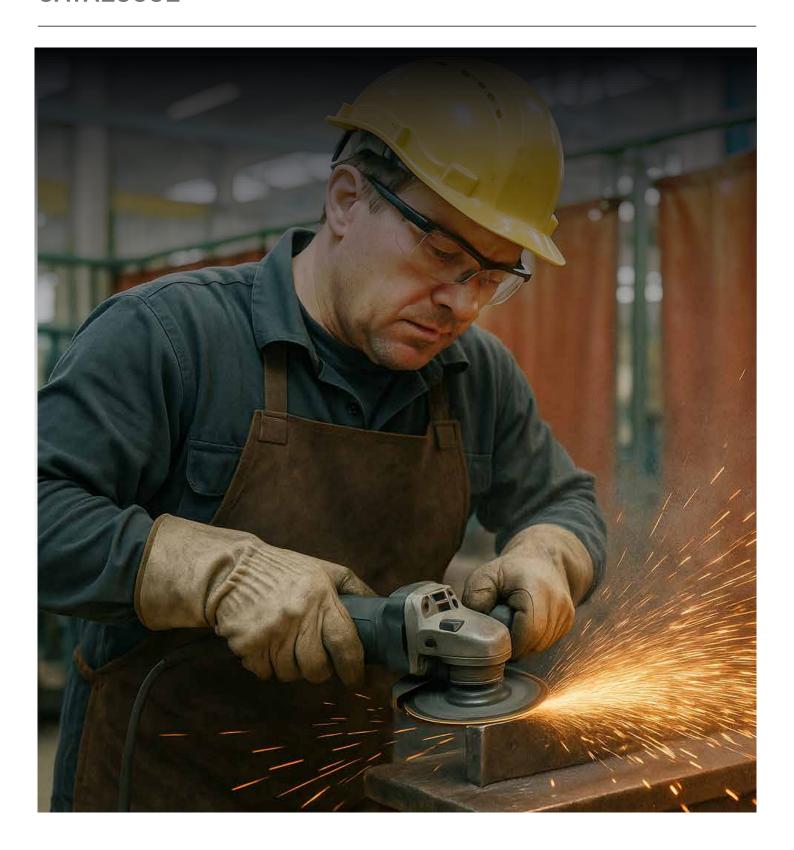


GRINDING DUSTextraction

BOMAKSAN SOLUTIONS

CATALOGUE



OVERVIEW 01

HEALTH RISKS

Exposure to dust and fine particles generated during grinding and polishing operations poses a serious health and safety risk in industrial environments. These airborne contaminants can cause a range of health issues—from mild symptoms such as eye irritation and sore throat to more serious conditions like metal fume fever, and even long-term or fatal diseases such as cancer.

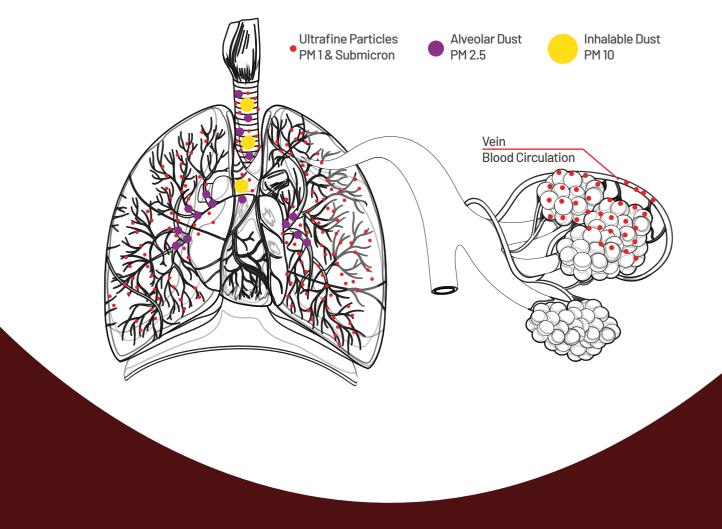
- Sore Throat
- Eye Irritation
- Metal Fume Fever
- Cancer



LOSS OF PRODUCTION

Unregulated dust and fumes also negatively impact factory efficiency. Particles generated during grinding and polishing processes can infiltrate machinery and electrical panels, causing unexpected downtimes and reduced equipment performance. These contaminants can also settle on products and inventory, increasing the need for frequent cleaning and maintenance. Furthermore, skilled workers prefer clean, dust-free environments and often make their employment decisions based on workplace conditions.

- Unefficient Working Environment
- Increased Downtime
- Additional Clean Up Works
- Increased Malfunction in Machines



BEWARE OF YOUR SHOPFLOOR AIR QUALITY

in 2019, the International Agency for Research on Cancer (IARC) classified weld fume as a known carcinogen that can lead to lung cancer. This new foundings makes welding fume extraction and filtration systems much more important for health and safety of workers.

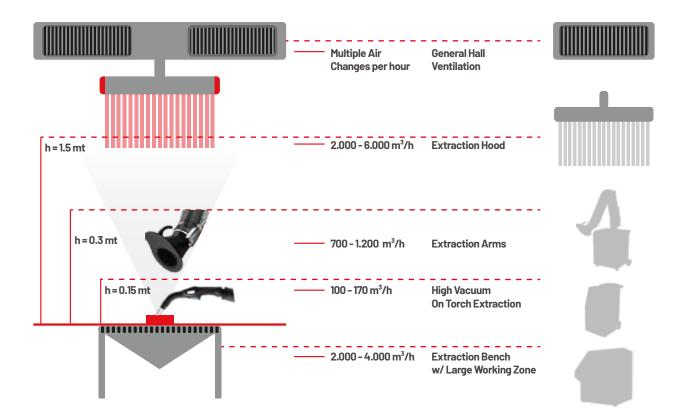


LOCAL EXHAUST VENTILATION

This system combines components such as hoods, ducts, fans, and filters, specifically designed to capture and remove dust generated during grinding and polishing operations.

The main goal of a Local Exhaust Ventilation (LEV) system is to protect worker health by reducing exposure to hazardous airborne particles. By capturing contaminants directly at the source, LEV systems ensure a safer, cleaner working environment and support compliance with occupational health and safety regulations.







■ | EXTRACTION BENCHES

Bomaksan Grinding and Polishing benches provide an ideal solution for manual surface finishing of small metal parts. These benches can be connected to centralized extraction and filtration systems for efficient dust control.

If you need a standalone unit with an integrated fan and filtration system, the TOFILbench series is the right choice. With powerful extraction capacity and high-efficiency filtration, TOFILbench units are perfectly suited for grinding and polishing applications.

READY FOR EXTRACTION

EXPANDABLE
WORKING ZONE

DURABLE STEEL BODY PLUG&PLAY SYSTEM*

*Only TOFILbench units are Plug & Play featured.

PRODUCT OFFERINGS



PRODUCT OFFERINGS



ON TORCH EXTRACTION

Bomaksan branded Mikrofil series high vacuum units offer a compact and efficient solution for grinding and polishing dust extraction. Optional Jet-Pulse cleaning, high-efficiency cartridge filters, and a brushless turbo blower make it ideal for localized tasks. Low maintenance and strong performance ensure reliable operation in surface finishing applications.

AUTO JET-PULSE CLEANING

HIGH EXTRACTION PERFORMANCE

BRUSHLESS MOTOR

HIGH FILTRATION AREA

360°

EXT. ARM w/ MOBILE FILTERS

Bomaksan's range of mobile filter units offers a dependable solution for efficient dust extraction in grinding and polishing processes. Designed to support both occasional and continuous use depending on the model, these units adapt seamlessly to different workshop needs.

Thanks to their 360-degree mobility and the availability of both disposable and cleanable filter options, Bomaksan mobile units stand out for their versatility and ease of use. They are ideal for facilities where workstation flexibility and air quality are equally important.

Selecting the right mobile filter unit for your grinding or polishing application can be challenging. We recommend contacting Bomaksan sales representatives or authorized partners. Based on factors like dust intensity, process frequency, task type, and layout constraints, they will help you choose the most effective solution for your specific needs.

TRUE JET-PULSE CLEANING*

HIGH EXTRACTION
PERFORMANCE

SUITABLE FOR

W3 COMPLIANT

HIGH FILTER

EASY TO MAINTAIN

*Only TOFILpulse units are equipped with TRUE JET-PULSE.

PRODUCT OFFERINGS









PRODUCT OFFERINGS





SPECIAL DESIGN EXTRACTION HOOD

HIGH QUALITY
FLEXIBLE HOSE

EASY & SMOOTH MOVEMENT

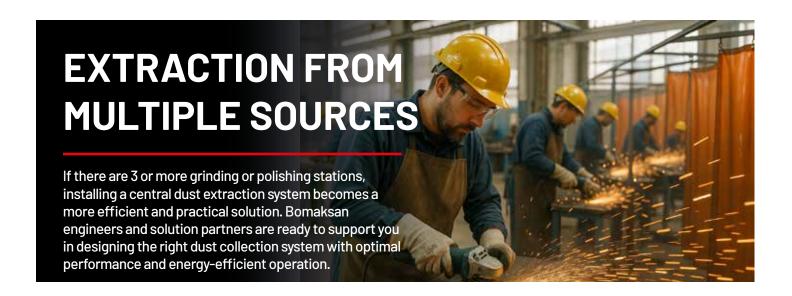
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EXTRACTION ARMS

Bomaksan-branded extraction arms are an ideal solution for capturing dust and fine particles generated during grinding and polishing directly at the source. High-quality flexible hoses, durable joints, and smooth movement ensure reliable performance in surface finishing applications.

These arms can be installed in various ways—paired with wall brackets, extension arms, rail systems, or fixed/mobile filter units. Each unit comes standard with an integrated hood damper and is available in lengths from 2 to 4 meters, suitable for ceiling, wall, bench, or console mounting.

For extended reach, Bomaksan's BAK series extension arms offer added flexibility in setups where standard mounting is not sufficient. Additionally, BAF series radial fans can be combined with Bomaksan Akrobat Series arms for powerful and efficient grinding dust extraction.



CENTRAL EXTRACTION FILTERS

Bomaksan offers a wide range of central dust extraction systems for grinding and polishing applications—from compact plug-and-play units to modular cartridge filter systems. Our product portfolio includes horizontal round cartridges, vertical round cartridges, and pleated flat panel filters, each offering unique advantages depending on the project requirements.

Designing an efficient jet-pulse dust collector for grinding and polishing isn't simple. Key parameters such as filtration and can velocity, valve sizing and angles, and header tank design must all be carefully calculated. With over 35 years of experience, Bomaksan delivers high-performance jet-pulse cartridge filters tailored for superior dust control in surface finishing processes.

PRODUCT OFFERINGS















AUTOMATIC CLEANING



HIGH EFFICIENT FILTRATION



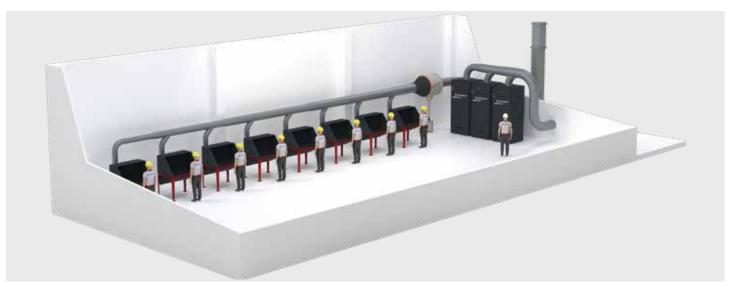
EXCELLENT PERFORMANCE



PLUG & PLAY OPTIONS



OPTIONS





LEV SOL. FOR AUTO GRINDING

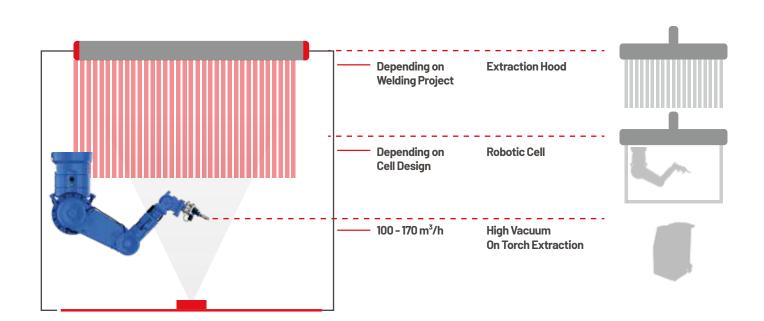
Automatic grinding and polishing processes can produce large amounts of fine dust that, if not properly captured, can spread across the workspace. Effective dust extraction is essential to protect worker health and maintain clean air within the facility.

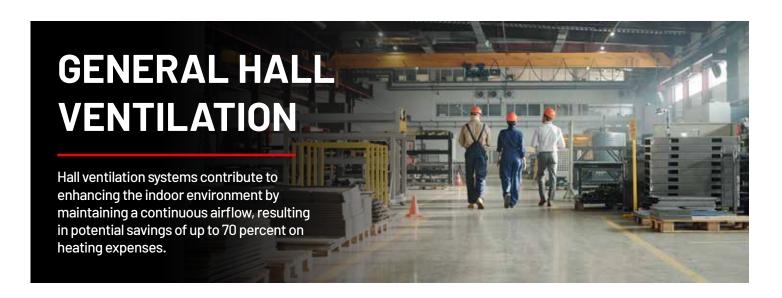
The easiest way to apply a LEV system in automatic grinding or polishing is to use a high vacuum extraction unit like Mikrofil MIDI. However, depending on the process, using such units may not always be possible. In those cases, a well-designed LEV system, General Hall Ventilation (GHV), or a combination of both may be required.

Designing a LEV system for automatic grinding or polishing can be complex. It requires considering machine motion, part handling systems, and material flow. Bomaksan's experienced engineers, project designers, and solution partners are ready to support you throughout the entire process.

PRODUCT OFFERINGS







GENERAL HALL VENT. (GHV)

In the context of dust extraction systems, General Hall Ventilation (GHV) refers to the overall air circulation and air quality control within a grinding and polishing facility. Automatic surface finishing processes can release large amounts of fine dust, which must be properly managed to ensure a safe and healthy working environment.

Integrating GHV as part of a dust control strategy involves designing the facility's HVAC system to maintain a constant flow of fresh air. This helps to dilute and disperse airborne dust particles produced during automatic grinding and polishing, effectively lowering the concentration of contaminants throughout the workspace.

WHEN TO APPLY GHV SYSTEMS

- Used to supplement LEV systems in challenging applications.
- Suitable for grinding or polishing large workpieces.
- Ideal when the operator needs to shift positions frequently.
- Applied in shops with automated grinding and surface finishing.
- Effective when grinding/polishing locations vary within the facility.
- Used alongside PPE to reduce operator exposure to fine dust



INDOOR AIR **OUALITY**



VENTILATION



SAVINGS



WORKPLACE



DOWNTIME

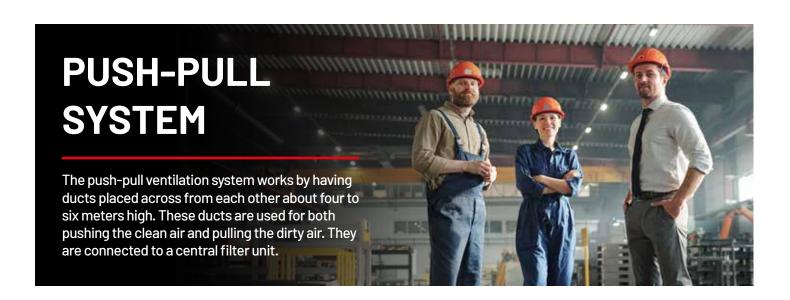
SAVE ENERGY COSTS WITH GHV Systems

Bomaksan-designed General Hall Ventilation Systems operate on the widely recommended principle of layered ventilation, as advised by industry experts. In these systems, dust-laden air rising during automatic grinding and polishing is collected via inlet ducts (or Air Tower inlets) positioned at 4 to 6 meters high. After filtration, clean air is gently reintroduced near floor level through outlet ducts (or clean air outlets in Air Towers), helping to displace airborne dust and support natural airflow.

This duct network is connected to a central extraction and filtration unit. The continuous recirculation of filtered air can reduce heating costs by up to 70% during colder months, making it highly efficient for industrial polishing and grinding environments.



Heating Cost REDUCTION



O PUSH-PULL SYSTEMS

Bomaksan has developed two effective hall ventilation methods for grinding and polishing operations: mixed ventilation and upward layered ventilation. In both setups, a central extraction unit—such as Bomaksan's ECOG or LINE—is used. These units can be installed indoors or outdoors and are connected via intake and exhaust ductwork.

Push-pull mixed ventilation is recommended when the hall height is below 7.5 meters and/or grinding and polishing activity is moderate. If the hall height exceeds 7.5 meters and/or dust generation is intensive, upward layered ventilation offers better efficiency.

In both solutions, Bomaksan's engineers and partners deliver highly energy-efficient, customized designs. With high-performance Bomaksan filtration units, dust exposure for employees is significantly reduced, and local air quality regulations are met. Thanks to modular construction, Bomaksan systems also allow easy future expansion without needing a full system replacement.

PRODUCT OFFERINGS



LINE Series filter units are great solutions up to 15.000 m³/h applications. LINE series filter units are equipped with extraction fan, high efficient filters and control panels in one body.



ECOG Series filter units are economical solutions up to 12.000 m³/h applications. ECOG series filter units are equipped with extraction fan, high efficient filters and control panels in one body.



VERTY Series filter units can be configured either compact or modular systems. VERTY series can be upgradable thanks to it's modular structure. The air flow capacity can go up to 100.000 m³/h.

UPSTREAM LAYERED VENTILATION

In the context of layered- or displacement ventilation, fresh air is introduced into the designated area through vents located near the floor. This helps facilitate the upward movement of grindign dust and fume by assisting in the thermal updraft.





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AIR TOWER SYSTEMS

The plug & play Air Tower setups are ideal when local dust extraction during automatic grinding and polishing is insufficient or impractical—especially with large or complex parts. These systems are simple to install and can be relocated when needed.

ALVERpro Air Towers operate based on the layered ventilation method, which is also supported by industry associations for its energy-saving benefits. This method uses the natural upward movement of heated air to help efficiently capture and remove dust particles from the workspace.

PRODUCT OFFERINGS



ALVERpro Series air tower units are specially designed air towers which apply layered ventilation system by sucking the dirty air from the top and releasing the clean air with low velocity from the bottom. ALVERpro smart cleaning technology ensures superb filter cleaning efficiency and extend the filter life time. VFD driven fans allows users to regulate the air speed upon their need.

SMART JET-PULSE
CLEANING

HIGH EXTRACTION
PERFORMANCE

ENERGY EFFICIENT

HIGH FILTER

SUITABLE FOR
STAINLESS STEEL WELD

EASY CONTROL

LCD TOUCH PANEL

EASY TO

DURABLE STEEL BODY

