PLYMOVENT®
clean air at work

Do you control welding fume?

CUSTOMISED VENTILATION AND FILTRATION SOLUTIONS

EVER WONDER ABOUT THE VALUE OF CLEAN AIR?

We do. For more than 30 years we have made it our business to ensure clean air in your working environment. We provide high quality products to protect not only your welders, but also those people working nearby from inhaling hazardous welding fume. We offer a broad range of air extraction and filtration systems, backed by complete engineering services.

WHY PLYMOVENT

- A genuine commitment to customer needs
- System solutions
- Expertise gained over decades
- High quality products
- Global presence

Health risks when inhaling welding fume and gases

Source: Keep welding fume out of your body (2002)

Fume/Dust	Possible immediate effects	Possible long-term effects
Welding fume (general)	Hoarseness, sore throat, eye irritation, metal fever	Bronchitus, reprotoxic
Chromium (in welding fumes from stainless steel welding)		Carcinogenic
Nickel (in welding fumes from stainless steel welding)	Metal fever	Carcinogenic
Aluminium	Irritation of respiratory organs, metal fever	
Manganese	Pneumonia	Damage to central nervous system
Zinc	Metal fever	
Copper	Metal fever	
Magnesium	Irritation of respiratory organs, metal fever	
Lead	Changes of blood and kidneys	Reprotoxic
Gases	**Possible immediate effects**	**Possible long-term effects**
Nitrogen oxide	Irritation of bronchial tubes and eyes, pulmonary oedema	Bronchitis
Carbon monoxide	Difficulty in breathing, unconsciousness	Reprotoxic
Ozone	Irritation of bronchial tubes and eyes, pulmonary oedema	

WHY FUME EXTRACTION?

Welding fumes, grinding dust, oil mist: the metal industry produces all sorts of contamination. Welders and personnel in working areas are exposed to these air contaminants. It is essential to create healthy and safe working conditions by reducing these risks to health. Protective measures are an important aspect of this. So important, in fact, that strict international standards have been established to regulate them. Welding fumes, small particles and remains of molten metal, must be dealt with effectively by means of efficient extraction and filtration. This ensures that workers feel better, enabling them to perform better. The result is higher productivity and lower absenteeism through sickness.

HOW WE DO IT

Based on our experience, gained over decades working in the air treatment business, Plymovent has developed a totally reliable approach, we call this engineered solutions. This approach ensures clean air in your working environment with a cost effective and easily operated system. The process involves 7 phases, from analysis and design to supply, installation, commissioning and service, all included in a value for money package.

INVESTIGATION → PLANNING → DESIGN → INSTALLATION → COMMISSION → TRAINING → SERVICE

WE INVESTIGATE

Each customer has specific requirements. To be able to meet these, it is vital to conduct a thorough investigation, answering numerous questions about the welding process, number of welders and reach within work places, facility layout, filtration needs, local legislation and need of system control. Are there plans for future expansion? Finalising the first phase gives an answer to what we need to do.

WE PLAN

Based on the information we receive from our investigation phase we create a roadmap for achieving the best possible air in the work environment. We choose products from our broad product range, to tailor make a system, which provides a durable and optimal solution for ensuring ease of operation and a healthy work environment.

WE DESIGN

In the design phase we fine-tune the products chosen in the planning phase by calculating pressure drops, filter sizes, fan size etc. The modularity of our products enable us to optimise your system in regard to flexibility, safety, economy and operation. The result will be a system design which fits to your requirements today and for future expansions.

WE INSTALL

When the design phase is finished we have the ability to install your tailor-made system. Worldwide Plymovent has over 30 000 installations of systems ensuring a healthy working environment. We have a vast experience of delivering turn-key solutions which will operate flawlessly, enabling you to focus on your core business.

WE COMMISSION

When the installation phase is finished we calibrate the system ensuring all parameters are set correctly. Our constant striving for perfection creates an air cleaning system which is a trustworthy investment today and for years to come.

WE TRAIN

As a knowledge based partner, we are happy to share our professional knowledge and technology. We have the ability to give you hands-on training to get the most out of our systems.

WE SERVICE AND MAINTAIN

Today operational safety in production lines is essential to ensure high productivity. We therefore offer ongoing service agreements. Our maintenance engineers will make sure your extraction system is in perfect condition and in optimal operation.

SOLUTIONS

DIFFERENT METHODS (in order of effectiveness)

REDUCE FUMES

The first step towards creating clean air in your working environment is to make sure that the best available welding process is used for your application. If applicable, you might consider using an alternative welding method. In addition to the welding process the material should be clean, e.g. remove oil, coatings and rust etc. For quality reasons many of our customers already considered this first step. Our recommendation is to contact your welding machine supplier to consult their experience in welding. Unfortunately this first step is often not enough to ensure a safe working environment, additional steps need to be taken.

AT SOURCE CAPTURE

The second step to consider is the removal of welding fumes from the source. Only with source extraction is the welder protected and accumulation of welding fumes in the work shop is prevented. Source capture methods are preferably integrated in the workspace like a downdraft table which is a combination of workbench and fume extractor. Other methods are extraction arms that can be easily positioned close to the source or welding guns with integrated fume extraction. Plymovent has a full set of controls and accessories to customize the system to your local needs. Design parameters are ease of use, flexibility, energy consumption and noise level.

ISOLATION/SEPARATION

When extraction close at the source is not possible the next best method is separation of the source from the rest of the workshop. If possible even from the welder by welding mechanization or the use of welding robots. Extraction hoods with welding strips enclosing the welding process are in these cases the preferred solution. The workers near by the extraction hood are protected, those working inside an extraction hood will require additional personal protection.

VENTILATION & PERSONAL PROTECTION

Sometimes at source capture and welding hoods cannot provide a total solution. In those cases, general air cleaning and ventilation together with personal protection is the preferred method. With this approach accumulated fumes in the workshop are captured and filtered.

FLEXHOOD

A modular extraction hood is especially suitable for robotic welding applications and can be tailored to your needs.

WHAT IS THE BEST SOLUTION FOR YOU?

Depending on your needs we can provide at source extraction systems, downdraft tables, extraction hood systems or general ventilation systems.

EXTRACTION ARMS

Our extraction arms are available in various working reaches. They can be used on extension booms if extra reach is needed or put on a rail for virtually unlimited reach.

MDB FILTERS

The MultiDustBank filter is a modular cartridge collector system which can be tailored to your need today and expanded tomorrow as your business grows.

FANS

We offer a wide range of fans covering most common demands in various applications.

CONTROLS

Our control equipment can automatically control the whole extraction system, adjusting airflow depending on usage and more.

DRAFTMAX

A robustly designed downdraft table which ensures efficient fume extraction and filtration.

OTHER FILTERS

We offer a wide range of stationary and mobile filter units. Contact us to find out more or visit our website.

AT SOURCE CAPTURE

WHY AT SOURCE CAPTURE:

HEALTH REASONS
Investing money in at source capture in hazardous environments results in less absence due to sickness and a lower turnover of employees.

ENVIRONMENTAL REASONS
With at source capture you effectively prevent pollution from spreading all over your premises, where they will not only reach the operator at the process but also all other people in the building. An automatically controlled extraction system will also lower your energy consumption. It will save you money and at the same time you will make a contribution to improving the global environment.

AT SOURCE CAPTURE

Plymovent offers various fixed and mobile solutions for at source capture of welding fumes and grinding dust. Different lengths and diameters of an arm can be specific to certain processes and application. That is why the extraction arms of Plymovent are available in various working radiuses, from 1.0 up to 8.8 metres. The Plymovent filter range varies from small single filters up to large modular, self-cleaning filters which can be expanded as your business grows. A state-of-the-art Plymovent system will automatically monitor and adjust the air volume needed depending on how many workplaces are being used at any particular time. The controls in the system will also automatically adjust to the pressure drop in mechanical filters and maintain the air volume performance at each fume extractor.

WELDINGHOODS

WELDINGHOODS CAPTURE FUMES

Plymovent provide extraction hoods tailored to your needs. FlexHood can be placed on legs or hang from the ceiling, either option makes it easy to position the hood in your specific work area. Various options enable you to complete FlexHood with lighting fixtures and welding strips.

Traditional extraction hoods often have centred extraction. FlexHood has an innovative framework with side extraction, capturing the fumes at the edges of the hood. This very efficient way of extraction prevents fumes from escaping at the sides of the hood.

FlexHood is designed to protect welders, personnel in other working areas, your working equipment and the facility. The deflection plates in the hood control the airflow and reduce the risk of sparks reaching the filter. FlexHood comes in easy to handle modular parts and can be easily put together on location.

WHY WELDING-HOODS:

■ HEALTH REASONS

Investing money in a FlexHood system in hazardous environments enables you to separate the welding source from workers.

■ ENVIRONMENTAL REASONS

With a FlexHood system you effectively prevent pollution from spreading all over your premises.

GENERAL VENTILATION

WHY PUSH/PULL:

HEALTH REASONS
Plymovent Push/Pull systems will reduce environmental fumes to acceptable OES (Occupational Exposure Limit) within your facility

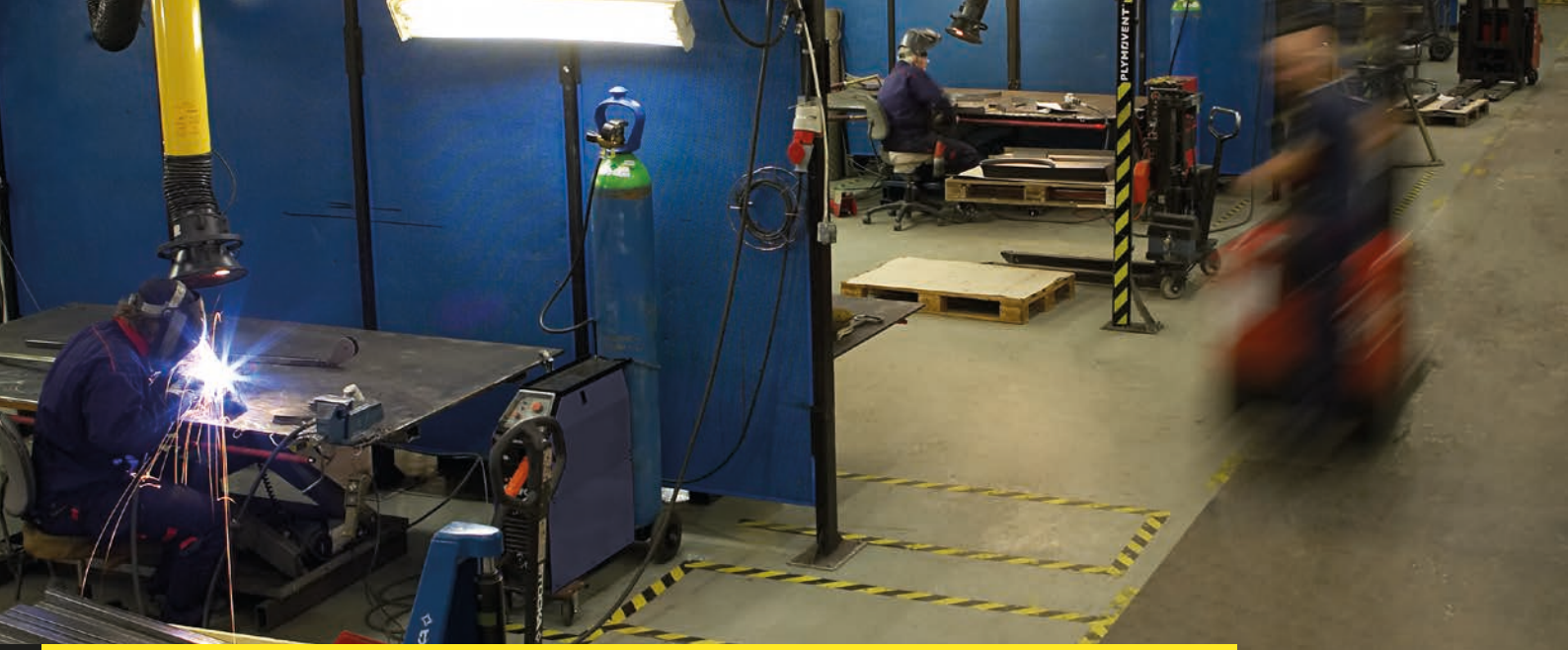
ENVIRONMENTAL REASONS
With a Push/Pull system you effectively prevent pollution from spreading over your premises.

When to use push/pull-systems to create a cleaner work environment?
- Extraction at source is very difficult
- Large work pieces
- Changing welding locations

GENERAL AIR CLEANING & VENTILATION

If work pieces are too big to be covered by extraction arms, or if the welder constantly moves between locations, extraction at source may not be possible. Plymovent now offers a solution to this problem; a Push/Pull system that, using proven techniques, captures environmental welding fume, filters it and then pushes clean air back into the working area. This way, expensively heated air stays in the working area and occupational exposure levels are kept easily within accepted standards.

A Plymovent Push/Pull system consists of 4 components: the pull duct, filter unit, central fan and a push duct.



COMPLETE SYSTEMS

TOTAL SOLUTION

We have products suitable for every step in the methodology of removing welding fumes. The system solutions we provide are engineered and completed with our wide range of fans, control equipment and filters.

- Fans are available from 0,37 kW up to 22 kW. Others on request.
- System controls range from simple manual controls to fully automatic, state-of-the-art controls.
- Our filters range from small stationary units to large self-cleaning modular designed units.

Our expertise gained over many years, high quality products and genuine commitment to customer requirements enable us to provide precisely the solutions you need.

Investing in a Plymovent system is investing in the environment and in your competitive future.

WHY CONTROL EQUIPMENT:

■ FINANCIAL REASONS

A fully automatic controlled system will enable you to substantially lower your use of electricity and overall energy consumption and therefore give a shorter ROI (return on investment).

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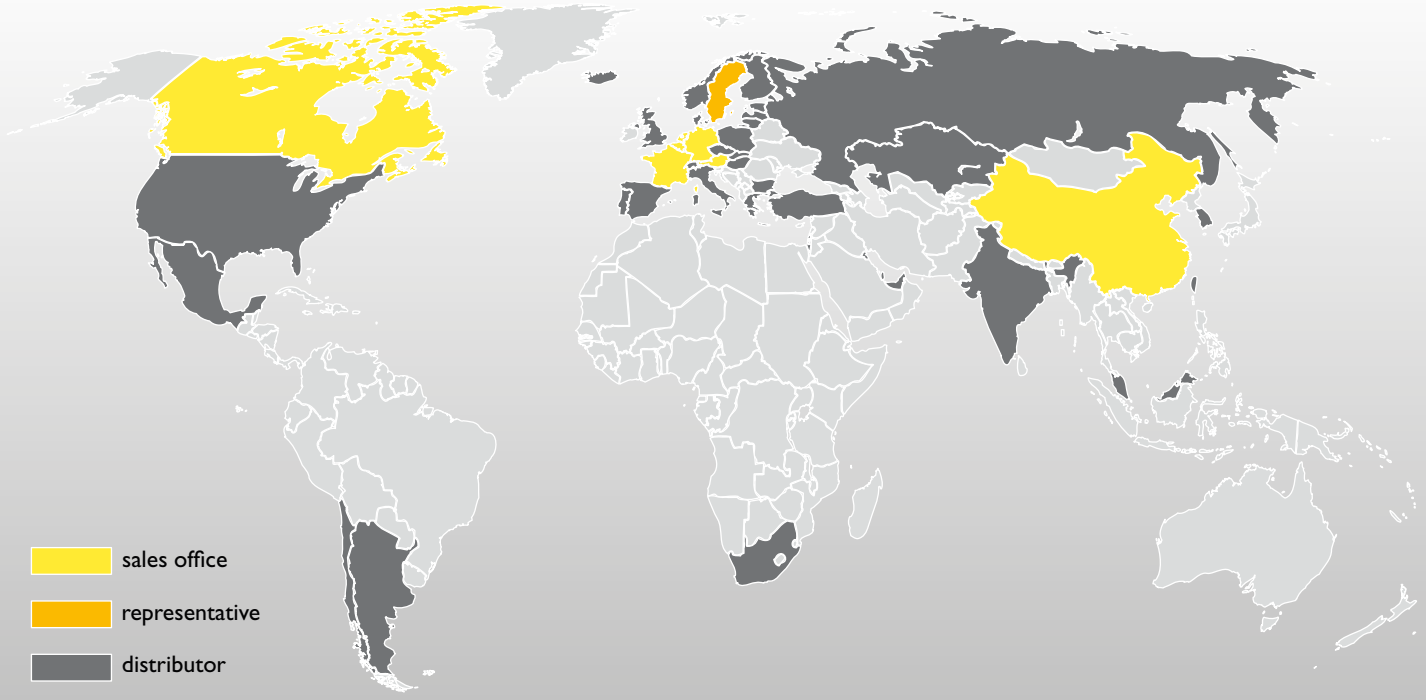

Plymovent cares about the air you breathe. We offer products, systems and services which ensure clean air at work, anywhere in the world.

We respect the environment and we deliver high-quality products. Our expertise gained over many years and our genuine commitment to customer requirements enable us to provide precisely the solutions you need.

PLYMOVENT®
clean air at work

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