



General guide

Safe use and maintenance of Stefani S.r.l. industrial bench grinders and bench polishers

To help you work with your **Stefani bench grinder and bench polisher** in the best possible way, we have summarised the most important practices for the **safe use of grinding and polishing bench machines** and their maintenance, directly from the guidelines in our manual.

These steps, if followed diligently, will minimize the risks and maximize the efficiency and lifetime of your **Stefani S.r.l. benchtop machine**, made **entirely of cast iron**.



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KEYNOTE: SECURITY IS YOUR PRIORITY. Before switching on or using the machine, it is **IMPERATIVE** that you carefully read the entire content of the use and maintenance manual provided by Stefani S.r.l.

This manual contains essential and irreplaceable information regarding the safety of installation, use and maintenance. It is an integral part of the machine and its careful storage for future consultation is mandatory. Incorrect installation, use or maintenance can cause serious damage. **Your safety, and that of your employees, depends on this careful reading. The machine must be used by personnel who are trained and informed of all aspects of the permitted operations, as well as specifically trained.**

Why is Safety essential with Industrial Grinders and Polishers? Understanding the Risks and Permitted Uses

Using an **industrial bench grinder - professional grinding machine** or an **industrial bench polisher** without proper precautions can lead to serious injuries. Hot splinters, the potential breakage of an **abrasive wheel** or brush, harmful abrasive dusts and the risk of entanglement of clothing or body parts are real dangers that every operator must be aware of and prevent. A proactive approach to **safety in the workshop** not only prevents accidents, protecting the health of your employees, but also helps to prolong the life of the machinery in your possession, optimizing costs and ensuring the quality of the work done.

WARNINGS

Our **bench grinders** and bench brushes are designed with the highest precision and robustness, typical of **Italian quality**, for specific purposes in **metalworking**

- **Stefani S.r.l. Industrial Grinders:** our **grinders** are **made for superior performance** in the most demanding **material removal** operations. Far from being simple **bench grinders**, they are real **irreplaceable professional tools**, robust and reliable, capable of facing any challenge in **metalworking**. They are ideal for **professional grinding** and **tool sharpening** on any type of metal, from **the hardest steels** to **cast iron**, from **castings** to **special alloys**. These machines, equipped with the appropriate **abrasive wheels**, offer unrivalled reliability and power for the heaviest **deburring** operations and for the first stages of **metal finishing**. Whether removing stubborn imperfections from a rough or preparing a surface for subsequent **finishing** or **polishing** processes, our **industrial bench grinders** are the perfect solution, guaranteeing constant performance and precise results even in **intensive production contexts**.
- **Professional polishers:** This versatile **manual industrial bench polishing machines** are equipped with shaft outreach on one (**bench grinder combined with grinding wheel/brush**) or both sides (**bench polisher, bench brusher**) to allow the insertion of different types of brushes (steel wire, abrasive flap or fabric). They are the ideal tool for **cleaning** and **polishing metals** at various levels, and are critically used in sectors that require precision and **impeccable** finishing
 - **Mechanical workshops** and **metal craftsmen** for finishing and **deburring** components.
 - In **the delicate eyewear sector**, where the manual cleaning process is also known as **“polishing and buffing wheel passing”**. This operation represents a real “beauty treatment” for the frames, entrusted to the skill and skilled hands of the craftsmen for the **manual finishing and polishing of glasses**, guaranteeing a superior aesthetic result.
 - Among manufacturers of **musical instruments** (especially brass and metal parts of wind or string instruments) for an impeccable aesthetic finish.
 - Design companies and artisans who need to polish and finish prototypes and finished products, where attention to detail is paramount.
 - In any context that requires **a high quality and precision** manual surface finish.

It is strictly forbidden to use the machine for purposes other than those specified in the Stefani manual, such as

- Connection to an electrical supply line that does not comply with the specifications on the machine nameplate or does not have a conforming earthing system.
- Use outdoors or in very humid conditions.
- Use in environments with potentially explosive atmospheres, or in the presence of flammable liquids or gases.
- Apply excessive pressure to **the abrasive wheel or brush / polishing wheel**, which can cause rapid deterioration, loss of performance and potential breakage.
- Use the side surfaces of grinding wheels not designed for such use. **Side grinding is NOT allowed.**
- Operate without safety devices and guards, or with them incorrectly installed.
- Use the machine in dangerous or malfunctioning conditions, compromising **workshop safety**.

WARNING:

Only one operator is required to operate the machine during machining. The presence of other personnel is only possible during the loading/unloading, transport and installation phases.

Remember:

any use other than that indicated is considered improper and prohibited. Your **industrial bench grinder** and your **professional bench polisher and brusher** are machines that deserve the right respect.



1. ENVIRONMENTAL REQUIREMENTS and PROTECTIVE EQUIPMENT

1. ENVIRONMENTAL REQUIREMENTS and PROTECTIVE EQUIPMENT (where to install the machine correctly, including recommended environmental conditions and mandatory PPE)

Every great job starts with meticulous preparation. For your **Stefani S.r.l. industrial benchtop grinder or polisher**, this means making sure that the environmental conditions are suitable and that you are properly protected.

• Proper positioning of the machine

- Choose the place of installation carefully: do not place the **bench grinder** or **brushing machine** in line with doors, entrances or transport routes.
- Make sure that the fragments of the **abrasive wheel** or any debris from the brush, in the event of breakage, cannot be thrown towards working areas or where several people are located.
- Provide a space of at least 1 meter in all directions around the machine for safe working, cleaning and adjustment.
- The floor or the support bench must be perfectly level and stable.
- The work area must be **sufficiently lit and always kept clean of residues**.
- For benchtop versions, the ideal height of the worktop is about 80 cm from the floor to comply with ergonomic criteria.
- **Mandatory Note:** Install in a clearly visible position near the machine a sign indicating the type, quality, maximum speed of use (revolutions per minute - rpm) and **maximum diameter of the grinding wheel** or brush.

• Environment

- Do not use the machine in humid places, outdoors in rainy weather, or in the presence of flammable liquids or gases – these are dangerous conditions for **industrial electrical equipment**.

• Personal Protective Equipment (PPE) - Mandatory

- It is mandatory to always use personal protective equipment
 - **Safety glasses or face visor** (compliant with standards).
 - **Robust gloves**, suitable for the specific processing.
 - **Headphones or earplugs** for hearing protection (if necessary, noise is a risk factor).
 - **Safety footwear**.
 - **Appropriate workwear:** free of straps or open pockets (must be closed with zips), sleeves held at the wrists with elastic bands. **Do not wear rings, bracelets or other jewellery, they can get caught!** If necessary, use hair containment caps.



2. CHECKS BEFORE USE

2. CHECKS BEFORE USE (Safety and functionality checks to be carried out every day before switching on the machine)

To operate ensuring safety and successfully, it is necessary to ensure that the machine is in optimal condition by following these simple, but fundamental steps

• Visual Inspection of the Machine and Electrical Connections

- **Stability and Fixing:** Always check that your **cast iron bench grinder** or **cast-iron bench polisher** is securely anchored to the workbench or base, to prevent vibration or dangerous movement during use. The solid **cast iron construction** ensures a stable base for your **industrial processing**, contributing to precision and vibration reduction.
- **Integrity and Protections:** Check the machine for visible damage or loose parts. Make sure that all guards and safety guards (brush cover / brush cover) are correctly positioned and intact. **Never operate without guards!**
- **Spark guards and workpiece rests:** These elements are crucial. The transparent spark guards / splinter guards must be firmly attached, and the workpiece rests must be adjusted as close as possible to the **abrasive wheel** (maximum distance of 2 mm) to prevent the workpiece from jamming. Periodically check that this distance does not exceed the limit and, if it does, you must adjust it.
- **Power cable and Grounding System:** A damaged cable is an electrical hazard. Always inspect it before use. Make sure the machine is connected to a compliant power line and grounding system in accordance with the law. Never pull on the cable to unplug and protect it from sharp edges, oils and high temperatures. Avoid the use of extension cables.

• Mounting Accessories

- Accessories (splinter guard, vacuum bag, etc.) are an integral part of the machine and must be fitted.
- Clean the splinter guard frequently for perfect visibility and replace it if damaged.
- Securely attach the vacuum bag to the suction exhaustor mouth.e.

• Checking grinding wheels and brushes (before installation and use)

○ Grinding wheels (for grinders and combined bench grinders)

- **Pre-Assembly Check:** Before fitting a new **grinding wheel** to your **professional bench grinder**, clean it and visually check for transport or storage damage. Perform the "sound test": tap it lightly with a non-metallic instrument in several places. A healthy **grindstone** will make a clear sound, a cracked one a dark sound. **A damaged grinding wheel must never be mounted!**
- **Compatibility and Speed:** make sure that the rotational speed of the grinding shaft (in revolutions per minute) does not exceed the speed indicated on the abrasive wheel or its tag. The use of unsuitable **professional grinding wheels** can cause breakage with serious consequences.
- **Test before use:** Each **grinding wheel**, even after subsequent reuse, must be tested at the intended speed of use. This test should only be done after the working area has been cleared, the guard has been replaced, and the workpiece rest has been fixed. If the radial or axial movement of the **rotating wheel** is excessive, reposition the **wheel** by turning it a quarter of a turn on its axis and relock it, repeating the operation until the vibrations are reduced.

○ Brushes, cotton discs, felt wheels and in general buffing and polishing discs (for bench polisher)

- Metal filament brushes (for cleaning) or cloth or fabric brushes (for polishing) can be mounted. Always check that the diameter of the central collar holding the filaments together is greater than the diameter of the fixing flanges on your **professional benchtop polisher**.
- Periodically check the general condition of the brush by visual examination, especially the tightness of the filaments via the central collar. If the collar no longer closes securely, replace the worn brush with a new one.
- **WARNING: it is prohibited to fix brushes with flanges directly in grip on the filaments.**



3. CORRECT AND SAFE USE

3. CORRECT AND SAFE USE (Practical indications for safe use, PPE required and behaviours to avoid)

Having acquired the necessary knowledge, it's time to focus on the **safe use of grinding and polishing machines** during the operation, following the basic rules to ensure maximum efficiency and protection in **metalworking**.

- **Starting the Machine**

- Stand firmly in front of your bench **grinder or polisher**.
- Switch on the machine and let the abrasive wheel/brush to reach its maximum speed before starting any operation. This step is crucial for the stability of the **industrial bench grinder** or polisher.
- **Switch off the machine immediately** if you hear atypical noises, excessive vibrations, smoke, or fear the possibility of injury.

- **Positioning and processing of the workpiece**

- Always place the workpiece on the workpiece rest of the grinding wheel or against the brush, holding it **firmly with both hands. Never work with one hand, you risk losing control of the workpiece.**
- Gently and gradually place the workpiece on **the grinding wheel** or brush, without pressing too hard. Excessive pressure can cause rapid deterioration of the grinding wheel / brush, a deterioration in performance and harmful motor overheating, compromising the longevity of your **Stefani machine**.
- Move the workpiece constantly over the surface of **the grinding wheel** or brush to distribute wear evenly and prevent localized overheating of the workpiece.
- For materials that tend to overheat, cool the workpiece periodically with water. In the eyewear industry, for example, the "wheel buffing and polishing process" requires a steady hand and expert movements to achieve **the desired finish or mirror polish**, taking advantage of the stability of the **Stefani industrial bench polishing machine**.

- **Concentration**

- Always work with maximum concentration, avoiding distraction. **Your professional grinder or industrial polisher is a powerful machinery, not a toy.** Do not allow it to be used by incompetent or unauthorized persons.

- **In the event of a grinding wheel breakage or brush anomaly**

- If a **grinding wheel** breaks during use, the operator is obliged to meticulously check that the protective the guard has not been damaged, that the flanges have not become deformed or unbalanced, and to inspect the shaft and nuts. **Any anomaly requires a professional technical inspection; SEE POINT 5 TECHNICAL ASSISTANCE**
- If the brush is damaged or shows anomalies (e.g. collar does not close properly) on your **bench polisher**, switch off the machine immediately and replace it.



4. ROUTINE MAINTENANCE

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(AFTER USE What to do regularly to keep the machine efficient and safe)

Proper **maintenance of your industrial grinder or polisher** is the secret to extending the life of your equipment, maintaining its efficiency over time and ensuring that it is always ready for your **professional work**. Routine maintenance operations are described below, observing the safety instructions.

• Shutdown and Safety

- To switch off the machine, press the stop button (red) or, in an emergency, press the emergency mushroom. Wait until the **grinding wheels / brushes** are perfectly still before approaching.
- **Disconnect the machine from the power supply** before carrying out any maintenance, cleaning or changing accessories. This eliminates any electrical risk.

• Cleaning the machine

- Keep the work area clean and remove dust and processing residues periodically.
- Use a vacuum cleaner or brush. This is the safest and most effective method.
- **WARNING: Absolutely avoid using compressed air jets for cleaning, as they may push abrasive dust into delicate mechanical parts or disperse harmful particles into the environment.**

• Component wear check and ordinary maintenance

- **No lubrication required:** It is important to note that **Stefani S.r.l. industrial grinders** and **professional polisher** do not require external lubrication.
- **Grinding wheel and/or brush wear check:** Periodically check the integrity and wear of the **grinding wheel** and/or brush. If a brush collar no longer closes securely, replace it immediately.
- **Workpiece rest adjustment (for grinders / combined grinders):** Periodically check and adjust the distance of the workpiece rest (max 2 mm from the grinding wheel). Incorrect distance is a serious safety risk.
- **Dressing and Replacement of Grinding Wheels/Brushes**
 - **Dressing Wheel (for grinders and combined grinders):** If the **grinding wheel** is shiny, vitrified or uneven, use a special grinding wheel dressing. This restores the abrasive effectiveness and safety of the **industrial bench grinder**.
 - **Grinding wheel replacement (for grinders and combined grinders)** follow this procedure carefully
 1. Stop your **industrial bench grinder** (stop button + emergency mushroom), wait for complete stop.
 2. Open grinding wheel cover guard
 3. Unscrew the nut at the end of the shaft with an open spanner.
 4. Remove the outer flange and replace the worn **grinding wheel** with a new, compatible one.
 5. Reassemble the flange and tighten the nut tightly, ensuring the abrasive wheel is properly centred.
 6. Refit the grinding wheel cover guard.
 7. Adjust transparent splinter guard and workpiece rest (max 2 mm).
 8. Unlock emergency mushroom and carry out a short no-load test.
 - **Brush Replacement (for bench polishers and combined grinders wheel/brush)** Follow this procedure carefully
 1. Stop your **professional bench polisher** (stop button + emergency mushroom), wait for complete stop.
 2. Open the brush cover guard.
 3. Unscrew the nut at the end of the shaft with an open spanner.
 4. Remove the outer flange and replace the worn brush with a new one, checking that the brush hole is equal to the **shaft diameter**.
 5. Reassemble the flange, tightening the nut tightly.
 6. Try turning the brush by hand to check its centring; if it is defective, repeat the steps described above.
 7. Refit the brush cover, tightening the appropriate screws.
 8. Adjust the transparent splinter guard
 9. Unlock the emergency mushroom and carry out a short no-load test.
- **Faults:** Do not attempt to rectify a fault yourself if you are unable to do so. Contact your dealer or manufacturer immediately. **Rely on specialized personnel for your safety and for the protection of your machine; SEE POINT 5 TECHNICAL ASSISTANCE**



5. EXTRAORDINARY MAINTENANCE AND TECHNICAL ASSISTANCE

5. EXTRAORDINARY MAINTENANCE AND TECHNICAL ASSISTANCE (When to stop the machine, who to contact, what NOT to do yourself, spare parts and useful contacts)

If the intervention of qualified personnel is necessary for extraordinary maintenance operations or for any repairs, either under the warranty and subsequently, it is essential to contact the authorized dealer or directly Stefani S.r.l. Our qualified technical assistance is at your complete disposal to ensure maximum efficiency, durability and safety of the **industrial grinders and polisher** in your possession. **Contact us for any need, we are here to support you.**

- **In the event of a grinding wheel breakage or brush anomaly**
 - If a **grinding wheel** breaks during use, the operator is obliged to meticulously check that the protective the guard has not been damaged, that the flanges have not become deformed or unbalanced, and to inspect the shaft and nuts. **Any anomaly requires a professional technical inspection.**
 - If the brush is damaged or shows anomalies (e.g. collar does not close properly) on your **bench polisher**, switch off the machine immediately and replace it.
- **Faults:** Do not attempt to rectify a fault yourself if you are unable to do so. Contact your dealer or manufacturer immediately. **Rely on specialized personnel for your safety and for the protection of your machine.**

