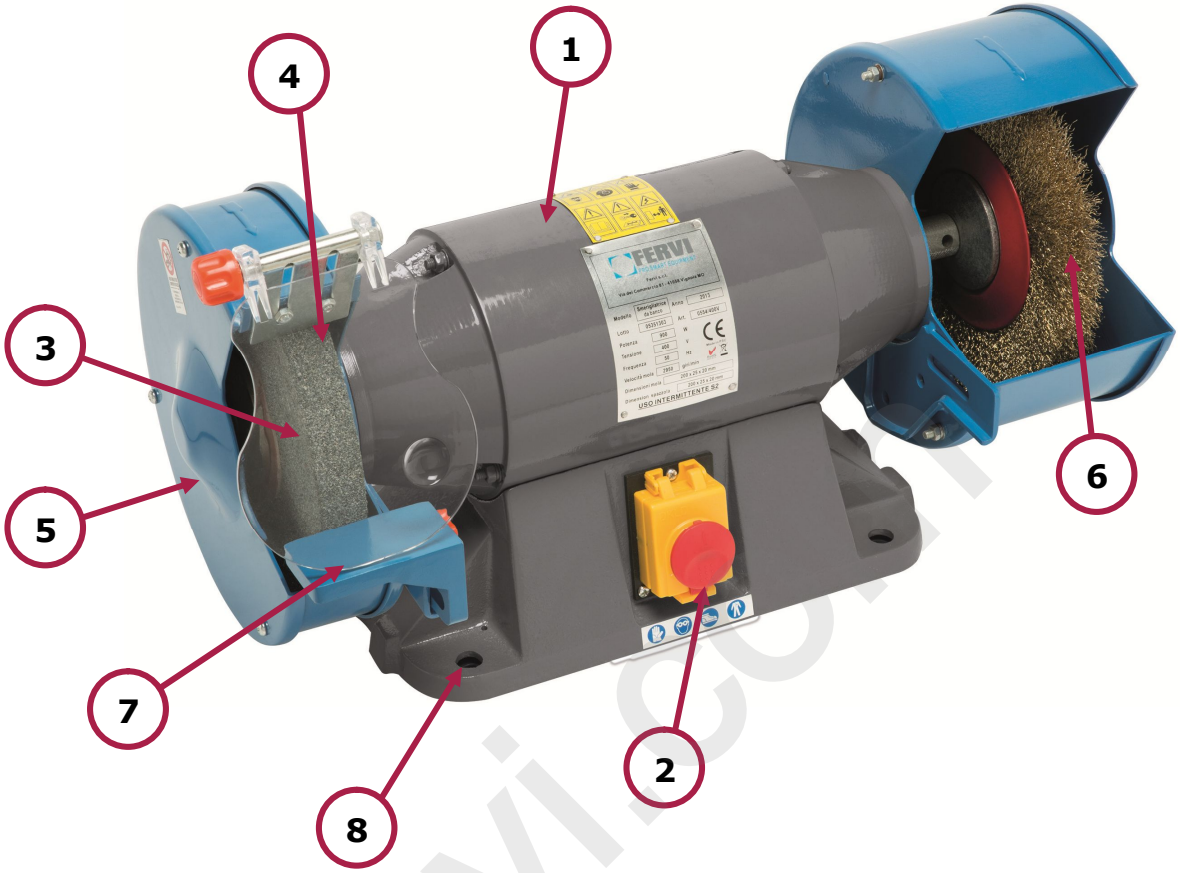


Figure 1 - General view

1	Machine body / motor;
2	Start and stop buttons;
3	Dry grinding wheel;
4	Dry grinding wheel protective screen;
5	Grinding wheel protective guard;
6	Brush
7	Bracket for supporting the workpiece;
8	Fastening holes on the bench;

4.1 Identification plate

The following identification plate is attached to the machine (Art. 0554);

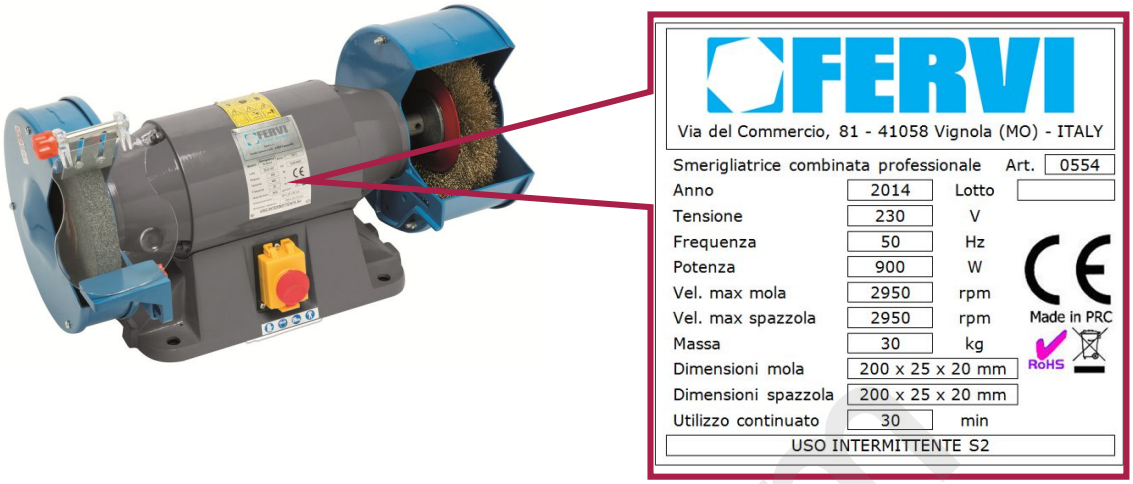


Figure 2 – Identification plate.

4.2 Pictograms

The machine has the following warning and attention pictograms (Art. 0554):

Figure 3 – Caution and warning pictograms.

Pictograms

PLATE IN ITALIAN	PLATE IN ENGLISH
• LEGGERE LE ISTRUZIONI PRIMA DI UTILIZZARE LA MACCHINA • NON AVVICINARE LE MANI ALL'UTENSILE IN MOVIMENTO • NON AFFERRARE L'UTENSILE CON LE MANI PER ARRESTARLO • NON REGOLARE LA MACCHINA MENTRE E' IN FUNZIONE • INDOSSARE SEMPRE IDONEE PROTEZIONI, QUALI OCCHIALI E MASCHERINE QUALORA VENGA PRODOTTA POLVERE • SCOLLEGARE LA MACCHINA DALL'ALIMENTAZIONE ELETTRICA IN CASO DI RIPARAZIONI O REGOLAZIONI • NON INDOSSARE INDUMENTI SVOLAZZANTI, GIOIELLI, CATENINE E BRACCIALI CHE POSSONO AGGANCIARSI ALLA MACCHINA E PROVOCARE DANNI IRREPARABILI • SCOLLEGARE LA MACCHINA DALL'ALIMENTAZIONE ELETTRICA PRIMA DI ESEGUIRE MANUTENZIONE, REGOLAZIONI E RIPARAZIONI	• READ THE INSTRUCTIONS BEFORE USING THE MACHINE • DO NOT MOVE YOUR HANDS CLOSE TO THE MOVING TOOL • DO NOT GRAB THE TOOL WITH YOUR HANDS TO STOP IT • DO NOT ADJUST THE MACHINE WHEN IT IS IN OPERATION • ALWAYS WEAR APPROPRIATE SAFETY DEVICES, SUCH AS GLASSES AND MASKS SHOULD DUST BE PRODUCED • DISCONNECT THE MACHINE FROM POWER SUPPLY WHEN CARRYING OUT REPAIRS OR ADJUSTMENTS • DO NOT WEAR LOOSE CLOTHING, JEWELLERY, NECKLACES AND BRACELETS WHICH COULD CATCH ON THE MACHINE RESULTING IN PERMANENT DAMAGE • DISCONNECT THE MACHINE FROM POWER SUPPLY BEFORE CARRYING OUT MAINTENANCE, REPAIRS AND ADJUSTMENTS
 **ATTENZIONE!** **TOGLIERE LA CORRENTE PRIMA DI APRIRE IL CARTER**	 **ATTENTION!** **CUT THE POWER BEFORE OPENING THE CASING**
 **NON RIMUOVERE** **I DISPOSITIVI DI SICUREZZA** È severamente vietata la rimozione e la omissione dolosa D.lgs. 81/08	 **DO NOT REMOVE** **THE SAFETY DEVICES** Removal and intentional omission is strictly prohibited Legislative decree 81/08
 **ATTENZIONE** **È VIETATO ESEGUIRE LAVORI SU APPARECCHIATURE ELETTRICHE SOTTO TENSIONE** • EVENTUALI DEROGHE DEVONO ESSERE AUTORIZZATE DAL CAPO RESPONSABILE • IN CONDIZIONI DI PARTICOLARE PERICOLO DEVE ESSERE PRESENTE UN'ALTRA PERSONA OLTRE A CHI ESEGUE IL LAVORO **INIZIARE I LAVORI SOLO AD AVVENUTA ATTAZIONE DELLE MISURE DI SICUREZZA** **In ottemperanza al Dgs.81/08 relativo alla prevenzioni infortuni**	 **ATTENTION** **IT IS FORBIDDEN TO PERFORM WORK ON LIVE ELECTRICAL EQUIPMENT** • ANY EXCEPTIONS MUST BE APPROVED BY THE MANAGER IN CHARGE • IN CONDITIONS OF PARTICULAR DANGER THERE MUST BE ANOTHER PERSON PRESENT IN ADDITION TO THE PERSON PERFORMING THE WORK **ONLY BEGIN WORK AFTER IMPLEMENTATION OF THE SAFETY MEASURES** **In accordance with the Legislative Decree 81/08 relating to accident prevention**

5 INSTALLATION OF THE MACHINE

To install the bench grinder, proceed as follows:

Clean the Machine

Before beginning assembly clean the protective product from the parts of the machine.

5.1 Positioning and fastening on the bench

Loss of stability

Mount the Bench grinding machine on a surface that is solid and strong to avoid it falling over and so it does not cause vibrations;

Clean the Workbench

Before fixing the machine in place, clean the workbench of any materials and dirt that may be present.

Place the machine on a workbench (or other supporting surface) that is level, stable and sturdy and secure it with four bolts in the appropriate fastening holes in the base of the machine body (see Figure 4).

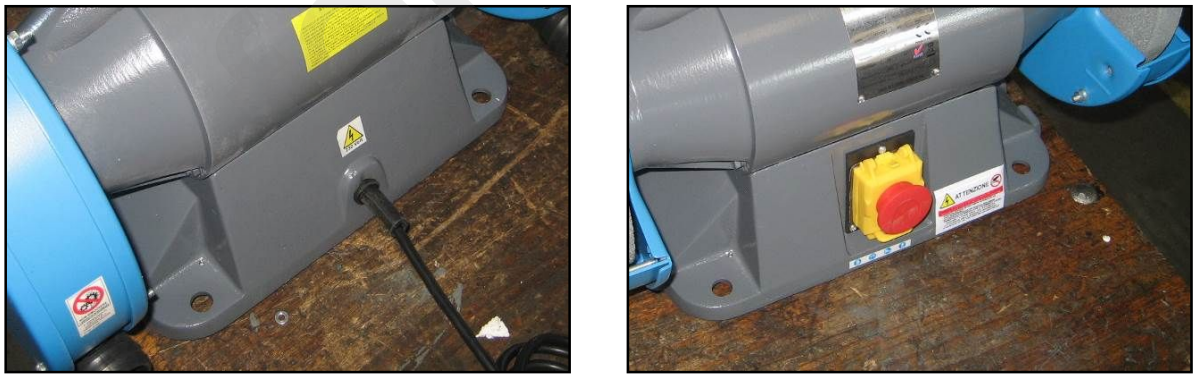


Figure 4 – Close-up of fastening holes.

In the case of using a steel bench, it is advisable to place between the grinder and the supporting surface a layer of material which is suitable to reduce the vibrations.

Installation of the machine

Do not install the machine outdoors to avoid deformation, loss of function and damage to the electrical control circuit.

5.2 Installation of screens and workpiece holder brackets

1. Mount the transparent protective screens of the dry grinding wheel using the fastening screws provided. Screw the screen supports to fixed protective device of the grinding wheel and then install the screen securing it with the through screw and the locking knob. (see Figure 5).

   Position the protective screens so that they do not touch the wheels and there is a maximum gap (light) of 5 mm, between the metal support of the screen itself and the wheel (see the screens in Figure 6).

Figure 5 – Assembling the protective screens.

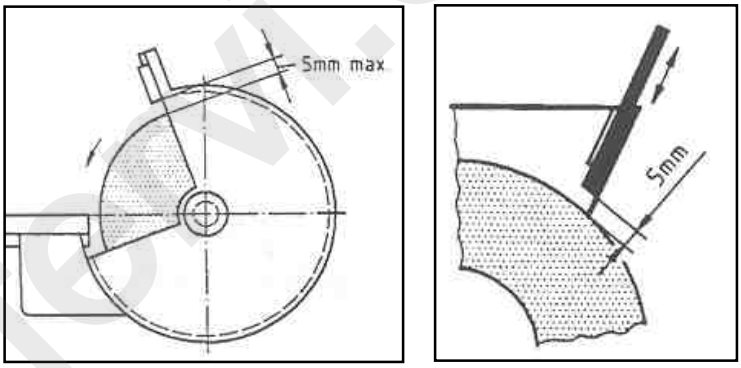


Figure 6 – Adjusting the protective screens.

1. Fit the clamping brackets to the lower end of the protective dry grinding wheel casing, using the special screws with knob (see Figure 7). Position the clamping brackets so that they do not touch the wheels and there is a maximum gap (light) of 2 mm between the brackets and the wheels.

Figure 7 – Bracket adjustment.

5.3 Connection to the extraction system

Before using the machine, it is necessary to connect an external extraction system to the two suction outlets located at the rear of the machine on the fixed protective guards, as shown in the figure below.

Figure 8 – Outlet for the extraction system on the guard

5.4 Connecting the power plug and start-up test (Art. 0554)

1. Insert the power plug into a power outlet with a grounding wire.
2. Start the machine by pressing the green switch I (see Figure 11) and make sure that the rotating direction of the equipment is consistent with that indicated by the arrows marked on the protective casing (caps).

Figure 9 – Close-up of power plug.

3. Before starting the grinding, check the mounted wheels as follows:
    - making them rotate freely for at least 5 minutes at a peripheral operating speed;
    - with the guards closed and without the presence of personnel.

Impact from projected parts

During the test run, no operator and no other person should be within range of the machine.

6 SAFETY DEVICES ON THE MACHINE

6.1 Electrical safety devices

The control device connected to the electrical circuit of the bench grinder is a **magnetic switch** with two buttons. This prevents the danger of unwanted and/or accidental starts of the machine, since the switch can only be activated through a voluntary action suitable for the given purpose and when the machine is powered.

The start button is also equipped with a protective collar.

The machines are also equipped with an **emergency stop button**, formed by a plastic cap placed over the on and off switches, when pressure is applied it acts only on the stop button. When, in an emergency, pressure is applied to the cap, the dangerous functions stop.

In the event of malfunction or breakdown, the Bench grinding machine is equipped with a power cable and plug with **grounding conductor**, which provides a path of least resistance for electric current and reduces the risk of electric shock.

The plug must be plugged into an appropriate outlet, earthed in accordance with current regulations. Extension cables must be of a section equal to or greater than the power cable of the machine.

Electric shock

Improper connection of the machine’s grounding conductor can result in the risk of electric shock.

It is necessary to connect the machine to a system equipped with a device for the automatic disconnection of power in the event of a ground fault.

Check with a qualified electrician if you don't understand the grounding instructions or if you have any doubts about grounding the machine.

6.2 "Mechanical" Safety Devices

TRANSPARENT SCREENS AND PROTECTIVE CASING

They perform the function of preventing hot splinters, dust or fragments of the grinding wheel that may detach from being projected into the operator's face.

Checking the safety devices

- Each time the grinding wheel is used, check that the safety devices function and are positioned properly.
- In the event of damage and/or breakage, do not use the machine.

Use of PPE

In any event, ALWAYS use appropriate personal protective equipment (PPE), such as:

Gloves | Goggles or face shields | Overalls or aprons | Safety shoes

Figure 10 - Personal Protective Equipment.

7 CONTROLS

They are located at the base of the machine body. They are used to turn on and off the bench grinder.

7.1 On switch (start)

The green button (I), is used for starting (turning on) the bench grinding machine (Figure 11). With this button, the electric motor is powered and the equipment is set in rotation (grinding wheels, brush, etc.).

Figure 11 – Start button.

7.2 Stop button

The red button (0), is used for switching off (stop) the bench grinding machine (Figure 12). With this button, the power to the electric motor is turned off and the rotation of the equipment is stopped (grinding wheels, brush, etc.).

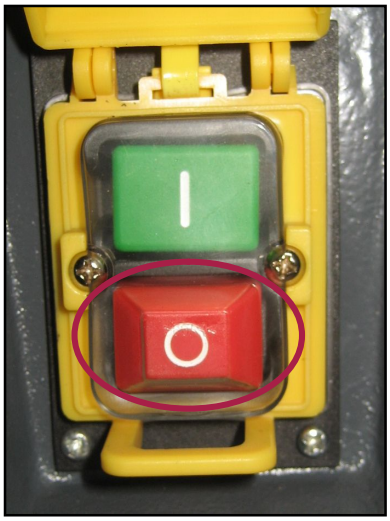


Figure 12 – Stop button.

Risk of abrasion

- After pressing the off switch (0), the equipment will continue to rotate by inertia.
- Do not allow body parts near the wheel or the brush while in motion!

7.3 Emergency Button

On the control buttons panel there is an emergency stop button. To stop the machine in case of emergency, press the red button. When it is pushed, the motion of the electric motor and the grinding wheels is interrupted.

To restore power to the machine again after an emergency stop, open the red button and press the green start button.

Figure 13 – Emergency stop button cap.

Checking the Emergency Button

Before starting any work on the machine, ensure that the emergency stop button functions.

Risk of abrasion and accidents

- After pressing the emergency switch, the equipment will continue to rotate by inertia.
- Do not allow body parts near the wheel or the brush while in motion!

8 OPERATION

8.1 Instructions for Use

Bench grinding machines are very easy to use.

The **dry grinding wheel** is used for grinding, sanding and/or smoothing solid and strong materials (especially metal and metal alloys) by abrasion.

The **metallic brush** is used to clean away impurities and polish the outer surfaces of solid and resistant items.

Using the machine

The Bench grinding machine must be used only with sharpening wheels and brushes that are suitable for the type of machine and the type of material to be processed.

Risk of abrasion and accidents

- Before using the machine, make sure that it is rigidly fixed to the workbench to prevent movement or loss of stability.
- Wear appropriate personal protective equipment (PPE) such as gloves, goggles, overalls or apron and safety shoes.

It is recommended to not extend the continued use of the machine for more than 10 minutes to avoid overheating of the machine (which could damage the engine) and the equipment.

8.2 Using the dry grinding wheel

1. Press the green start button (start, see Figure 14)

Figure 14 – Starting the grinding wheel.

2. Place the piece to be ground on the support bracket and push it towards the grinding wheel without pressing excessively;

3. To avoid overheating, place the piece in water and cool it;
4. If necessary, to revive the working surface of the grinding wheel and to obtain a perfectly flat surface, using a hardened steel bar. Gradually bringing it closer to the grinding wheel as in normal sanding;

5. After processing, turn off the machine by pressing the red stop button (see Figure 15).

Figure 15 – Turning off the grinding wheel.

8.3 Metal brush operation

When using the brush, take the same precautions and follow the procedure given in section 8.2 of this manual, regarding the use of the dry grinding wheel; **except for the fact that there is no support for the piece**.

1. Press the green start button (see Figure 14);
2. Move the piece to be treated towards the brush and push it against the brush without doing so excessively;
3. When finished, turn off the machine by pressing the red stop button (see Figure 15).

9 MAINTENANCE

9.1 Routine maintenance

Electric shock

Before any maintenance or checks, turn off the machine and ALWAYS disconnect the power plug from the mains socket. This is so that there is no risk of electric shock.

Regularly clean and take care of the machine to guarantee proper efficiency and a long working life.

Using a compressor, regularly blow away dust and processing residues derived from the operations of sanding, grinding, polishing etc. that accumulate on the machine and on the protective screens.

Working with compressed air

ALWAYS wear the protective goggles when using compressed air.

Only use a warm, damp cloth to clean the body of the machine and other external parts.

Cleaning the machine

DO NOT use detergents or any solvents; the plastic parts are easily damaged by chemical agents.

Periodically check for wear on the grinding wheel and the brushes, taking care to replace them if there are cracks, defects and/or detached materials or irregular wear. (in this regard, see section 9.2 of this manual).

As the dry grinding wheels become worn, record the position of the supports of the transparent screens so that the distance (light) between the supports and the grinding wheels is a maximum of 5 mm.

Similarly, record the support brackets of the pieces so that the distance (light) between the brackets themselves and the grinding wheels is no more than **2 mm** (see section 4.2 of this manual).

Moreover, **every 6 months of life** of the machine, perform a thorough check of operation, wear; lubricate the rotating tool holder shaft with oil.

9.2 Replacing the tools

Electric shock

Before replacing the tools, turn off the machine and ALWAYS disconnect the power plug from the mains socket. This is so that there is no risk of electric shock.

Characteristics of the grinding wheels

- Do not use grinding wheels with cavities.
- Only use wheels with the size and characteristics indicated in the table of technical specifications (see Section 3 of this manual)
- The speed marked on the wheel must be equal to or greater than that specified in the specifications table.

Characteristics of the Wheels

- For the clamping of the grinding wheels only use flanges with identical size and shape as the supporting surface.
- The shims between the flanges and the grinding wheels must be made of elastic materials such as rubber, soft cardboard etc.

If a caution label does not indicate the maximum permissible peripheral velocity or is unreadable, calculate it using the following formula:

$$\mathbf{v = (n \cdot D \cdot \pi) / 60000};$$

with v: peripheral speed (in m/s);
n: rotation speed (in r/min);
D: external diameter of the wheel (in mm);
π: 3.14.

Characteristics of the Wheels

DO NOT use grinding wheels with peripheral velocity lower than 30 m/s.

Characteristics of the Wheels

- The hole of the grinding wheel should not be enlarged due to the possible danger of breaking the grinding wheel.
- Before fitting the wheel, check that there are no cracks and that it has not been damaged during transport. We recommend that you tap it, a light sound confirms its integrity.

9.2.1 Replacing the dry grinding wheel

1. Unscrew the three fastening screws and remove the protective casing. For this purpose use a screwdriver.

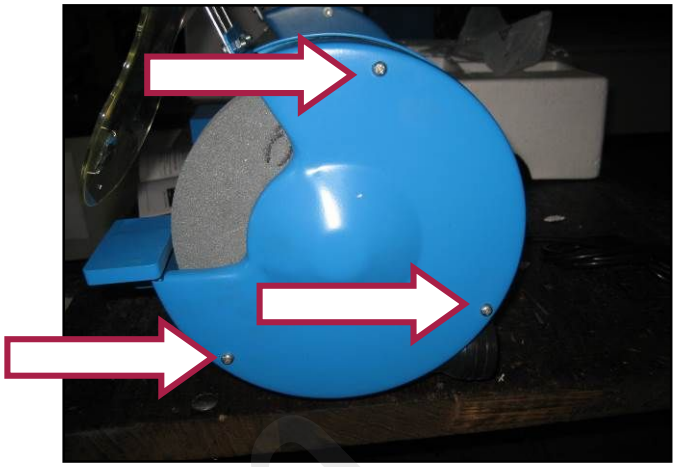


Figure 16 – Protective casing.

2. Unscrew the fastening nut using a spanner for hexagonal nuts, turning anti-clockwise. Hold the other disk steady to be able to unscrew the nut.

Figure 17 – Fastening nut and flange of the grinding wheel.

3. Remove the fastening flange of the grinding wheel.
4. Remove the plastic reduction ring that is inserted into the grinding wheel hole and insert the new one (which must be mounted on the machine).
5. Insert the new wheel onto the wheel shaft and secure it using the steps described in points 3 and 2 (in reverse order).
6. Replace the protective casing and secure it with the three fastening screws.

9.2.2 Metal brush replacement

1. Unscrew the fastening nut with a 19 mm hex spanner, turning it anti-clockwise.

2. Remove the fastening flange of the brush.

Figure 18 – Fastening nut and flange.

3. Remove the plastic reduction ring which is inserted into the hole of the grinding wheel and insert it into the new one (which must be mounted on the machine).

Figure 19 – Plastic reduction ring.

4. Remove the brush, mount the new wheel onto the shaft of the grinder and secure it using the steps described in points 2 and 1 (in reverse order).
5. After removing the steel pin, rotate the brush freely without any load for a few minutes to see if it is secure and balanced, if is it not repeat the operation.

10 TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Noisy operation.	A) Damaged bearings. B) Bearings not lubricated. C) Rubbing of a tool. D) Loose tool.	A) Contact Customer Service. B) Lubricate. C) Remove / replace the tools and check they are balanced. D) Tighten the fastening nut.
The motor will not start.	A) Electrical power supply. B) Wiring connections C) Burnt motor windings. D) Blown fuses. E) Broken switch.	A) Check the power cable. B) Check the electrical connections. C) Contact Customer Service. D) Replace the fuses. E) Contact Customer Service.
The tool "softens" or overheats too much.	A) Excessive pressure on the workpiece. B) Shavings will not discharge. C) Tool is worn or does not cut the material well. D) Needs lubrication.	A) Apply less pressure. B) Clean the machine. C) Check the tool sharpness and wear. D) Lubricate as you work.

11 SPARE PARTS

Always indicate clearly:

- the initials and the serial number of the machine;
- the code number of the parts;
- quantity of parts;
- exact address of your company.

Original spare parts

The manufacturer disclaims any liability for damages of any kind caused by the use of non-original spare parts.

12 DISPOSAL OF PARTS AND MATERIALS

If the machine is to be scrapped, its parts must be separated for disposal.

Respect the environment!

Contact a specialist centre for the collection of metal materials.

The structure of the grinding wheel is made of steel, the grinding wheels are made of sintered abrasive material while the transparent protection screens and some of the seals are made of polymeric material. In this regard, divide the materials according to their nature, with the assistance of specialist companies authorised for waste disposal, in compliance with the requirements of the law.

Respect the environment!

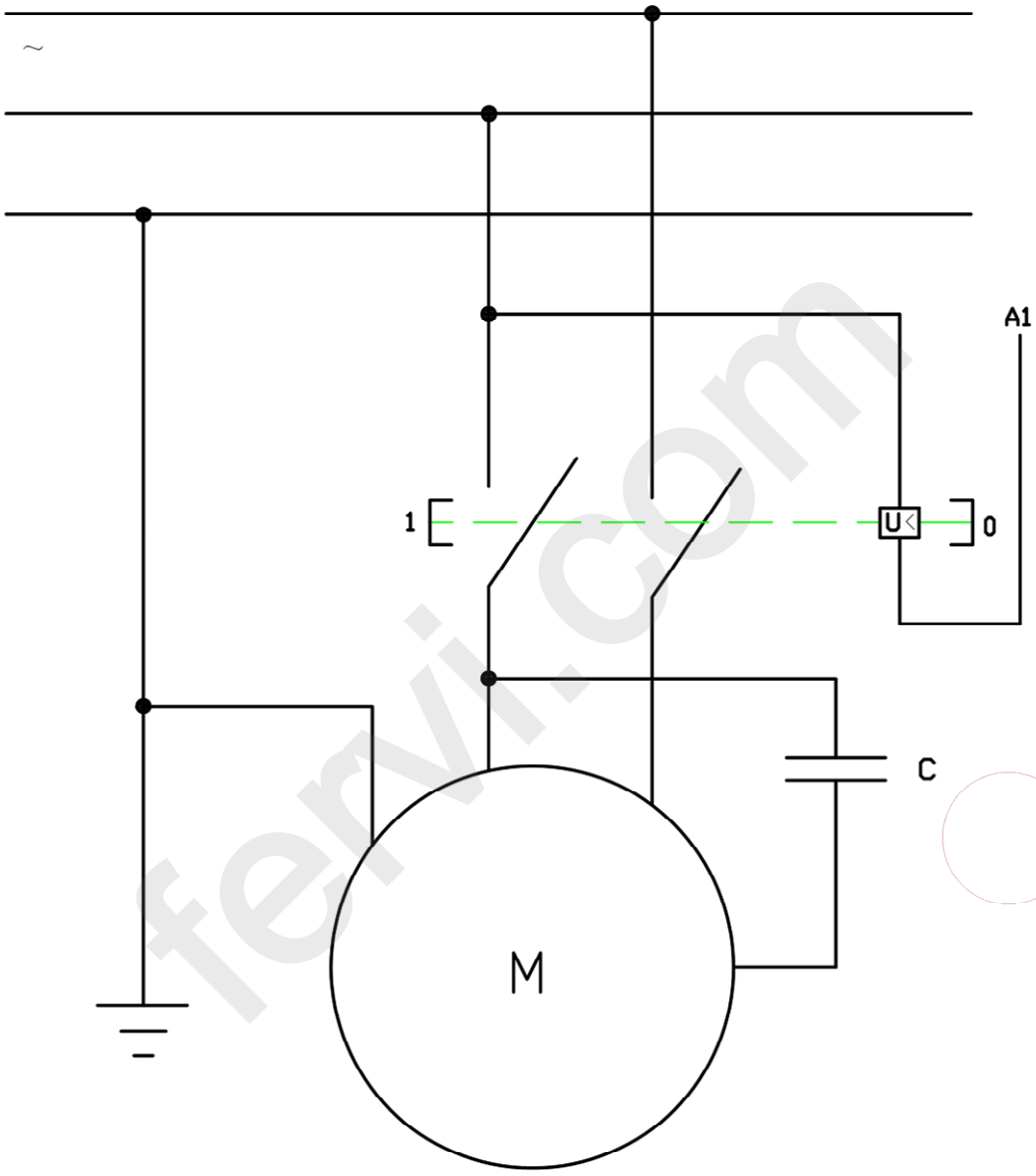
Dispose of processing residues (chips, filings from cutting etc.) in accordance with local regulations.

13 WAREHOUSE STORAGE

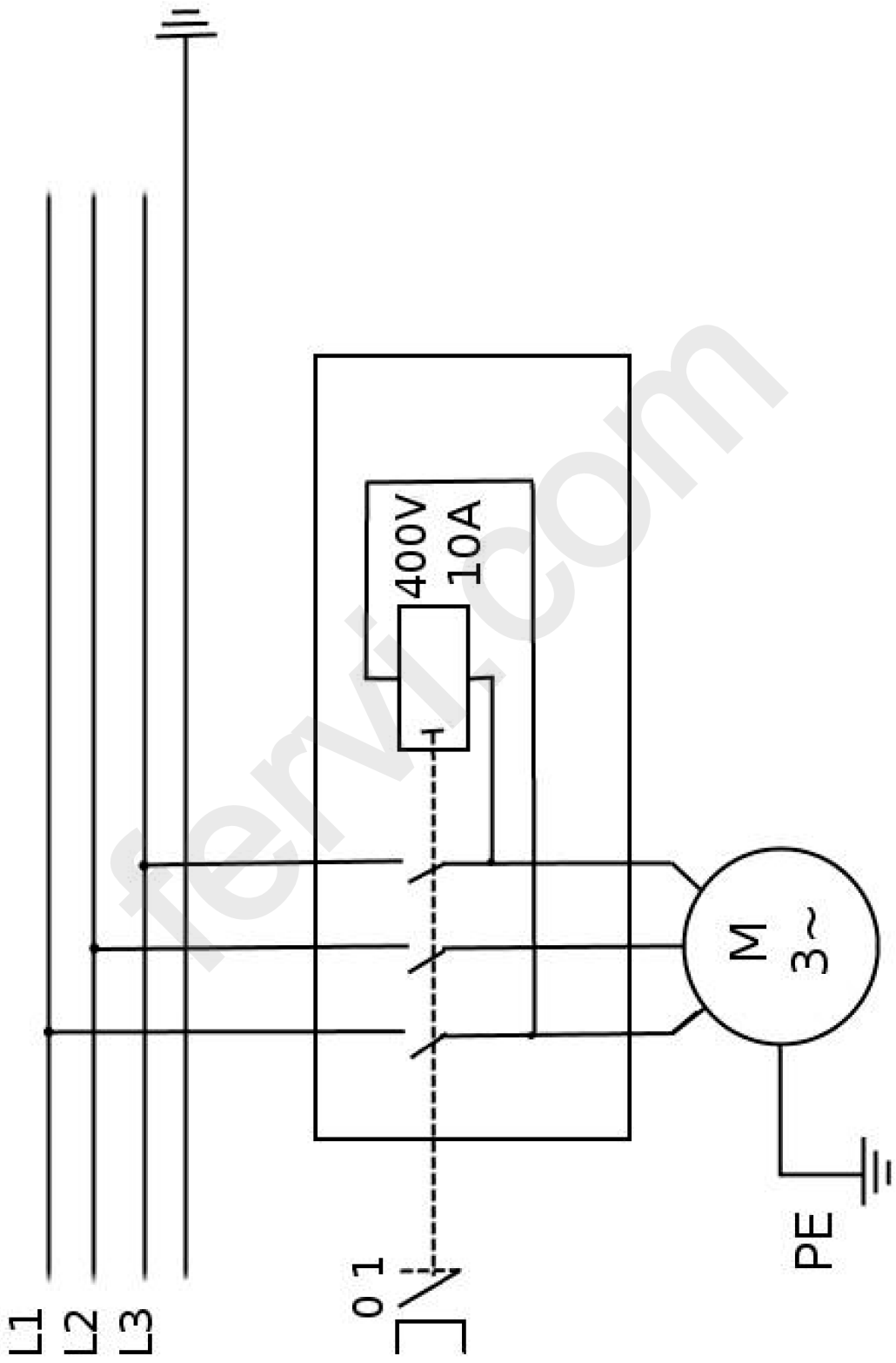
In the event that the machine needs to be stored and preserved for a certain period of time, to avoid damage and/or deterioration, it must be kept in a closed place that is free of moisture.

14 WIRING DIAGRAM

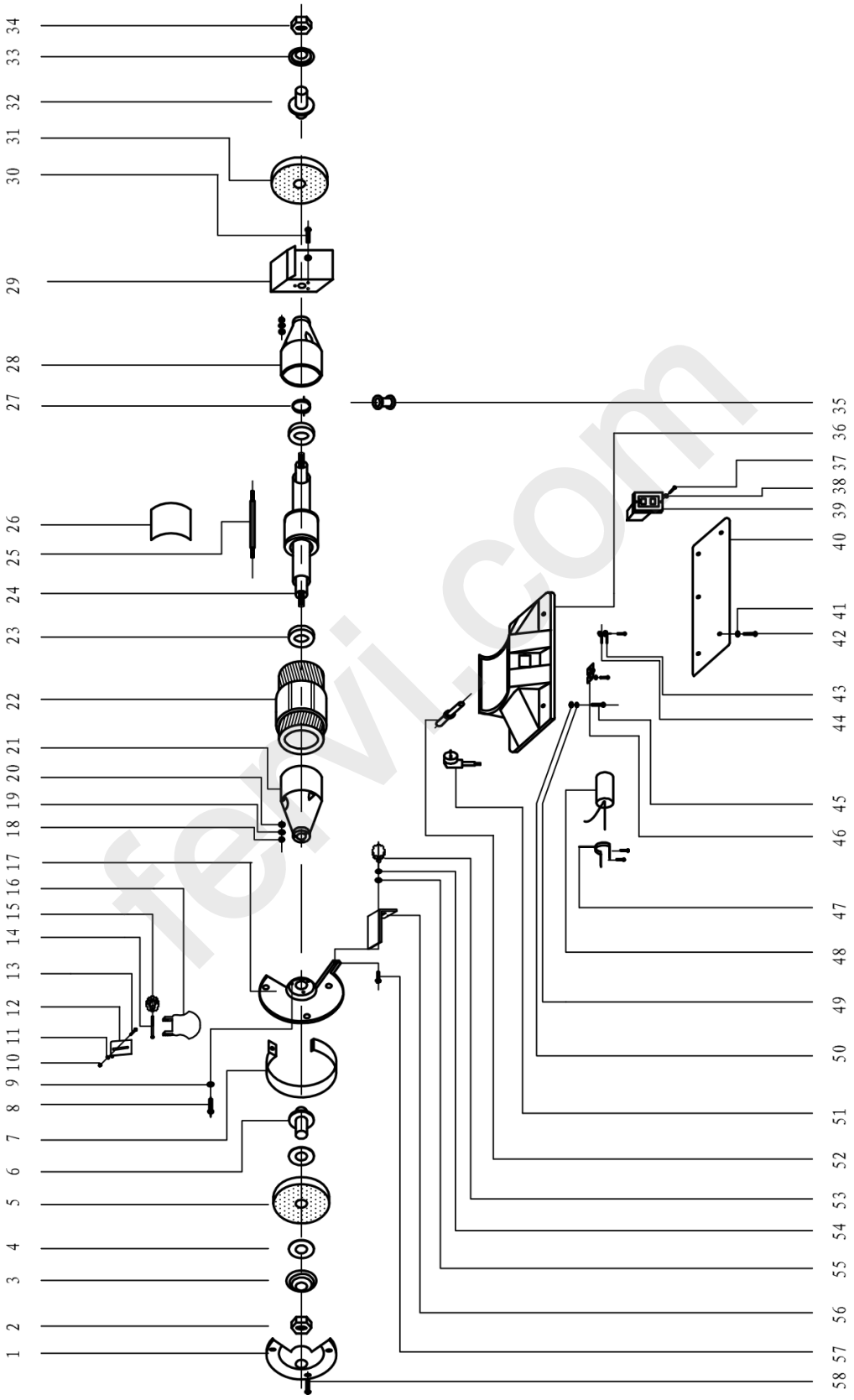
14.1Art. 0554



14.2Art. 0554/400V



15 LIST OF PARTS



Code	Description	No.	Code	Description	No.
0554/01	Left external guard	1	0554/30	Bolt	4
0554/02	Disc lock nut	1	0554/31	Abrasive Disc	1
0554/03	Disc flange	2	0554/32	Short axis	1
0554/04	Disc nameplate	2	0554/33	Disc flange	1
0554/05	Abrasive disc	1	0554/34	Disc lock nut	1
0554/06	Short axis	1	0554/35	Wire guide	1
0554/07	Middle ring	1	0554/36	Base	1
0554/08	Bolt	4	0554/37	Bolt	2
0554/09	Bolt	5	0554/38	Washer	2
0554/10	Screw	2	0554/39	Switch	1
0554/11	Washer	2	0554/40	Base plate	1
0554/12	Protective casing support	1	0554/41	Washer	4
0554/13	Bolt	2	0554/42	Bolt	4
0554/14	Bolt	2	0554/43	Washer	1
0554/15	Square shank screw	1	0554/44	Ground terminal	1
0554/16	Protection device	1	0554/45	Bolt	4
0554/17	Left internal guard	1	0554/46	Cable inlet plate	1
0554/18	Washer	4	0554/47	Condenser coupling	1
0554/19	Washer	4	0554/48	Condenser	1
0554/20	Disc lock nut	4	0554/49	Washer	4
0554/21	Casing	1	0554/50	Washer	4
0554/22	Stator	1	0554/51	Left piece support	1
0554/23	Bearing	2	0554/52	Plug and cable	1
0554/24	Rotor	1	0554/53	Knob nut	1
0554/25	Bolt	4	0554/54	Washer	1
0554/26	Identification plate	1	0554/55	Washer	1
0554/27	Spring	1	0554/56	Piece support	1
0554/28	Casing	1	0554/57	Bolt	1
0554/29	Protective casing	1	0554/58	Bolt	1