REMOVING CLOUDS OF FUMES

Does your facility have an issue with large clouds of fumes building up over the metal working area? If so, Plymovent, a world leader in fume and dust extraction and filtration, has a proven solution that will eliminate the fumes lingering above the shop floor. Our Push/Pull systems are proven and effective systems which have been installed in top manufacturing facilities around the world. Push/Pull systems can make a significant contribution to your facility providing you and your employees with a cleaner, healthier and safer working environment.

Welding and cutting fumes are generated from metal-working and fabrication applications such as welding, cutting, etc. The fumes can form into a visible blanket above your facility and create an unhealthy working environment.

Many general extraction or ventilation methods in today's market place do not effectively address 'environmental' welding fume. Plymovent's Push/Pull system solutions are designed to effectively extract and filter particulate for a cleaner and safer work environment.

WHEN TO USE PUSH/PULL SYSTEMS

Push/Pull systems meet the challenges in work environments, where the following situations can occur:

- At source capture may not be effective where large work pieces are being dealt with.
- Operators are working in areas where effective source capture is difficult.
- Personal protection equipment protects the operators but not others in the facility.

WHY FUME EXTRACTION IS IMPORTANT

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. 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 professional extraction and filtration. This ensures that workers feel better, enabling them to perform better. The result is higher productivity and lower absenteeism through sickness.





PLYMOVENT®
clean air at work

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Your authorised Plymovent distributor:

Plymovent reserves the right to make design changes. PushPull_20090420



COMPLETE SYSTEM

A Plymovent system enables you to get fully automatic control of our products in the most efficient way, saving you money and bringing you clean air at work.

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

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

PLYMOVENT®
clean air at work



PUSH/PULL SYSTEMS

Taking control of welding and cutting fumes

SYSTEM COMPONENTS



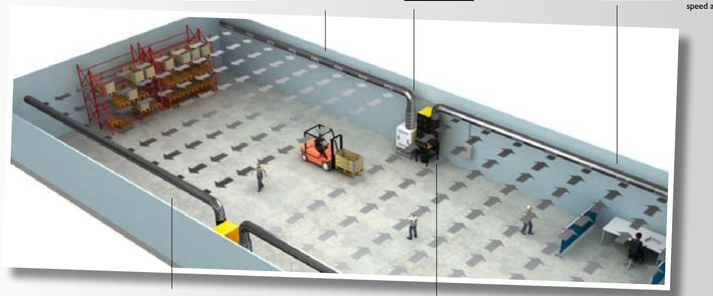
PUSH DUCT
The push grids are both horizontally and vertically adjustable and contain an air volume control.



FANS
We offer a wide range of fans covering the most common requirements in a variety of applications.



PRESSURE TRANSMITTER
It measures the underpressure in the system and gives a signal to the connected frequency inverter, which regulates the fan speed accordingly.





PULL DUCT
The pull grids are individually adjustable for optimal extraction.



MDB FILTERS
The MultiDust®Bank filter is a modular cartridge collector system which can be tailored to your needs today and expanded tomorrow as your business grows.



CONTROLS
Our control equipment can automatically control the whole extraction system, adjusting airflow depending on usage, saving you money.

HOW IT WORKS

EFFICIENT SYSTEM

As the blanket of welding fume rises, it passes between the inlet duct and the outlet duct. The outlet duct pushes the fumes towards the inlet duct in a controlled manner. As this contaminated air is pulled through the system it is filtered; the filtered air is then re-circulated back into the workshop through the outlet duct. The extraction and re-circulation of dirty and clean air is a continuous process.

1. EXTRACTION

To move and extract the layer of particulate in a controlled direction, an extraction duct is designed according to your specific operation and facility layout. The extraction duct is provided with airflow grids. Proper design will allow for the most effective and controlled extraction of the metal working particulate layer.

2. FILTRATION

The extraction duct is connected to a self-cleaning filtration unit. As the particulate moves through the extraction duct, it is collected on the filter media which is periodically cleaned by an automated, pneumatic cleaning system. When the pressure over the filter reaches a certain point, the internal self-cleaning mechanism begins to clean the filter, resulting in the particulate dropping into a collection container at the bottom of the filtration unit. The collection container can be easily emptied and contents should be disposed of according to local regulations.

3. FAN

A continuous extraction (pulling), filtration and re-circulation (pushing) process is being generated by a fan unit specifically sized for the system and positioned downstream from the filtration unit.

4. RE-CIRCULATION

Once the particulate has been filtered, the filtered air can be re-circulated. By re-circulating the air, energy cost savings, specifically in climate controlled environments, can be recognized. The re-circulated air is also used in a controlled manner, to push the layer of fume towards the extraction duct. To effectively control the direction of re-circulated air, a re-circulation duct with volume regulated airflow grids is designed according to your specific operation and facility layout.





SYSTEM BENEFITS



LOW NOISE LEVEL

Low noise levels are vital when using a continuously running re-circulation system. Our Push/Pull system is therefore equipped with a fan fitted in a sound adsorbing box to reduce noise. To reduce the noise of airflow leaving the fan the box has a direct fitting for a duct silencer.

ACCEPTABLE OES

The Push/Pull system will reduce background environmental fumes to acceptable levels.

LOW COST OF OWNERSHIP

To ensure low operational costs the system controls also control the fan speed to the exact required performance under changing conditions. When the filters are new or cleaned uncontrolled systems can blow too hard, shortening the life span of filters, undermining the performance and capture efficiency and consuming too much energy in so doing. A controlled system ensures efficiency and energy savings up to 60% in start up conditions. During the filter life substantial energy savings can be expected and the filters will last longer because they are protected against high airflow.

REDUCTION OF FINE DUST

Metal work shops have by the nature a number of activities which creates large amount of fine dust which can affect performance of machinery and the workforce. A Push/Pull system will contribute to the reduction of fine dust in your work place.

PERFORMANCE UNDER CONTROL

To successfully remove accumulated welding fumes it is important to push them towards the extraction duct in a controlled way. The system controls allow an exact tuning of the installation and maintains these settings over time.

ENERGY SAVINGS

The recirculation of filtered air ensures substantial cost savings because no energy has to be used for reheating.

SUITABLE SOLUTIONS

SOLUTIONS FOR VARIOUS FACILITY LAYOUTS

Installing a Push/Pull system into your facility not only creates a cleaner, safer work environment, but provides cost savings as well. As it is a modular system, the entire facility does not need to be changed; specific work zones can be designated for new ventilation.

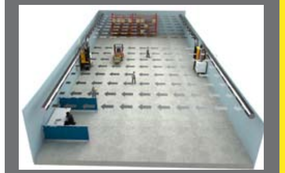
DESIGNING THE RIGHT SYSTEM FOR YOUR FACILITY

To design an effective Push/Pull system to meet your needs, an in-depth inventory of your facility layout and operation must be made and evaluated. This includes parameters such as: application/manufacturing processes, operator procedures, existing ventilation and air movements, overall volume and general construction of workshop and obstructions.

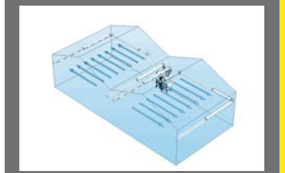
Plymovent offers a variety of high quality products geared towards protecting workers from airborne contaminants. To find out which system is right for your needs, please contact Plymovent or visit our website, www.plymovent.com.



U-shaped Push/Pull System with 1 filter unit and 1 fan



Parallel Push/Pull System with 2 filter units and 2 fans



Hybrid systems