bomaksan®
INDUSTRIAL AIR FILTRATION SYSTEMS

THERMAL CUTTING FUMEextraction

BOMAKSAN SOLUTIONS

CATALOGUE

HEALTH RISKS

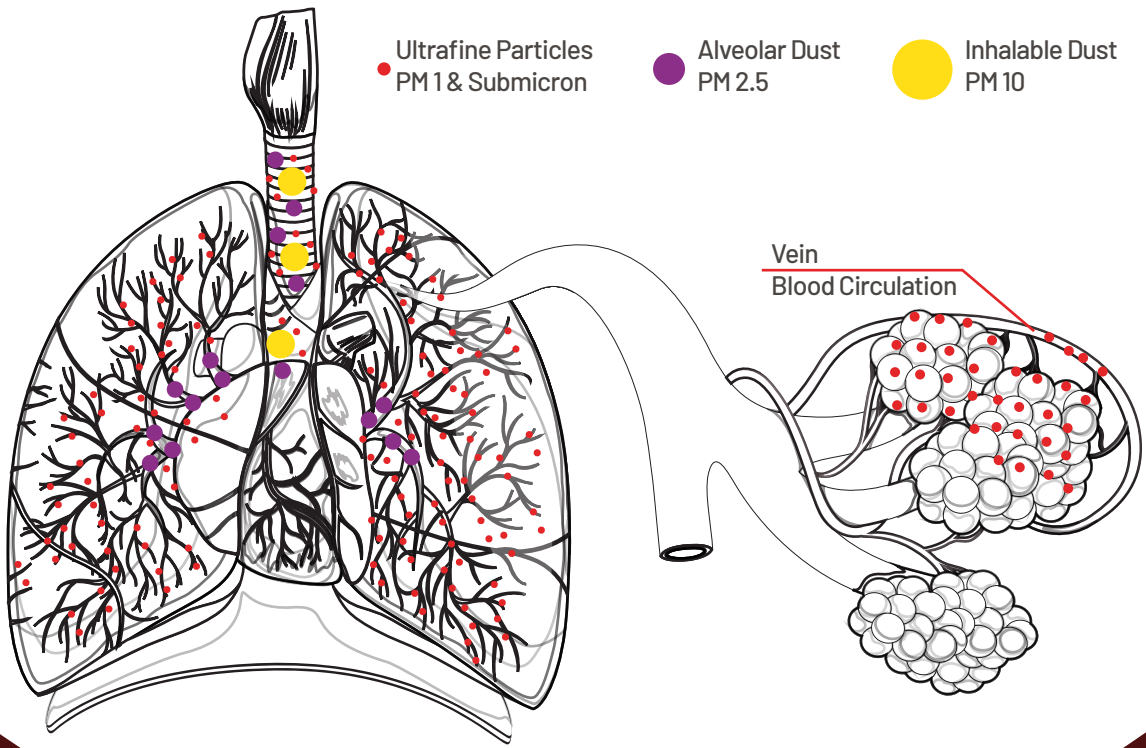
Being exposed to fumes generated by welding or thermally generated particles is a significant health and safety concern for manufacturers. The potential health hazards span from minor illnesses like a sore throat and eye irritation to more severe conditions like metal fume fever, and can even extend to long-term or fatal illnesses such as cancer. In 2019, International Agency of Research classified weld fume as a known carcinogen.

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

LOSS OF PRODUCTION

Unregulated dust and fumes also have negative effects on factories efficiency. Dust and particles arises from metalworking procceses can penetrate machinery or electrical enclosures, leading to operational downtimes and reduced efficiency. Additionally, these fumes can build up on inventory, necessitating extra cleaning efforts and maintenance work. Moreover, qualified workers would like to work dust-free environments. So they make their choices accordingly.

- 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.

EXTRACTION FROM CUTTING TABLE

Thermal cutting processes are generally performed on a cutting bench in order to stabilize the sheet metal. Modern cutting benches are equipped with extraction modules which allows customers to connect a extraction system directly to the bench.

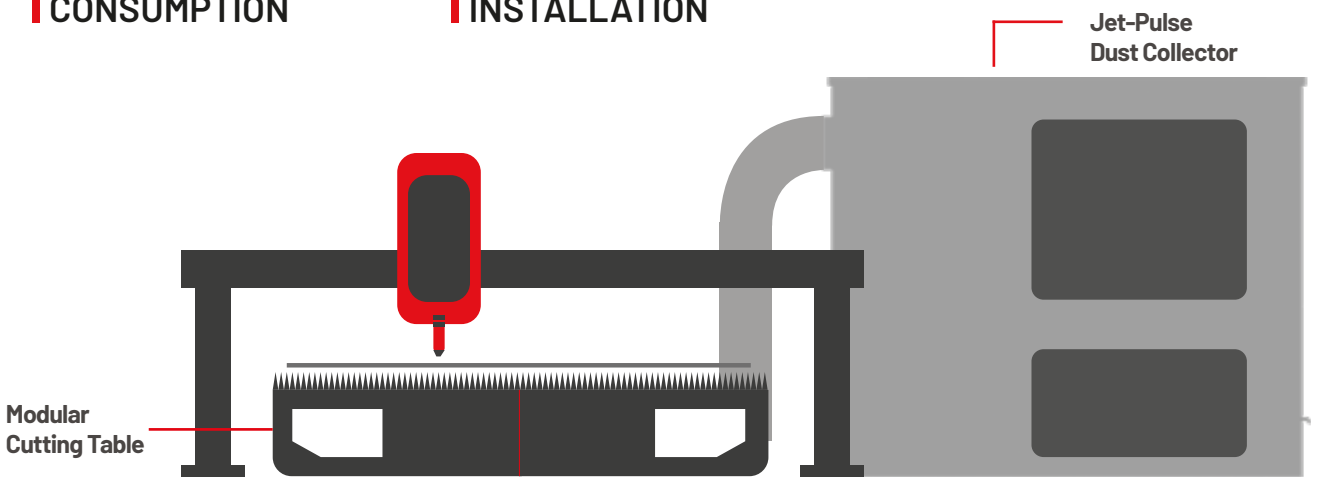
PKM - MODULAR CUTTING TABLES

Well designed cutting tables are essential for efficient dust collection systems. If cutting tables are not designed well, than the capacity of the filter unit and thus energy consumption of the dust collection system gets higher. So it is very important to have well designed cutting bench for thermal cutting dust and fume collection systems.

Well designed cutting tables should consider slag removal, dust collection efficiency, thermal durability and easy maintenance.

Bomaksan branded PKM series modular cutting tables are great solution for thermal cutting processes. PKM series are easy to install and maintain while providing super efficient extraction performance with optimum modula size.

- LOWER TOTAL COST OF OWNERSHIP
- OPTIMUM MODULA SIZE
- HIGH EXTRACTION PERFORMANCE
- EASY SLAG REMOVAL
- LOWER ENERGY CONSUMPTION
- EASY INSTALLATION



DUST COLLECTOR FOR THERMAL CUTTING

The dust and fume arises from thermal cutting applications are very dangerous and need to be extracted from the working environment and filtered before releasing to the atmosphere or -prefferably- to the ambient. Particles generated from thermal cutting processes are submicron particles which is very difficult to filtrate and requires great know-how.

JET-PULSE DUST COLLECTORS

Bomaksan offers wide range of jet-pulse dust collectors span from plug & play compact filter units to modular filter units. Bomaksan covering different advantages of different dust collector technologies; Horizontal round cartridges, vertical round cartridges and pleated flat panel filters have different advantages in some specific projects. Thats the reason why we have all types in our product ranges.

Designing a jet-pulse collector is not easy job. Designer should consider the filtration velocity, can velocity, valves angles, valve sizes, header tank sizes etc. So it requires a excellent specialities to produce great dust collectors. With over 35 years of experience, Bomaksan provides perfect jet-pulse cartridge filters with superior performance to it's clients.

PRODUCT OFFERINGS

VERTY serisi


LINE serisi


ECOG serisi

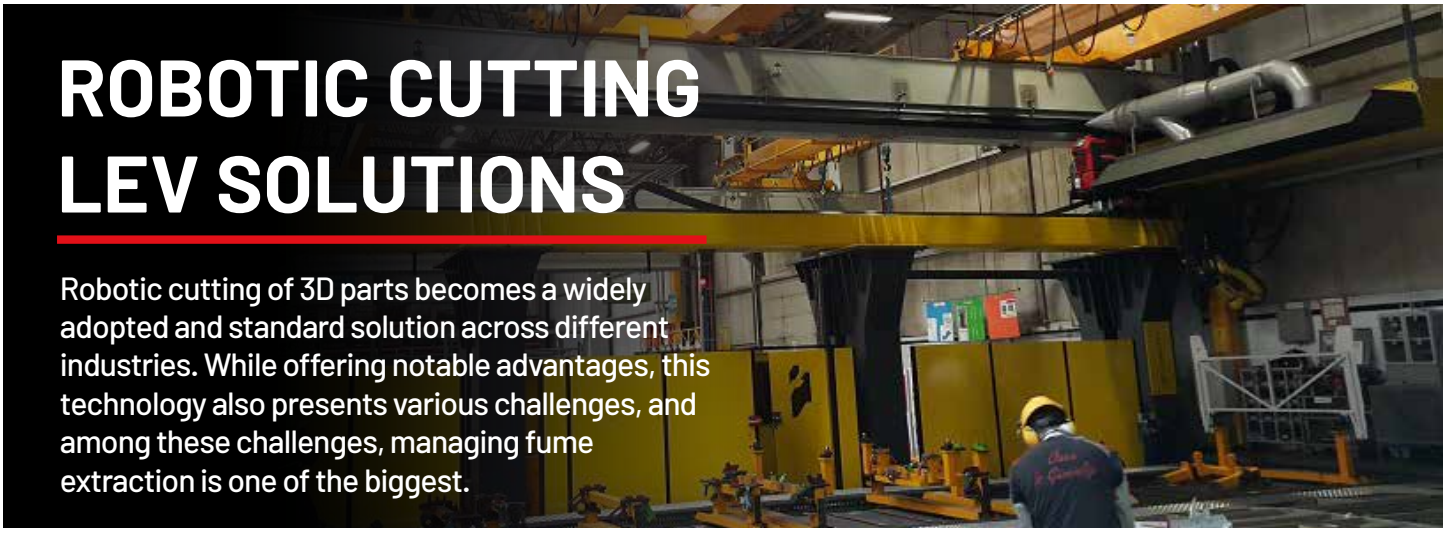
- EASY INSTALLATION
- HIGH EXTRACTION PERFORMANCE
- AUTOMATIC JET-PULSE CLEANING
- HIGH EFFICIENT FILTRATION
- PLUG & PLAY FILTER UNITS
- HIGH FILTER LIFE TIME

Designed for
Thermal Cutting Application

Bomaksan Dust Collectors can be configured specially for thermal cutting application due it's own nature.

- SYNCHRONIZED OPERATION
- HIGH EFFICIENT SPARK ARRESTOR
- SUPER SILENT OPTIONS
- OEM COLOUR PAINTING

ROBOTIC CUTTING LEV SOLUTIONS



Robotic cutting of 3D parts becomes a widely adopted and standard solution across different industries. While offering notable advantages, this technology also presents various challenges, and among these challenges, managing fume extraction is one of the biggest.

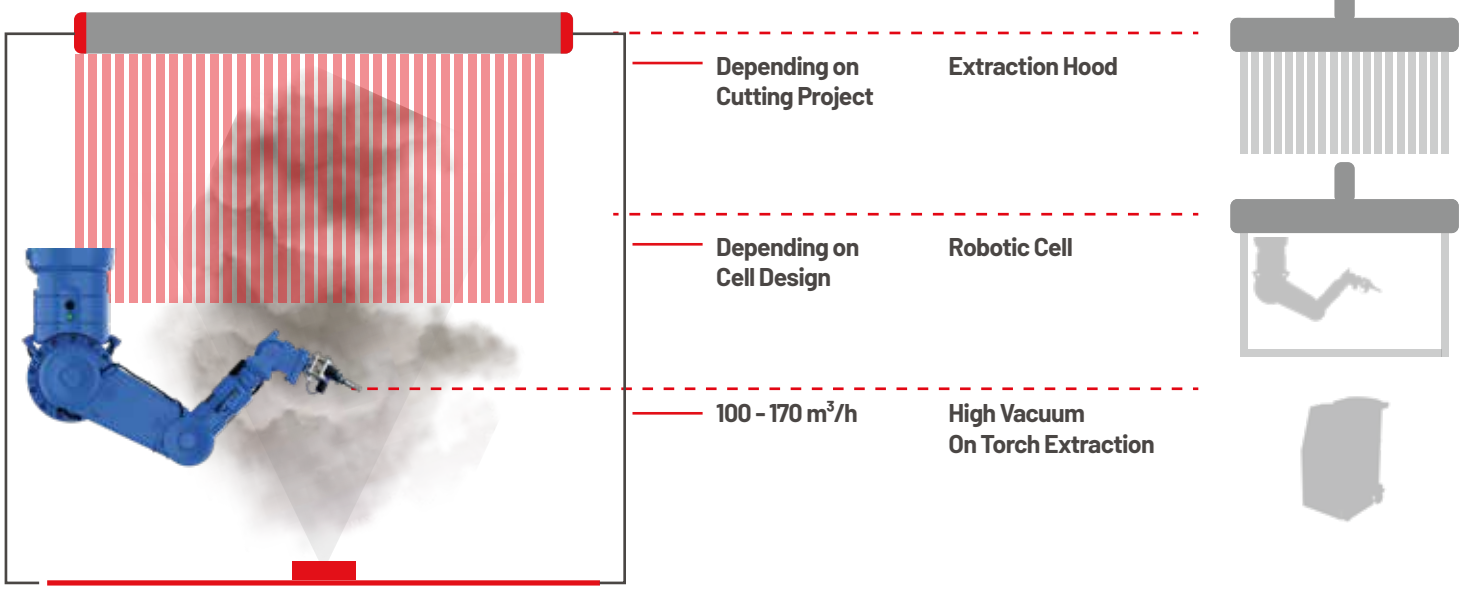
LEV SOL. FOR ROBOTIC CUTTING

Robotic thermal cutting can generate significant amounts of metal particles, which, if not controlled, can disperse throughout the workspace. Efficient fume extraction is crucial to prevent these airborne contaminants from affecting the health of workers and polluting the environment.

Easiest way to apply LEV system for robotic thermal cutting application is to install a High Vacuum On Torch Filter Unit - Mikrofil MIDI. However it is not always appilcable to use such products because of process requirement. In this case, a professional LEV design or General Hall Ventilation (GHV) or combination of both LEV and GHV is required.

Designing an LEV system for robotic thermal cutting applications could be challenging. Designers need to consider robot movement, positioner movement, bridge movement and material flow (supply and deliver). This type of design requires great experience and know-how. Bomaksan engineers, project designers and solution partners can help you along the way.

PRODUCT OFFERINGS



GENERAL HALL VENTILATION

Hall ventilation systems contribute to enhancing the indoor environment by maintaining a continuous airflow, resulting in potential savings of up to 70 percent on heating expenses.

GENERAL HALL VENT. (GHV)

In the context of thermal cuttign fume extraction systems, General Hall Ventilation (GHV) refers to the overall air movement and air quality management within a workshop or facility. Thermal cutting processes can produce hazardous fumes and particulates that need to be effectively controlled to ensure the safety and health of workers in the vicinity.

Incorporating general hall ventilation as part of a thermal cutting fume extraction system involves designing the facility's HVAC (Heating, Ventilation, and Air Conditioning) system to ensure that a continuous flow of fresh air is circulated throughout the workspace. This helps dilute and disperse any potentially harmful welding fumes that might be generated, reducing the concentration of airborne contaminants in the area.

WHEN TO APPLY GHV SYSTEMS

- Supplement LEV systems for difficult applications.
- Fabricating large 3D work pieces.
- The operator needs to shift positions frequently.
- Shops utilizing robotic cutting and hard automation.
- Thermal Cutting locations within a facility are variable.
- Personal protective equipment is used to control the operator's potential exposure.

INDOOR AIR QUALITY | **LAYERED VENTILATION** | **ENERGY SAVINGS** | **SAFE WORKPLACE** | **LESS DOWNTIME**

SAVE ENERGY COSTS WITH GHV Systems

Bomaksan designed General Hall Ventilation Systems operate based on the endorsed principle of layered ventilation, as advised by industry associations. In this systems contaminated air that rises is collected through inlet pipes (or filter unit inlet in Air Towers) positioned at heights ranging from four to six meters. Filtered air is then reintroduced into the room through source outlet pipes (or filter unit clean air outlets in Air Towers) located closer to the floor, moving at a low speed. This filtered air displaces the smoke and aids in its thermal movement. The network of ducting systems is linked to the central extraction and filtering system. The comprehensive recirculation of the cleaned air results in substantial savings of up to 70% on heating expenses during colder seasons for businesses.

70%

Heating Cost REDUCTION

ROBOTIC CUTTING GHV SOLUTIONS

Robotic cutting of 3D parts becomes a widely adopted and standard solution across different industries. While offering notable advantages, this technology also presents various challenges, and among these challenges, managing fume extraction is one of the biggest.

GHV SOL. FOR ROBOTIC CUTTING

General Hall Ventilation (GHV) solutions can be applied when LEV solution is not applicable or is not enough to capture all the pollutants. If exposure limit is exceed even with the LEV system, which is possible even with a good designed LEV system depending on the number of source, GHV solutions are required.

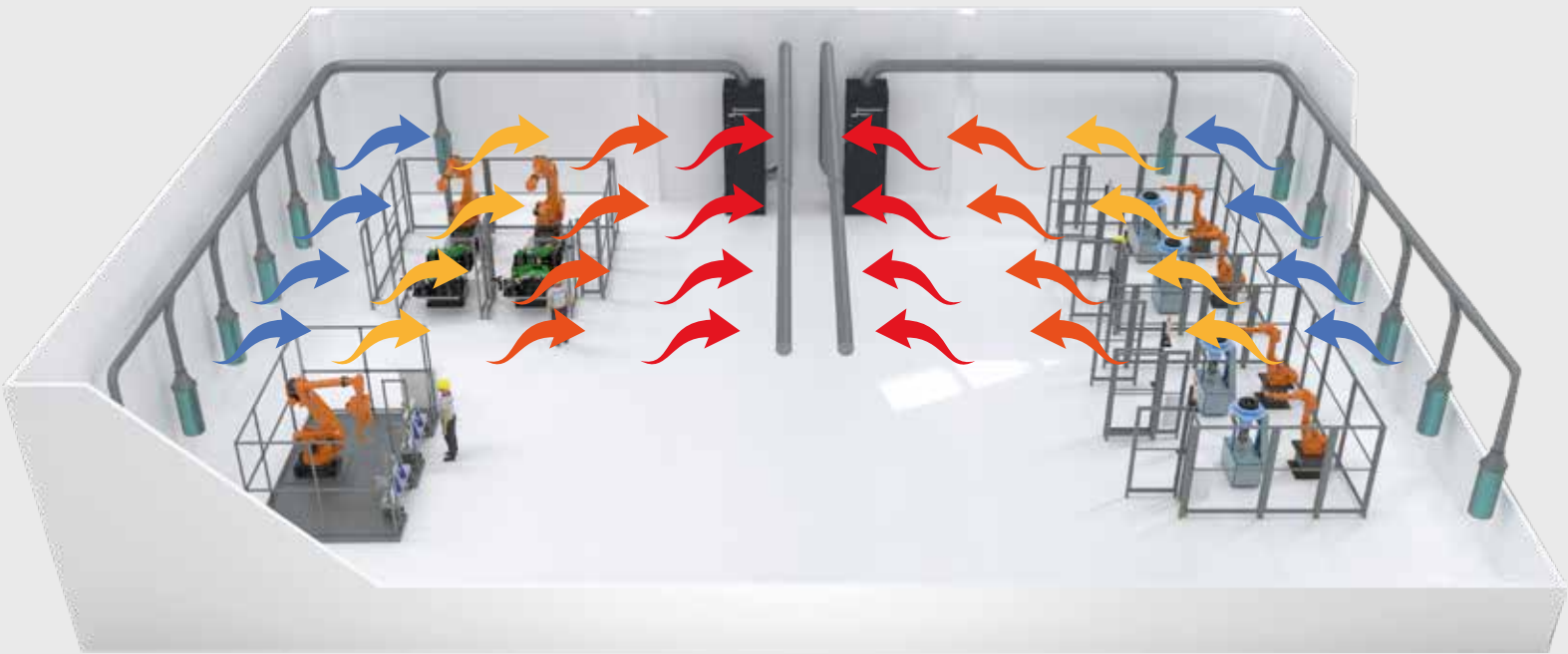
Designing the right GHV system depends on the layout of the workshop, purpose, robot type and cutting type. Sometimes it is not so easy to choose and design the right GHV system. In this case experienced Bomaksan engineers, project designers and solution partners can help you along the way.

PRODUCT OFFERINGS

VERTY serisi

LINE serisi

ECOG serisi



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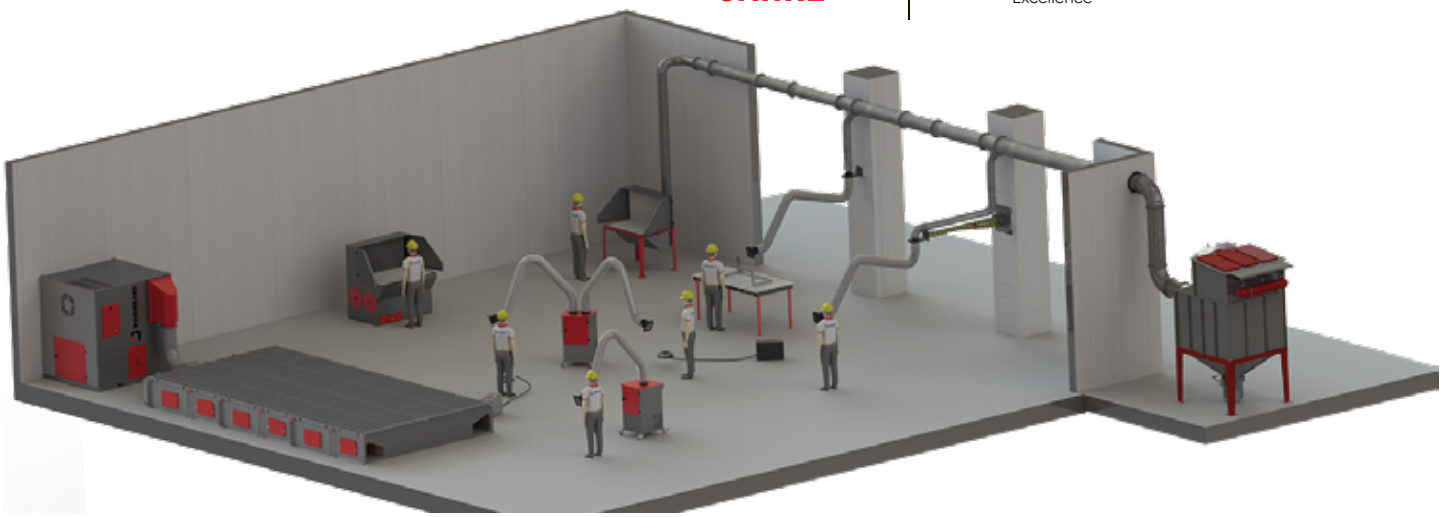
CE TSEK ISO

EXPERT DESIGN TEAM

Our team of skilled professionals has the knowledge and experience to create customized solutions for your unique dust collection needs, ensuring optimal performance, safety, and compliance with industry standards.

PROFI QUALITAT SEIT 37 JAHRE

Always with you on the way of Excellence



WHAT IS W3?

The W3 standard for welding fume filtration refers to a specific classification defined in the German Institute for Occupational Safety and Health (IFA) guideline "IFA Test Procedure 5633." This guideline sets forth criteria for testing and evaluating the filtration efficiency of welding fume extraction systems, particularly those used for stainless steel and other metal welding processes that produce hazardous hexavalent chromium compounds.

This test procedure follow ISO 15012- 1:2013 standard. Bomaksan mobile filters are comply with the ISO 15012-1:2013 standard and therefore W3 standard as well.