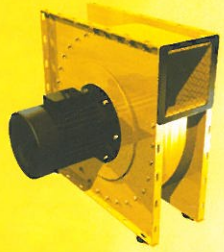
Industrial Ventilation and Filtration

Saving you money and Protecting your health is our business









PLYMOVENT®

INTELLIGENT PROCESS VENTILATION™

Stainless steel
For higher demands

The PlymoVent "TopGrade™ Collection" is a range of products specially designed to meet the demanding requirements of the pharmaceutical, chemical and food processing industry.

You will find this symbol next to products available in stainless steel.

Release of a brand new filtration system

2004 sees PlymoVent launch a completely new concept in Industrial Air Filtration Technology.

This Multi Purpose Filtration system is modulare based and includes advanced new filtration technology.

Thanks to PlymoVent innovations you can choose one filter unit for all your applications now or in the future.

Adapting to changes in productions and volume, just add one or more modules to expand the system, then simply reconfigure. Your ability to mix and match your filtration solutions will make your choice of PlymoVent units the safest decision you will ever make.

Read more on page: 56-59, 68-69

PlymoVent Worldwide – we are there for you

PlymoVent Distributors

Argentina
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Austria
Belgium
Brazil
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Russia
- Moscow
- Novosibirsk
- St.Petersburg
Saudi Arabia
Singapore
Slovenia
South Africa
Spain
Switzerland
Taiwan
Turkey

PlymoVent is a global company with subsidiaries and distributors in over 45 countries

All our offices have the experience and know-how to supply a complete solution for a very profitable, clean and healthy work environment. For over 25 years we have provided the most effective, and in the long run, most economical solution to any problem our customers may have.
We are happy to share our professional knowledge, from analysis and design to supply, installation and commissioning – all included in a value for money package.
Welcome to PlymoVent.

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Fax: +46 950 57 67 90
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Fax: +46 40 30 31 40
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Year established: 1979

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Year established: 1989

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Fax: +1 905 564 4609
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Year established: 1978

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Fax: +49 2224 89 646
info@plymovent.de
Year established: 1986

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Fax: +33 549 51 59 33
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Year established: 1991

We have helped many customers just like you

For over two decades PlymoVent has been satisfying the needs of customers just like you. Listed below are some well known companies, both local and worldwide, that have been concerned about the effects of hazardous fumes and gases within the work shop. They have all installed PlymoVent systems to protect their largest asset – their employees.

Thanks to this they have also substantially increased their profitability.

Some of our references in Great Britain

3M United Kingdom
ABB Alstom Power Ltd
Allen Gears Ltd
Alstom Power Ltd
Appledore Ship-builders
AstraZeneca Plc
Bank of England
Benetton F1
BOC Gases
BP Oil Grangemouth
British Telecom
British Nuclear Fuels Plc
Cambridge University
Exxon Chemical Ltd
Fujifilm Electronic Imaging Ltd
HMP Prison Services
Honda of the UK Ltd
Jaguar Racing Ltd
Jordan Grand Prix Ltd
Kodak Ltd
Lear Corporation
Michelin Tyre Plc
Ministry of Defence
Rolls Royce Aerospace
Sanyo Industries
Sigma
Stewart Grand Prix
Thames Valley Police
University of Oxford




Some of our references in other countries

USA

3M Co.
AGFA
BASF
BMW
Bristol-Myers Squibb
Colgate Palmolive
Consolidated Edison
Daimler Chrysler
Eastman Kodak
Ford Motor Co.
Hoffman LaRoche
International Flavors & Fragrances
Johnson & Johnson
L'Oréal
Merck & Co.
NJ Transit
Pfizer
Pharmacia
Schering Plough Corp.
Xerox

Canada

3M Canada
Air Canada
BASF Canada
ASEA Brown Boveri
Boeing Canada
Cadbury Beverages
Derlan Aerospace
Dow Chemical
Gay Lea Foods
General Motors of Canada
Hewlett Packard
Hoffman Laroche Ltd.
Kodak Canada Inc.
Mobil Oil
Nestlé Canada
Novapharm
Oetiker
Proctor & Gamble
Quebec Cartier Mines
River Gold Mine
Royal Bank of Canada
Siemens-Westinghouse
Spar Aerospace
Torcan Chemical

France

Alpha Laval, Nevers
Cogema
De Dietrich, Alsace
Eaton, Monaco
ECIA Peugeot, Sochaux
Fairschild, Simond
Faurécia, Montargis
GEC Alstom, Saint-Nazaire
Général Motors
Givenchy, Beauvais
Gunther Sandvik
Hutchinson, France
Kronembourg, Obernai
Matra, Romorantin
Mécachrome, Aubigny
Mécachrome, Sablé
Messier Bugatti, Molsheim
OTIS, Gien
Renault, Cléon
Toyota, Onnaings

Sweden

AB Sandvik Hand Tools
ABB Teknikservice AB
Akzo Nobel AB
Atlas Copco Berema AB
Atlas Copco Tools AB
Avesta Sheffield AB
Bofors
BT Products AB
Ericsson Cables AB
Medimex Produkter AB
Medipharm
Orrefors Glasbruk
Saab Automobile AB
SAS
Scania CV
SKF Sverige AB
Volvo Articulated Haulers
Volvo Lastvagnar AB
Volvo Personvagnar AB

Germany

Adam OPEL AG
AGFA, Peißenberg
Audi AG
BASF AG
BMW AG
Bonner Magnetfabrik
Bosch-Siemens GmbH
Clariant GmbH
Daimler Chrysler AG
Deutsche Aerospace AG
Deutsche Bahn
ESSO Deutschland GmbH
Ford Werke GmbH
Hoechst AG
Klöckner Möller GmbH
L'OREAL Karlsruhe
Linde AG
Nestle Deutschland AG
Ruhrgas AG
Shell AG
Siemens AG
Volkswagen AG

For more references, please visit www.plymovent.com

Quick guide for Clean Fresh Air in your workplace

Problem

Soldering fumes 1

Welding fumes

Oilmist

Chemical and pharmaceutical fumes and dust 1

Dust

Stationary or Mobile workplaces?

- Stationary workplace
- Mobile workplaces

Type of workplace?

- Bench workplaces 2
- Larger workplaces
- Within the workshop
- Maintenance dept. 10

Size of workplace?

- A radius over 3-4 m
- A radius under 3-4 m 3 4 5
- Welding with galvanised steel, aluminium or stainless steel 10 11
- Mild steel welding 9 10 11
- All type of welding 10 11

Ceiling height?

- Ceiling height over 3 m
- Ceiling height under 3 m 6 7

Max. working height?

- Working height over 2 m 6 7
- Working height under 2 m 6 8

What creates the oilmist?

- Built-in machines → Fixed ductwork connected to a filter 14 15
- Manual machines → Flexible extraction arms with filters 1 4 14 15
- Widespread, large number of sources → Free-hanging filters Duct system 14 15

Type of dust?

- Airborne particles
- Larger, solid particles

Where does the dust come from?

- General airborne dust → Free-hanging filters Duct system 13 16 17 18
- From a particular source → Flexible fume extraction arms and filters 1 4 10 11 16; Mobile filters 17 18

Energy saving for fume extraction systems

- Fume extraction system with central fan — Automatic damper 13 14 15 16 17; Filtration 18 19 21 23
- Fume extraction system with separate fans — Flexible fume extraction arms and filters 13 14 15 16 17 18 20 21 23

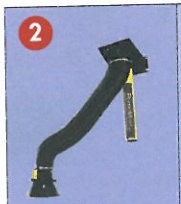
Different applications require different air volumes.
PlymoVent has a complete range of arms to cover all kinds of applications.
- 75 mm/3" arms for laboratories, soldering and dust applications.
- 100 mm/4" arms for dust, oilmist, spot- and light-welding applications.
- 125 mm/5" and 160 mm/6" arms for normal welding and respitorial dust and vapours.
- 200 mm arms where extra need for high airflow is required such as vapours and gases, or extreme welding applications.

Points to consider when choosing a fume extractor

Check list:

- ☑ Reach / working area
- ☑ Obstacles, eg. dividing walls, machines etc.
- ☑ Ceiling height
- ☑ Mounting possibilities
- ☑ Pressure loss, ductwork sizing
- ☑ Choice of fans (often separate fans are better than a larger central fan as they will offer more flexibility and more precise extraction rates.)
- ☑ Consideration of other ventilation in the workshop
- ☑ Energy saving (better economy)
- ☑ Workshop lighting


1 Miniman 75/100


2 Junior


3 EconomyArm


4 MultiSmart® Arm

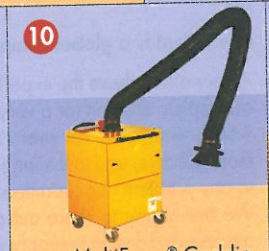

5 KUA-arm


6 KUA on extraction rail


7 Flex-Max

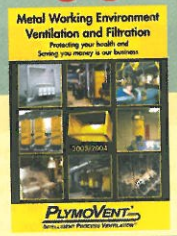

8 UK


9 EMK

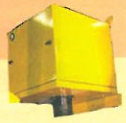

10 MultiFume® Caddie


11 Mobile"One"


13 EF-Filter



14 15


16 MF-Filter


17 Smart"One"


18 MultiDust® Bank


19 ICE-LC/MD


20 ES-90


21 M-1000


22 SA-24


23 DCV-Controller


Halogen lamp kit, available in different models for all type of arms


2 3 5 7 8 SLE


2 3 5 7 8 FSL

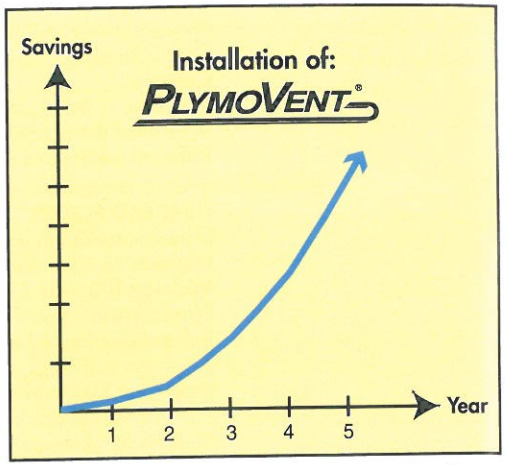
PLYMOVENT®
INTELLIGENT PROCESS VENTILATION™

CONTENTS

Welcome to the World of Intelligent Process Ventilation

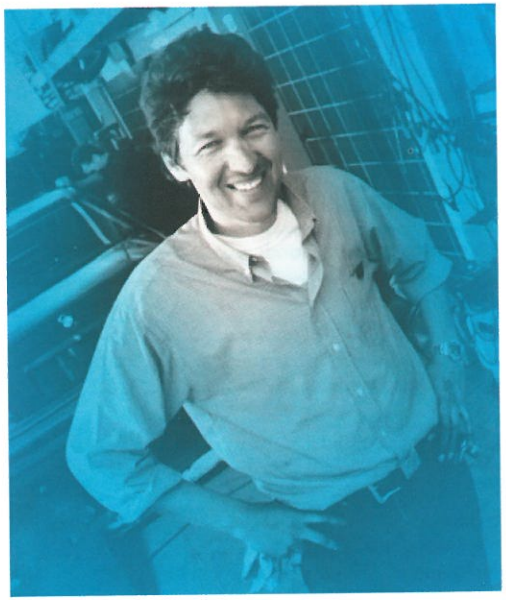
PlymoVent offers you the following:

- Savings in Energy
- Savings in Money
- Savings in People
- Savings in Machinery and Facilities
- Savings in Maintenance
- Savings in Insurance costs



Invest in PlymoVent Intelligent Process Ventilation today and start to achieve considerable savings.

PlymoVent – your partner for a more Intelligent Process Ventilation



Invest in PlymoVent Intelligent Process Ventilation today and maintain your Human Capital Resources.

Saving Money – saving Energy

By using PlymoVent Intelligent Process Ventilation Systems, you can reduce the rising energy costs considerably.

Run your process ventilation only at the capacity required at any given moment. That is intelligent! (See pages 74-77)

Saving Money – saving People

A Clean Air Environment makes your work force more productive. Studies show as much as a 20% increase in productivity. It also reduces sick-leave and other environmental related absences. A clean environment should be a part of everyday life – also while working.

Saving Money - meeting today's exacting legislation and the industrial standards

Using PlymoVent Intelligent Process Ventilation systems makes is easier to follow health legislations and industrial standards.

A good working environment may even reduce your insurance premiums.

Saving Money – saving Machinery, Facilities and Maintenance

Today's intricate and computerised machinery will not withstand pollution that is not removed and filtered. Catch the pollutants directly at source to reduce your maintenance and facility costs.

Invest now in PlymoVent Intelligent Process Ventilation and cut down on maintenance costs.

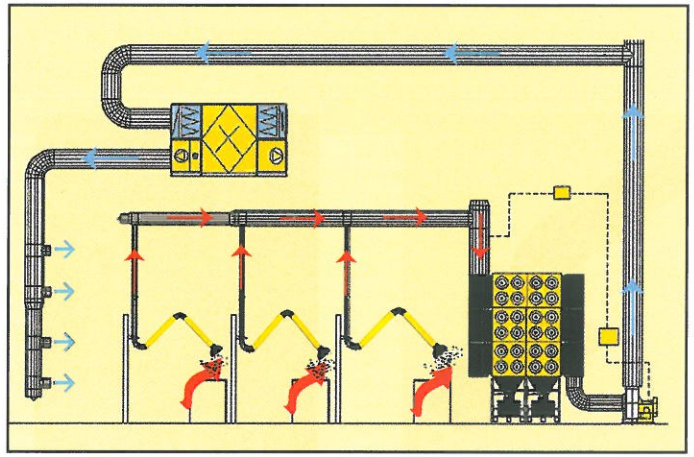
Why PlymoVent?

PlymoVent has for more than 30 years developed the best and most widely recognised Intelligent air cleaning concepts and equipment available. Our customers are not only the big global users, but also one-man operations. Working in over 45 countries, our customers have contributed vastly to our experience. They have taught us how to address their problems with cost effective Intelligent Process Ventilation.

It is a therefore a pleasure for us to present this Product Catalogue which outlines our Intelligent Process Ventilation systems and presents a selection of our Intelligent concepts.

Whatever problem you might have with air pollution – call us.

No problem is too small or too big for us to handle.

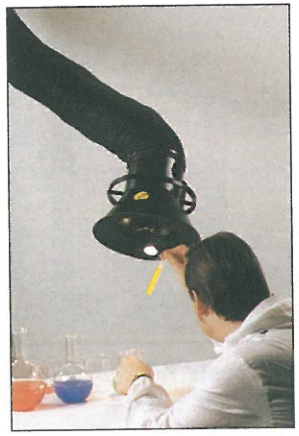


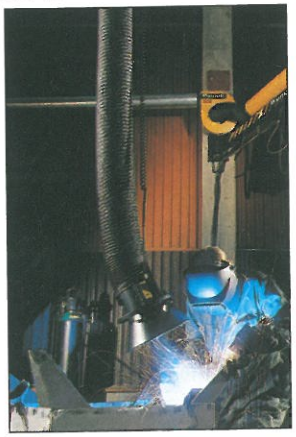
It's easy! Invest in PlymoVent Intelligent Process Ventilation and you may experience a pay-off time of less than a year.

Why fume extraction?

• FINANCIAL REASONS
• HEALTH REASONS
• ENVIRONMENTAL REASONS

A serious problem affecting the working environment within industry is airborne pollution from gases, fumes and dust. Without doubt, the best way of solving ventilation needs is with fume extraction at source. You simply capture the air pollutants where they are produced. This way you effectively prevent them 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. At source extraction is by far the best method to ventilate your premises. To achieve the same result with general ventilation you would need to heavily increase the number of air changes at a very, very high cost. And the process operator would still be heavily exposed. By using fume extraction at source you will achieve powerful cost reduction as well as very positive environmental and healthy effects. NOTHING ELSE IS ACCEPTABLE TODAY.





FINANCIAL REASONS

Few investments are as easy to justify from a financial point of view as fume extraction at source. The constantly increasing energy cost makes possible ...

A pay-off time less than one year possible – today!

Once fume extraction at source is installed your energy costs will decrease immediately. Measurements, taken by the Swedish Foundation for Working Environment Protection show that savings of up to 60% can be achieved. The reason for this is that you can greatly reduce general ventilation and thereby achieve large energy savings – both in heating and electricity costs. With Demand Controlled Ventilation incorporating filtration systems, automatic dampers and frequency inverters combined with heat exchangers up to 90% reduction of energy consumption can be achieved (see page 52-53).

Enormous reduction in maintenance costs!

With a clean air environment a great reduction in interior building maintenance can be achieved. Today's expensive and computerised machinery will be protected from damage if the dust, fume and mist levels in the workshops are controlled. This leads to reduced maintenance costs. At source capture will also have a positive effect on the running and maintenance of your general ventilation systems.

Increased productivity!

Today's society offers people a lot of comfort – but still a lot of production environments are very dirty, creating an unhealthy and uncomfortable environment. Independant investigations in Canada show that productivity will increase by up to 20% after installing at source fume and dust extraction.

Less sick leave/lower employee turnover and easier recruitment!

Investing money in the working environment results in less absence due to sickness and a lower turnover of employees. Your companies' need for "over employment" will reduce. It will be easier to recruit young skillful workers if you can offer the clean air environment they are used to from school and at home.

Calculate your own energy savings by using at source extractors for welding fumes:

Conditions		Number of welders Workshop area m² (height 15 ft/4.5 m)	No. sq.ft/m²	2 1000/100	5 10000/1000	10 15000/1500	20 20000/2000
Air Changes	A	General ventilation without at source fume extractors (30 CFM/50 m³/h x workshop area sq.ft/m²)	m³/h CFM	5 000 30 000	50 000 300 000	75 000 450 000	100 000 600 000
Savings with fume extractors m³/h	B	No. of welders with fume extractor x 600 CFM/1000 m³/h +general ventilation 3 CFM/5 m³/h x workshop area sq.ft/m²	m³/h CFM	2 500 4 200	10 000 33 000	17 500 51 000	30 000 72 000
		Savings in heated and cooled air compared to A	m³/h CFM	2 500 25 800	40 000 267 000	57 500 399 000	70 000 525 000
Savings with fume extractors and Energy Savers ES-90	C	Using fume extractors with Energy Savers and a total arc time (direct welding time) of 10%. No. of welders x 0,1 x 600 CFM/ 1000 m³/h + 3 CFM/5 m³/h x workshop area sq.ft/m²	m³/h CFM	700 3 120	5 500 30 300	8 500 45 600	12 000 61 200
		Savings in heated and cooled air compared to B	m³/h CFM	1 800 1 080	4 500 2 700	9 000 5 400	18 000 10 800
		Savings in heated and cooled air compared to A	m³/h CFM	4 300 26 880	44 500 269 700	66 500 404 400	88 000 538 800
Savings with fume extractors, Automatic Dampers, Frequency Inverter and Heat Exchanger system	D	**Additional saving with 50 - 90%, compared to C, can be achieved by using frequency inverter and a heat exchanger system.** PlymoVent can help you achieve these savings now. See pages 76-77 for the most intelligent solutions.					

HEALTH AND ENVIRONMENTAL REASONS

For those of you, who have been in an environment where welding, grinding or machining take place without extraction or filtration it is very, very easy to understand the reason for investing in at source extraction.

Welding and soldering fumes

The pollutants that are created by welding (welding fumes) partly consist of gases and partly of particles. Some particles are so small that they are not visible. These are the most dangerous, as they pass through the walls of your lungs and onwards into the blood. The most common particles in welding fumes are iron oxide, cadmium oxide, zinc oxide and magnesium oxide, but also present can be particles of asbestos, nickel, chromium, copper etc. Common effects of soldering and welding fumes are eye irritation, damage to the kidneys, metal-fume fever, allergies, siderosis, lung oedema, headaches, lack of concentration, chest pains, loss of memory and also cancer.

Oilmist

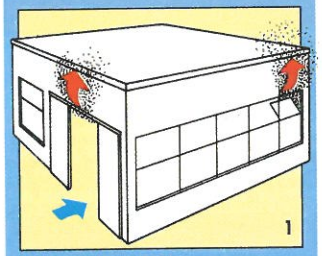
Exposure to oilmist leads to allergies, eye problems and, in many cases, to so called "oil lung". Oilmist can and does settle everywhere and sticks to everything, which leads to an increased risk of accident. The condensation of oilmist in ventilation channels and ducting leads to the development of large bacteria cultures, which can spread throughout the whole building. It is therefore essential to have effective and efficient extraction at source and filtration.

Solvents and dust

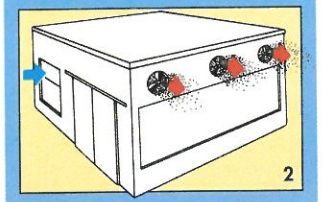
Other environments where dust and fume extraction are necessary include, for example, chemical laboratories, printing workshops (when handling solvents), plastics industry (for plastic moulding and plastic welding, glass fibre coating etc.), bakeries (for example when handling flour).

Fume extraction at source goes without saying for those people who have been exposed to these hazardous environments.

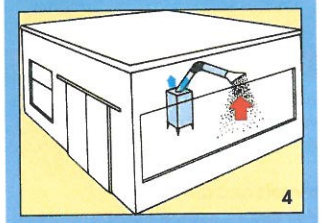
Different methods of process ventilation



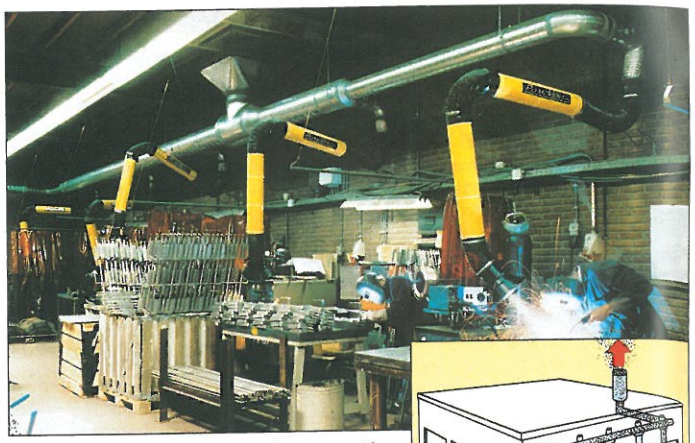
1. Natural ventilation.
Method: Doors and windows open.
Advantage: No investment.
Disadvantage: Does not directly solve problems of fumes and dust in the premises. High heat loss.



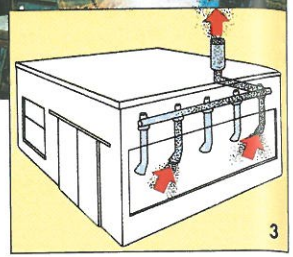
2. General ventilation with ceiling or wall mounted fans.
Method: High volume of air extracted. A welding workshop must have between 3 and 15 air changes per hour in order for this method to be effective.
Advantage: Low investment cost.
Disadvantage: People on the premises still inhale toxic fumes. Enormous heat loss.



4. Mobile fume extractor with built-in filter.
Method: Extraction at source. Can be moved to different locations.
Advantage: Very efficient. Saves energy as the air is cleaned and recirculated in the workshop. No mounting required. Quick and easy to move.
Disadvantage: Filtration units need to be either washed or replaced after a period of use.

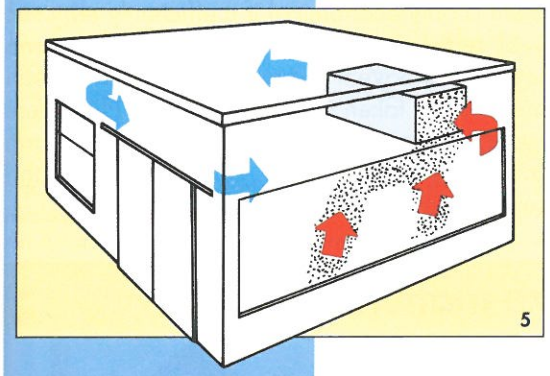


KUA-2 extraction arms connected to a central fan
Flexible extraction arms connected to a system with a central fan, which extracts the fumes out from the workshop. Control units for dampers and fans would reduce the energy loss considerably.



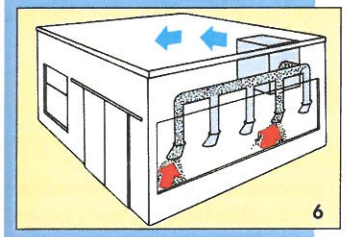
3. Wall mounted, flexible fume extractors.
Method: Pollutants are extracted at source and are not spread throughout the workshop.
Advantage: Very efficient. Concentrated pollutants are extracted at source. Small air volumes extracted and optional energy saving equipment available.
Disadvantage: Extraction hood must be positioned 25-50 cm from source. Difficult to mount in very large production areas where walls or stanchions are not close to the operation.

Mobile filter MultiFume® Caddie
A mobile filter with extraction arm, easily manouvered to the place where it is needed. A neat solution. Energysaving, as the air remains within the premises.

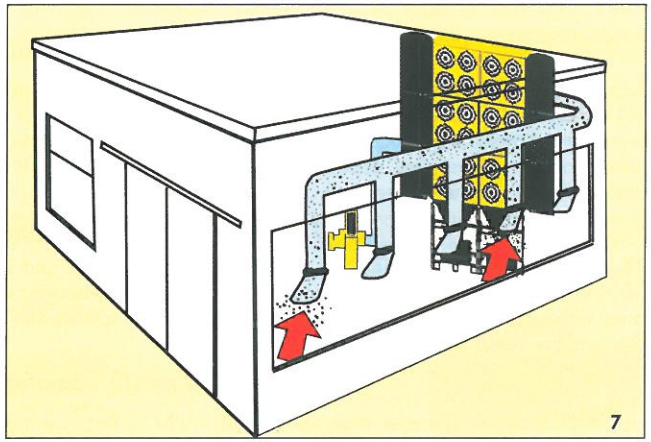


Free-hanging electrostatic filter
In premises where dust and particles cannot be extracted at source, a general filtration of the total air volume is a conceivable solution. The total air volume should be filtered 3-15 times per hour and the cleaned air may be returned to the premises without any loss of heat.

5. General ventilation with recirculation.
Method: High volume of air treated. In welding workshops the total air volume should be filtered between 3 and 15 times per hour. 100% of the air is cleaned and recirculated.
Advantage: Operators do not have to position extraction hoods. Reduces heat loss.
Disadvantage: No extraction at source. People on the premises inhale toxic fume before it is filtered. Special filters required when gases are present. All filters must be washed or replaced.



6. Wall mounted, flexible fume extractors with filtration for recirculation purposes.
Method: Extraction at source. Central system with air filtration and 100% recirculation of the heated air.
Advantage: Very efficient. Pollutants captured before they spread throughout workshop. Saves energy.
Disadvantage: Hood must be positioned by operator. Filters must be washed or replaced. Special filters required when gases are present.



7. At source fume extractors, general ventilation exhaust, demand controlled air volumes, process filtration and heat exchanger.

Method: Extraction at source and high positioned general ventilation exhaust. All air exhausted from the building filtered through process filter, demand controlled air volumes depending on usage. Energy from exhausted air is exchanged back through a heat exchanger system.

Advantage: State of art solution. Very efficient with a combination of at source capture and general ventilation exhaust. Demand controlled air volumes saves energy and dangerous gases or vapours from the process. Fresh air supply through the heat exchanger and general ventilation system at low cost.

Disadvantage: Hood must be positioned by the operator. Filters must be cleaned washed or replaced.

Oilmist filter
Can be connected to central duct systems with flexible at source extraction arms or to fixed installations, direct to machinery, so called "process ventilation".
The units can also be mounted free-hanging to circulate the air in the premises and reduce the total concentration of pollution. The cleaned air returns to the premises without any loss of heat.

Choosing Your Fume Extraction Arm

A low energy cost fume extraction system is only economical if it efficiently removes your indoor pollution. The best way of reducing potentially dangerous airborne pollutants is by capturing them at source. PlymoVent extraction arms have been designed to achieve that, however care must be taken in deciding which PlymoVent arm will best provide the solution to your problems. The ability to position an arm correctly is paramount, so is its capacity to extract efficiently. Different lengths and diameters of arm can be specific to certain processes and applications.

Why size matters

Diameter

The diameter of an arm affects airflow and 'pickup velocity' and therefore determines the process for which a certain arm is suitable.

125 mm/5", 160 mm/6", 200 mm/8" diameter

125 mm/5", 160 mm/6.3", 200 mm/8" diameter, 1000 m^3/h/588 CFM, low vacuum. Extraction arms with a relatively wide diameter will extract fumes, airborne dust and gases from an area of 0.5 m^2/5.4 ft^2, if the extraction hood is positioned 0.3 - 0.4 m/1-1.3 ft from the source. This means you can be less precise when positioning the hood. For gases and vapours the use of PlymoVent 200 mm/8" arms is recommended.

75 mm/3", 100 mm/4" diameter

75 mm/3", 100 mm/4" diameter and about 150-500 m^3/h/88-295 CFM, low vacuum. Extraction arms with a medium diameter can be used where low volumes are required, such as soldering, laboratory fumes and spot-welding. Used with a higher airflow, these arms are suitable for dust, welding in restricted spaces and oil mist applications.

Up to 50 mm/2" diameter

Up to 50 mm/2" diameter and about 150 m^3/h/88 CFM, high vacuum. Extraction arms with 'narrower diameters' or those with small nozzles will extract only at a distance of 5 - 10 cm/2-4" from the nozzle. Because the positioning of arms of this diameter must be very precise they are suitable only for portable units.

Length

The length of arm determines where it can be mounted in relation to the process and its ability to reach the areas required around your workpiece. Wall or column mounted extraction arms are always preferable, being easier to position and not subject to the wear and tear associated with portable or mobile units.

Bench work and smaller working areas (up to 2 m/6.6 ft)

Friction arms (counterbalanced) Ø 75 mm/3"
Miniman 75 (pages 14-15)
An extraction arm with friction joints and balanced movement for bench top working areas. Clear-Thru design for maximum airflow. Ideally suitable for soldering, laboratory and dust applications.

Friction arms (counterbalanced) Ø 100 mm/4"
Miniman 100 (pages 16-17)
An extraction arm with friction joints and balanced movement for limited working areas. Clear-Thru design for maximum airflow. Mostly suitable for dust, oilmist, spot and light welding applications.

Telescopic extraction arms Ø 160 mm/6.3"
Junior (pages 30-31)
An easy to use telescopic arm, needing only limited space. Suitable for bench work or work spaces with low ceilings or roofs. Specifically recommended for schools and colleges.

Medium sized working areas (2 - 4 m/6.6-13.2 ft)

Friction arms (counterbalanced) Ø 160 mm/6.3"
EconomyArm (pages 18-19)
A low cost extraction arm with friction joints and spring balanced movement for small and medium sized working areas. The EconomyArm has hose covering the length of the arm.

Friction arms (counterbalanced) Ø 160 mm/6.3"
KUA (pages 20-23)
An extraction arm with friction joints and spring balanced movement for small and medium sized working areas. Made of lightweight aluminium tubes it achieves a low pressure drop. The elbow joint is located externally, reducing internal obstructions and simplifying adjustments. Suitable for most applications.

Gas spring balanced parallelogram arms
MultiSmart® Arm (pages 26-29)
The professionals choice of fume extractors! A Clear-Thru design with all normal internal obstructions removed for a maximum airflow. The MultiSmart® Arm is supplied fully assembled. Three different diameters, 125 mm/5", 160 mm/6.3" and 200 mm/8" to meet all requirements in air volume. The MultiSmart® Arm is also available in stainless steel for applications with special requirements such as pharmaceutical, cosmetics or food industry.

Larger working areas (over 4 m/13.2 ft)

Extractor crane Plymoth® Ø 160 mm/6.3"
UK (pages 36-39)
Despite its size it is very easy to move. Ball bearing joints and a counterweight system allows for 'fingertip adjustment'. Covering a large working area it will reach behind large work pieces. You can suspend welding wire feeders and cables from the arm – moving with the arm and so saving valuable time.

Combination arms Ø 160 mm/6.3" Flex-Max (pages 32-35)
Friction arms mounted on crane arms. This is the best solution when you have to reach long distances or heights from floor level. With maximum flexibility it can also be mounted in premises with low ceiling heights.

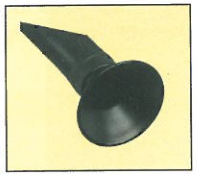
Upgrade your arm length

Extension hoses Ø 160 mm/6.3" SLE (page 40)
Extension hose with magnetic hoods. Enables you to reach further and higher. Also useful when welding inside a container or other vessel. Fits EA-, KUA-, FM- Junior and UK- arms.

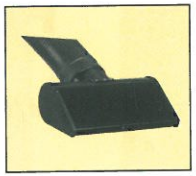
Miniman 75 mm/3"

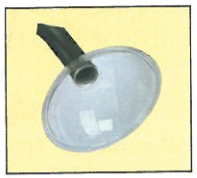
Performance in a class by itself

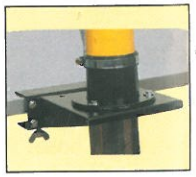
The Miniman 75 mm/3" is ideal for all types of smaller dust and fume applications. Totally free from internal mechanisms, yet easily operated and fully flexible, the Miniman provides efficiency and versatility in a class by itself.
Soldering fumes, vapours and solvents are effectively extracted at low air volumes and the unobstructed airflow allows for high air velocity, capturing coarse dust.
With efficiency, versatility and flexible operation the Miniman 75 mm/3" takes first place on the market for small extraction arms.


MM-001


MM-002


MM-003


MM-004


MM-005

Efficiency for the detailed work

The difference that counts

The unique Clear-Thru, fully flexible design gives unobstructed airflow without turbulence and excellent extraction performance with the lowest possible noise levels. It is ideal for soldering fumes, dangerous vapours and solvents, extracting efficiently, even with low air volumes.

Design for economy

Smooth airflow and the lowest possible pressure drop not only makes performance efficient, it also gives savings in the sizing of the system, less demand of fan capacity, smaller filter size and energy savings.

Tailored for versatility

The Miniman hoods/nozzle are easy to change just by loosening a clamp and tightening another hood to the arm. With the standard cut-back aluminium nozzle and the availability of steel hood w/wo light, slot nozzle and transparent hood, it is possible to tailor a solution to the specific need.

Supplied assembled

The Miniman is supplied assembled, saving installation time and eliminating any possible assembly mistakes.

No space too small

Two arm lengths, together with the possibilities of hanging or standing installations and ceiling, wall or table mounting, offer a more convenient alternative to fixed hoods and give a large working area over a workbench.

Easy operation

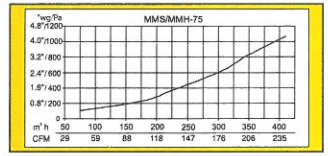
The Miniman has a gas spring supported shoulder joint (standing) and an elastic bungee cord (hanging) for smooth operation. The easily adjusted arm joints are fully external for unobstructed airflow. Universal mounting bracket is standard.

TECHNICAL DATA

Product no:	Working radius, m/ft	Weight kg/lbs	Tube/hose Ø mm/inch	Max air volume m³/h/CFM	Rec. air volume m³/h/CFM
MMS-75-10*	1,0 m	3,4 kg	Ø 75 mm	425 m³/h	100 - 250 m³/h
MMH-75-10*	1,0 m	3,4 kg	Ø 75 mm	425 m³/h	100 - 250 m³/h
MMS-75-15*	1,5 m	3,7 kg	Ø 75 mm	425 m³/h	100 - 250 m³/h
MMH-75-15*	1,5 m	3,7 kg	Ø 75 mm	425 m³/h	100 - 250 m³/h

** Also available in white (-W).*

MMS – Standing MMH – Hanging



Accessories					
MM-001*	Hood Ø 150 mm/6"	MM-003	Slot nozzle	D-75	Damper
MM-002	Hood with work light	MM-004	Transparent hood	TR-24/75	Work light transformer
		MM-005	Table bracket		

Extractor type	No of extractors	FS/FUK/FUA 1300* m³/h/CFM	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	No of extractors	FS/FUK/FUA 1300* m³/h/CFM	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM
Miniman 75 mm/3"	1				6	150/85	190/110	250/145	
	2				7		165/100	215/125	300/175
	3	275/160			8		145/85	185/110	275/160
	4	220/130	275/160		9			165/100	250/145
	5	175/100	230/135	300/175	10			150/85	230/135

Recommended fans

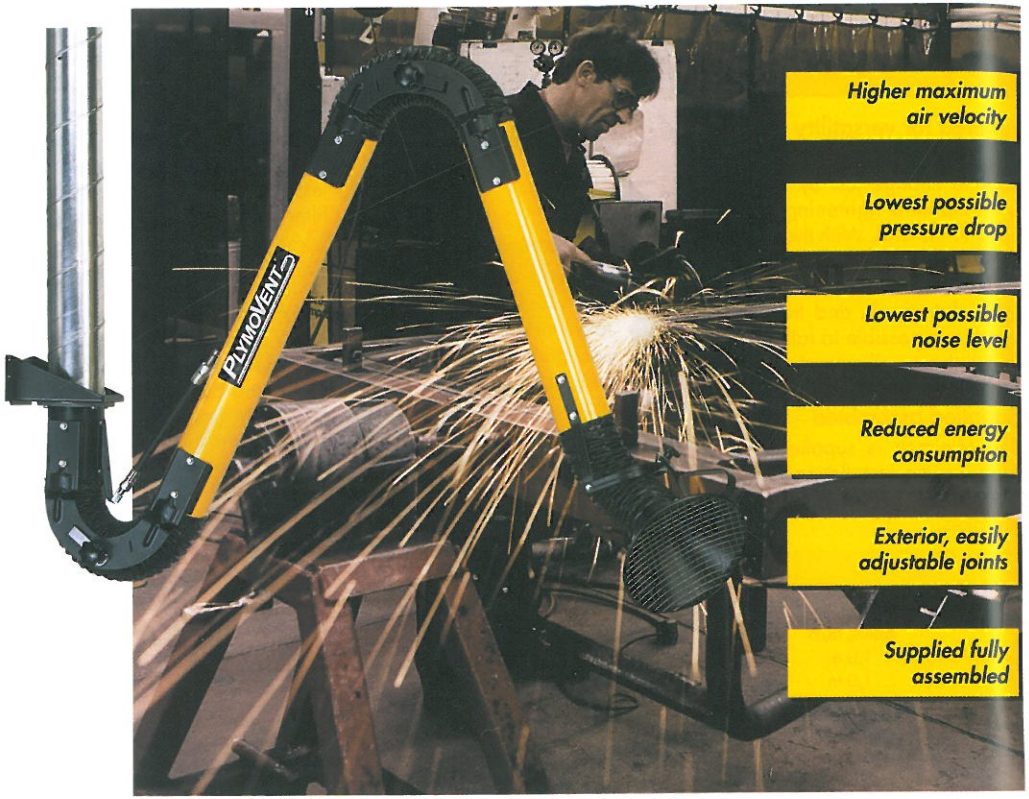
* System pressure loss 100 Pa/0.4"wg. ** System pressure loss 200 Pa/0.8"wg.

Miniman 100 mm/4"

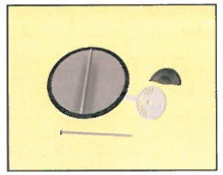
Dust extraction with true efficiency

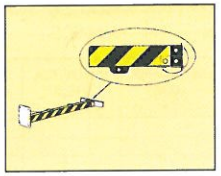
Clear-Thru, totally free from internal mechanisms, the Miniman is the high performance solution for dust applications. Grinding, polishing, slagging and other types of operations generating heavy dust are ideal for this Ø 100 mm/4" arm.

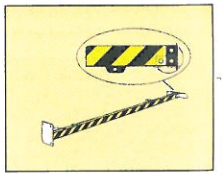
The unobstructed airflow means maximum extraction efficiency and lowest possible pressure drop. Considering the range of design benefits and quality that lasts, the Miniman 100 mm/4" is a favourite choice for the professionals.




HL-20/24-100


D-100


PA-110


PA-220

PlymoVent reserves the right to make design and technical changes.

Features tuned for Performance

Smooth and easy handling

Arm balancing support by an elastic bungee cord (hanging) or gas spring (standing) provides very positive movement characteristics. The external joints are easily adjusted for smooth operation. In hanging application the arm reaches high above its mounting height. The mounting bracket allows for 360° rotation.

Supplied assembled

Miniman 100 mm/4" is supplied assembled, saving installation time and eliminating assembly mistakes.

Efficiency at reduced air volumes

The unobstructed airflow provides effective extraction with low air volumes. This means reduced costs for installation, lower demands on filter size and fan capacity, plus energy savings.

TOPGRADE® COLLECTION
also available in stainless steel, see inside front cover

Versatility for many tasks

Mountings, either hanging or standing together with the choice of two lengths make the new arm versatile. It is equally suitable for light fume and smoke applications like soldering, where a larger capture area is desired compared to the Miniman 75 mm/3". It is also ideal for other light applications such as spot welding, TIG welding and in schools and training

Close-to-the-source exactness

The hood can easily be angled in all directions. Rubber sealed damper with accurate damper control available as accessory. The rubber sealing minimizes noise when the damper is shut and several damper positions allow fine-tuning of the airflow. A halogen light kit is also available as an accessory.

Design allowing high airflow

The 100 mm/4" Miniman is ideal for applications where a high air velocity is desired such as in grinding, polishing and slagging applications with coarse or heavy dust particles. The Clear-Thru design allows for high maximum air volume at lowest possible noise level.

TECHNICAL DATA

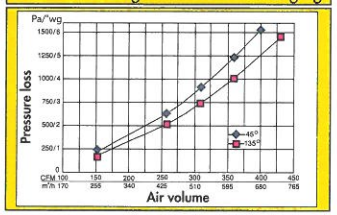
Product no:	Working radius, m/ft	Weight kg/lbs	Tube/hose Ø mm/inch	Max air volume m³/h/CFM	Rec. air volume m³/h/CFM
MMS-100-15*	1.5/5	8,6/19.0	100/4	700/420	300-500/180-295
MMH-100-15*	1.5/5	8,6/19.0	100/4	700/420	300-500/180-295
MMS-100-21*	2.1/7	9,2/20.2	100/4	700/420	300-500/180-295
MMH-100-21*	2.1/7	9,2/20.2	100/4	700/420	300-500/180-295

** Also available in white (-W).*

Accessories

HL-20/24-100	Halogen light kit	PA-110	Stanchion 110 cm/3.6'
D-100	Damper	PA-220	Stanchion 220 cm/7.2'

MMS – Standing MMH – Hanging



Extractor type	No of extractors	FS/FUK/FUA 1300* m³/h/CFM	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM
Miniman 100 mm/4"	1	600/350			
	2	425/250	500/295		
	3	275/160	350/205	500/295	
	4		265/155	400/235	525/310

Rec. fans

* System pressure loss 100 Pa/0.4"wg.

** System pressure loss 200 Pa/0.8"wg.

PlymoVent Miniman 100 mm/4" delivers unsurpassed airflow (flowrates) compared to other arm types.

EA – EconomyArm

A quality choice at a price anyone can afford

Our new value for money, extraction arm. The EconomyArm is in the low price range but gives performance and features that previously only more expensive arms could offer. A free wall bracket, ball bearing suspension, hood collar and hood are from the well known KUA arm.

Free wall bracket is included (EA-2, -3 and -4)

Ball bearing suspension

Ratchet damper standard

2 m/7 ft, 3 m/10 ft and 4 m/14 ft working radius

Detachable steel hood

PlymoVent reserves the right to make design and technical changes.

The EconomyArm is a ball-bearing suspended extraction arm that comes in 2 m/7 ft, 3 m/10 ft or 4 m/14 ft length, Ø 160 mm/6.3". The spring balanced support mechanism and the friction brakes provide an extraction arm with smooth operation within the whole working radius. The standard complementary wall bracket (EA-2, -3 and -4) has a Ø 160 mm/6.3" duct connection included but can also hold a PlymoVent FUA fan directly without any special brackets. Ball bearing suspension is standard. The support mechanism is surrounded by a high quality extraction hose. Safety mesh and ratchet air control damper in the removable hood. The hood can also be fitted with a 20 watt halogen working light. See accessories below.

The EconomyArm also comes in a standing model that fits directly to all PlymoVent mobile units.

The standing model can also be used in applications with low ceiling heights where a low mounting position is needed. For the standing model an optional wall bracket can be supplied for easy installation.

TECHNICAL DATA

Prod. no:	Working radius m/ft	Weight kg/lbs	Tube/hose diam mm/inch	Rec. airvolume m³/h/CFM
EA-2	2/7	17,0/37.4	160/6.3	800-1200/470-710
EA-3	3/10	18,5/40.7	160/6.3	800-1200/470-710
EA-3-S	3/10	15,0/33.0	160/6.3	800-1200/470-710
EA-4	4/14	20,5/45.1	160/6.3	800-1200/470-710
EA-4-S	4/14	17,0/37.4	160/6.3	800-1200/470-710

Accessories

Halogen light kit:	HL-20/24-160	
Transformer 230/24 V:	TR-24/75	
Extension columns:	PA-110 (110 cm/3.6 ft)	PA-220 (220 cm/7.2 ft)
Wall bracket:	500538 Note! Standard on EA-2, EA-3 and EA-4.	

Extractor type	No of extractors	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM	FS/FUK/FUA 4700** m³/h/CFM
EconomyArm	1	875/515	1250/735		
	2			925/545	
	3				1150/675
	4				875/515

* System pressure loss 100 Pa/0.4"wg.

** System pressure loss 200 Pa/0.8"wg.

Rec. fans

Quality from top to bottom!

The standard supplied wall bracket (EA-2,-3 and-4) has ball bearings and friction brake for long lasting and smooth operation.

Strong, slim designed support mechanism ensures stability and a minimum of restrictions.

High quality extraction hose is used for extended lifetime (wear & tear).

Hood collar with 360° ring handle and ratchet damper. Detachable spun steel hood.

KUA

A super-flexible extractor for small and medium sized work places.

PlymoVent's standard choice "KUA" is the most flexible extraction arm on the market for fume, gases and oilmist. All in all, the perfect solution technically, practically, economically and aesthetically.

Take a close look at it!

At your service.

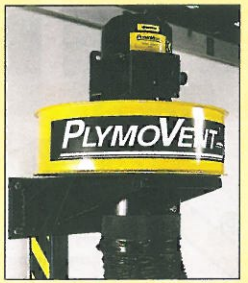
Unique to the KUA is the combination of inner and outer arms of smooth aluminium tubing connected by our unique middle joint. The external easytoadjust elbow joint, together with the spring assisted joint supported in double ballbearings, make manoeuvring of the arm a simple, one movement operation. When you move the arms – vertically and horizontally – you use PlymoVent's new, easy-to-reach ring handle.

You position the arm exactly where you want it, when you want it! The hood can be angled 110° in any direction, which makes anything possible! The KUA can even reach above its own mounting height, and can be turned through 360°. It can be folded back and put to one side according to your needs.

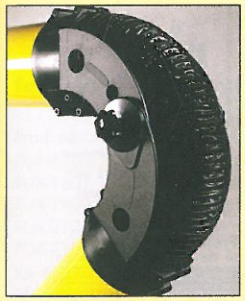
In other words, the KUA will follow you around the workplace smoothly and effectively.

Light up your work piece – use the PlymoVent 20 watt halogen lamp cartridge, HL-20/24, an accessory which complements the arm.

KUA can be mounted on a wall and also on a stanchion (PA-110 and PA- 220). The arm has ball-bearing hinges and adjustable friction brakes. Can be turned through 360°.



Three alternative fans offer you exactly the extraction capacity you need. We recommend between 800-1200 m³/h / 500-800 CFM at the hood. The fan fits easily to the mounting bracket of the arm.

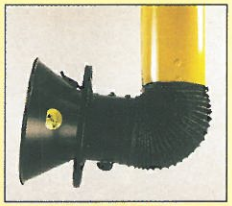


PATENTED!!!

Unique to the KUA is the external mounted middle joint. A patented innovation which makes the KUA extremely flexible and easy to adjust.

NOTE!

The smooth aluminium tubing, which replaces the hose, allows maximum airflow, increases the life span of the arm and reduces the need for servicing and maintenance.



FLEXIBLE!!!

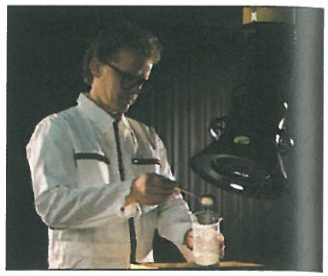
The black, anodized metal hood can be angled 110° in any direction. It is detachable, has a safety mesh and a handle for control of the damper.

The KUA is compatible with all other PlymoVent products to facilitate system solutions.

Large, ring handle which can be reached from any position. All manoeuvring is done with just one hand.





ESSENTIAL FACTS

A Wall mounting bracket with ball-bearings and inlet spigot.

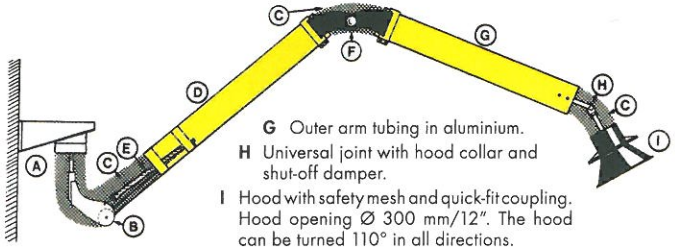
B Inner arm mounting bracket with friction pads for adjustment of tension of arm.

C Flame-proof double skin flexible hose of PVC-coated woven polyamide with internal steel spiral.

D Inner arm tubing in aluminium.

E Tensioned spring.

F External adjustable elbow joint.



G Outer arm tubing in aluminium.

H Universal joint with hood collar and shut-off damper.

I Hood with safety mesh and quick-fit coupling. Hood opening Ø 300 mm/12". The hood can be turned 110° in all directions.

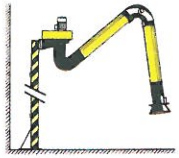
Mounting examples for KUA

Standing version, for example on a filter.

KUA with standard mounting bracket and individual fan.

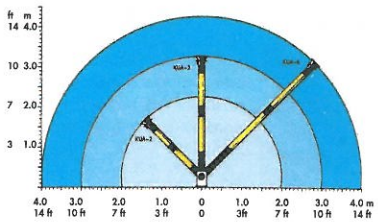
KUA wall mounted with stanchion PA-110 or PA-220.

KUA ceiling mounted with stanchion PA-110 or PA-220.

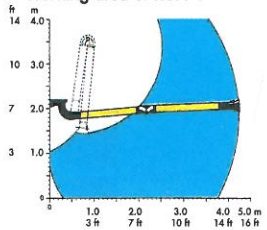


KUA floor mounted with stanchion PA-220 and individual fan.

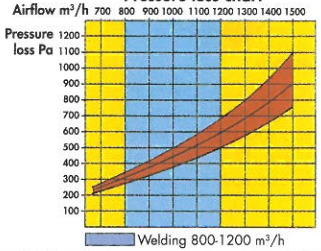
Maximum reach of KUA-2, -3, -4



Working area of KUA-4



Pressure loss chart





TECHNICAL DATA

Ball-bearing jointed extraction arms KUA

(Wall bracket, arm, hose and hood with damper included)

Prod. no:	Max working area	Hose	Rec. airflow at hood
KUA-2	2 m/7 ft	Ø 160 mm/6.3"	800-1200 m³/h/500-700 CFM
KUA-3	3 m/10 ft	Ø 160 mm/6.3"	800-1200 m³/h/500-700 CFM
KUA-4	4 m/14 ft	Ø 160 mm/6.3"	800-1200 m³/h/500-700 CFM

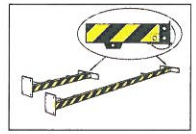
Complementary products and accessories

Halogen lamp cartridge

Prod. no:	Rating
HL-20/24	20 watt/24 V

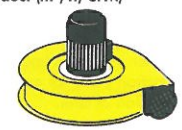
Stanchions for ceiling, floor or wall mounting

Prod. no:	Length
PA-110	110 cm/3.6 ft
PA-220	220 cm/7.2 ft



Fans for mounting directly to wall bracket (Note! The fans should be fitted with a recommended motor overload)

Prod. no:	Airflow freeblowing m³/h/CFM	Motor kW/HP	Voltage	Motor overload Amps	Motor overload Prod. no.	Approx. airflow at the hood with 10 m/30 ft outlet duct (m³/h/CFM)
FUA-1300	1400/825	0,37/0.5	3-ph	1,0-1,1	MS-1.0/2.9*	950/530
FUA-1301	1400/825	0,37/0.5	1-ph	2,7-2,8	MS-1.0/2.9*	950/530
FUA-1800	1800/1060	0,55/0.75	3-ph	1,4-1,5	MS-1.0/2.9*	1200/705
FUA-2100	2160/1270	0,75/1.0	3-ph	1,9-2,0	MS-1.0/2.9*	1300/765
FUA-2101	2160/1270	0,75/1.0	1-ph	5,0-5,2	MS-3.7/12.0*	1300/765



For fans mountings and central fans, please see pages, see pages 42-47 and 82-85.
*For installation in starter panel.

Extractor type	No of extractors	FS/FUK/FUA 1300* m³/h/CFM	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM	FS/FUK/FUA 4700** m³/h/CFM
KUA	1	800/470	1000/590	1350/795		
	2				1025/600	
	3					1225/720
	4					925/545

Rec. fans

* System pressure loss 100 Pa/0.4"wg.

** System pressure loss 200 Pa/0.8"wg.

Traversing KUA – arm on extraction rail

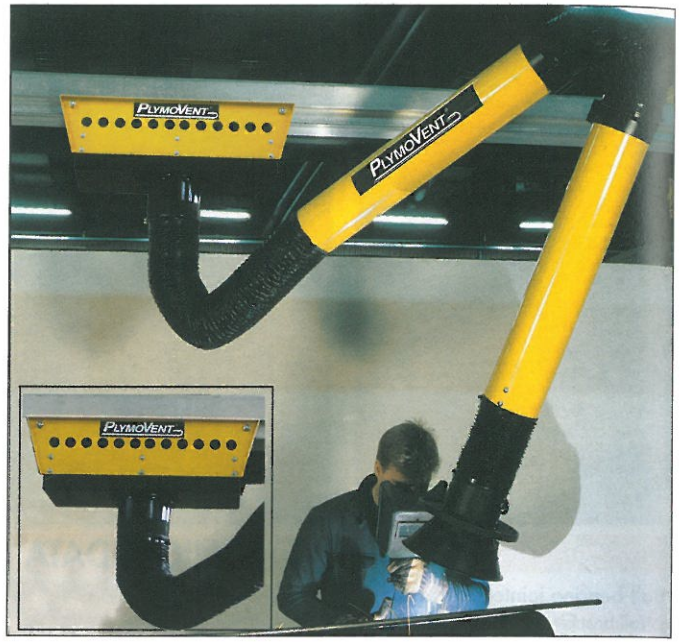
Super flexible extractor for extraction over large working areas or where no permanent work places exist.

PlymoVent's KUA on an extraction rail is a unique product combination, where the most flexible extractor arm on the market has been mounted on a carriage, that allows it to run along an extraction rail.

The KUA-arm is technically, economically and aesthetically the perfect solution for small and medium sized work places.

Together with the extraction rail, the KUA-arm is not only the most flexible extractor on the market for fume and gases, but it also has a reach that is only limited by the length of the rail. Ideal where no permanent work places exist or for extended working areas.

The KUA can rotate through 360° and has a reach in radius of up to 4 m, either side of the extraction rail.



New compact crab

A completely new crab with compact overall dimensions makes it easy to fit in even with limited space available. New low friction rubber seals made it possible to design a completely new crab with a big area suction cone and still improve operation smoothness. The design of the cone eliminates air leakage and its big area on the suction cone results in low pressure drop and higher efficiency on your installation.

New low friction rubber seals

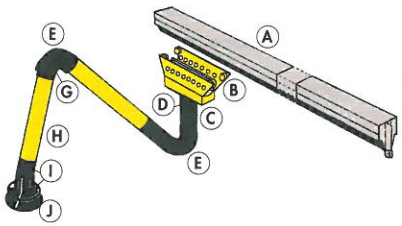
New low friction rubber seals, in combination with the new crab provides a superior smoothness and an ease of operation never seen before.

Upgrade existing systems

The new crab and rubber seals can of course be used to upgrade existing systems for smoother operation and increased suction performance thanks to the lower restrictions and lower leakage over the suction cone.

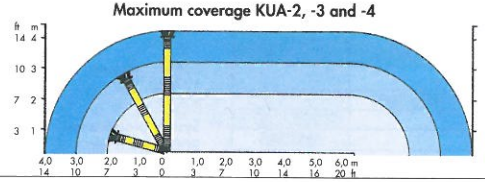
ESSENTIAL FACTS

- **A** Extraction rail with self-sealing low friction rubber mouldings.
- **B** Mobile carriage with cone and swivel joint.
- **C** Wall mounting bracket will ball-bearings.
- **D** Inner arm mounting bracket with friction pads for adjustment of tension of arm.

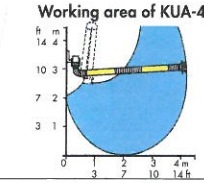


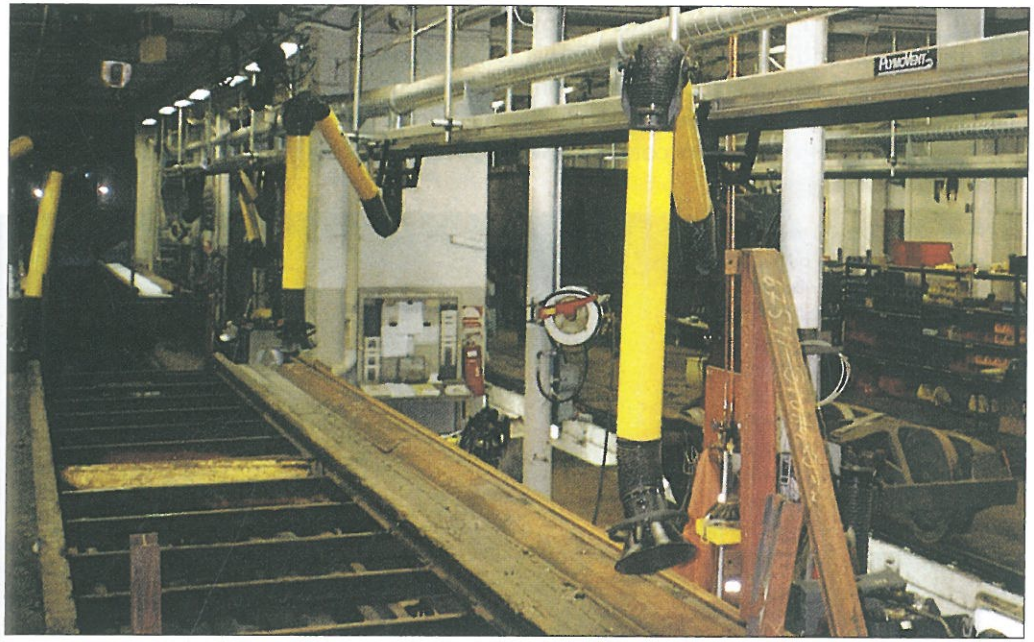
- **E** Flame-proof double skin flexible hose, PVC-coated woven polyamide and internal steel spiral.
- **F** Aluminium inner arm tube.
- **G** External adjustable elbow joint.
- **H** Aluminium outer arm tube.
- **I** Universal joint with hood collar and shut-off damper.
- **J** Hood with safety mesh and quick-fit coupling. Hood opening Ø 300 mm/11.8".

Maximum coverage KUA-2, -3 and -4



Working area of KUA-4





Superior flexibility

The extraction rail consists of extruded aluminium profile in lengths of 5,8 m/19 ft, for ceiling or wall mounting. Different lengths can be connected to suit individual requirements.

The KUA-arm is mounted on a carriage, which runs along the aluminium profile. When the carriage is moving a suction cone slides between sealing rubber mouldings which are held in a slot on the underside of the profile. Through the KUA-arm via the suction cone fume and gases are sucked away into the extraction rail.

TECHNICAL DATA

Extraction arm on extraction rail

Prod. no:	Equipment
ERC-5.8	Extraction Rail ERC-5.8 consists of; 1 pc Extraction Rail 5.8 m/19' VSR/ER rail without Low Friction Rubber Seal (ER-5.8), 12 m/39' Low Friction Extraction Rail Rubber Seal (ERRS-X), 1 pc Extraction Rail Connection End 160 mm/6.3" (ERCE-160), 1 pc Extraction Rail End Cap (EREC), 4 pcs Extraction Rail Support Vertical (ERSV), 1 pc Extraction Rail Crab 160 mm/6.3" (ERC-160), 2 pcs Extraction Rail Crab Stop (ERCS).

Note! The KUA-arm has to be ordered separately!

Ball-bearing jointed extraction arms KUA

Prod. no:	Description
KUA-2	Ball-bearing extraction arm, length 2 m/7 ft
KUA-3	Ball-bearing extraction arm, length 3 m/10 ft
KUA-4	Ball-bearing extraction arm, length 4 m/14 ft

Parts for custom design

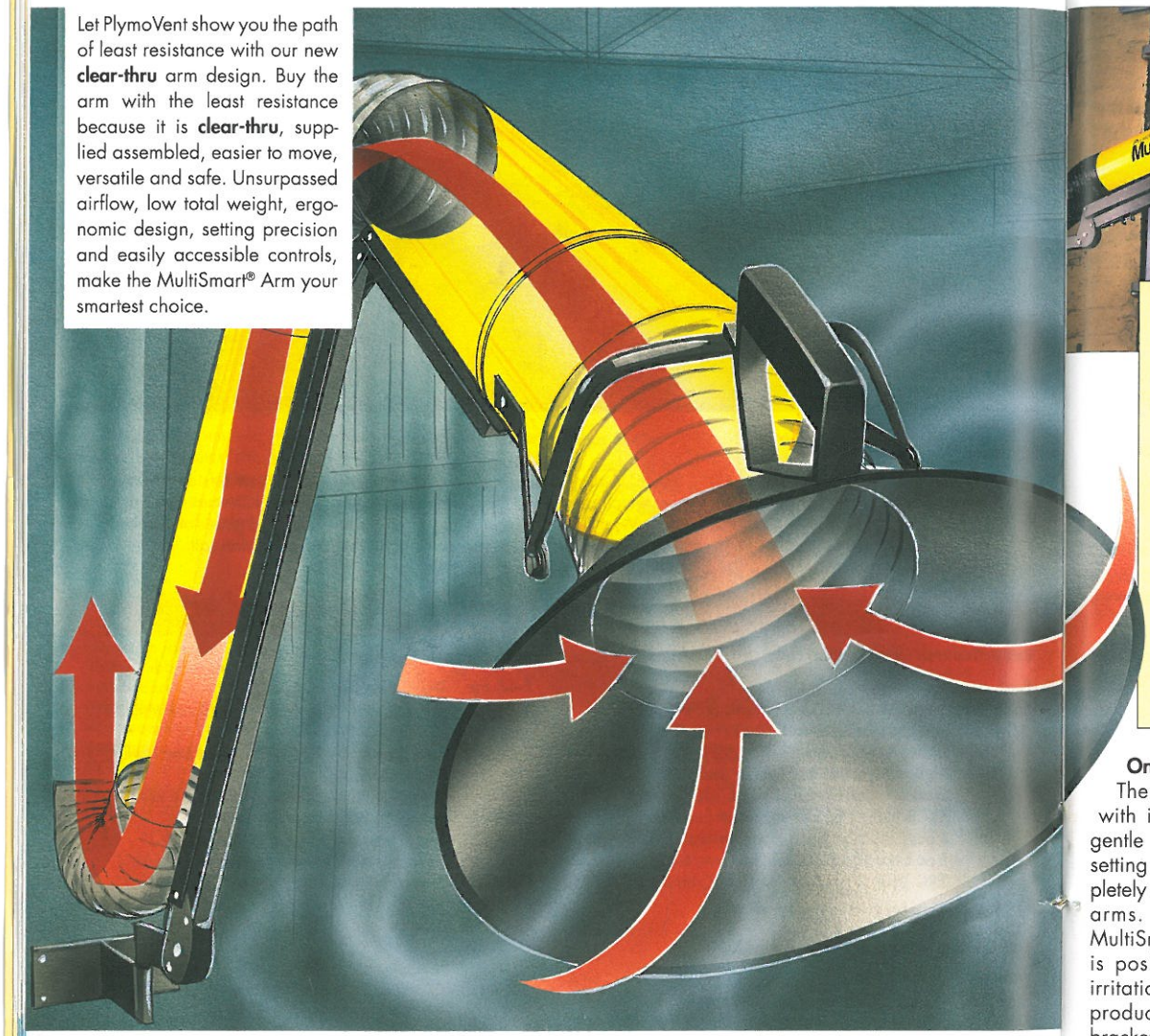
Prod. no:	Description
ER-5.8	Extraction Rail 5.8 m/19' VSR/ER rail without Low Friction Rubber Seal.
ER-X	Extraction Rail VSR/ER rail without Low Friction Rubber Seal, ordered by the meter.
ERS	Extraction Rail Splice, for jointing rails together.
ERSV	Extraction Rail Support Vertical.
ERCE-160	End connection adapter, Ø 160 mm/6.3"
EREC	Extraction Rail Connection End 160 mm/6.3"
ERCT-160	Extraction Rail Connection Top 160 mm/6.3"
ERRS-X	Low Friction Extraction Rail Rubber Seal, ordered by the meter.
ERC-160	Extraction Rail Crab 160 mm/6.3" for mounting of KUA-arm
ERCS	Extraction Rail Crab Stop

MSA – MultiSmart® Arm

The invisible difference!

It is clear-thru. PlymoVent has removed all the typical obstructions that increase resistance and decrease airflow. This is one feature no other arm can offer. The MultiSmart® Arm is smoother, safer and more economical. The patent pending safety encased arm mechanism is outside the airstream. The mechanism produces "One Touch" smooth movement combined with outstanding stability. PlymoVent MultiSmart® Arm is simply the best!

Let PlymoVent show you the path of least resistance with our new **clear-thru** arm design. Buy the arm with the least resistance because it is **clear-thru**, supplied assembled, easier to move, versatile and safe. Unsurpassed airflow, low total weight, ergonomic design, setting precision and easily accessible controls, make the MultiSmart® Arm your smartest choice.

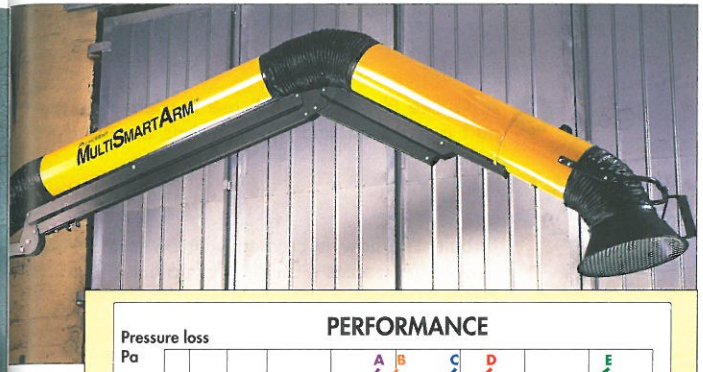


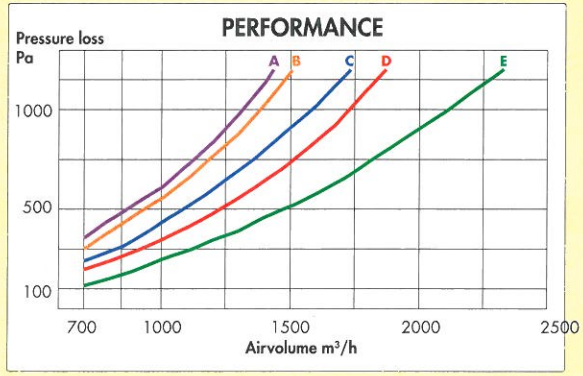
PlymoVent reserves the right to make design and technical changes.

Clear-Thru

The invisible difference that makes the real difference is that there is nothing inside. This allows for a completely uninterrupted airflow and the lowest pressure loss. Maintaining a high airflow without turbulence eliminates the build up of particulate and reduces the cost of maintenance.

A removable and washable debris screen is mounted in the face of the hood. This assures that unwanted foreign materials are not transported into your system which could cause fire or reduced airflow.





PlymoVent MultiSmart® Arm delivers unequal air-flow (flowrates) compared to competitors. Information about the different armtypes are shown on the next spread.

One touch smoothness

The MultiSmart® Arm design with its confident, smooth and gentle movements and its unique setting precision has set a completely new standard for extraction arms. We guarantee that the MultiSmart® Arm stays where it is positioned. This causes less irritation and increased worker productivity. The wall-mounting bracket is provided with every arm and includes sealed ball bearings and axle technology, which allow smooth, drag free movement.

Available in two lengths and three different diameters

Two lengths	Three diameters
3 m/10 ft	Ø 125 mm/5"
4 m/14 ft	Ø 160 mm/6.3"
	Ø 200 mm/8"

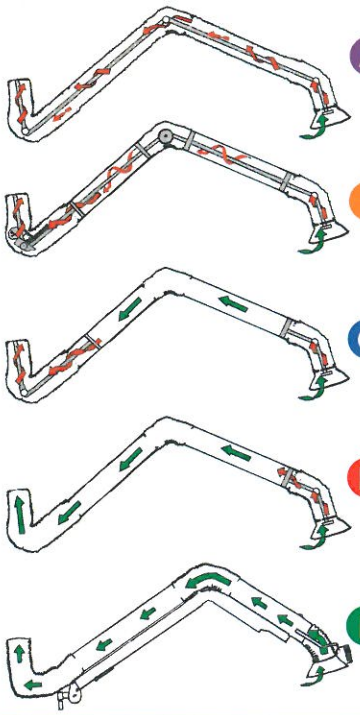
Quality from top to bottom!

Patented adjustable shoulder joint allows only PlymoVent the ability to utilize the same arm for both hanging or standing applications.

Shown above the extended wallmount which, together with other stock mounts, offers almost unlimited installation alternatives.

Swivelhood handle can be reached from anywhere and provides the operator with smoother hood placement, greater positioning handle accessibility and totally external friction adjustments.

The Invisible difference – that makes the real difference



A Full internal support mechanism with continuous hose develops maximum resistance and turbulence to the airflow.

B The hose is partly exchanged with tubes. Gives slightly less turbulence.

C Arms like PlymoVent KUA use the tubes as support mechanism and therefore has an improved airflow.

D Turbulent airflow is created with an inside hood joint which creates a build up of particles and less airflow. This eliminates its use in sterile and sanitary applications.

E The CLEAR-THRU design maximizes airflow and reduces resistance. ***THIS IS YOUR BEST CHOICE!***

ESSENTIAL FACTS

- PlymoVent's CLEAR-THRU de-sign guarantees that the Multi-Smart® Arm will provide the user with maximum airflow and minimum resistance which will reduce energy consumption by reducing fan motor power.
- The CLEAR-THRU design, exclusive only to PlymoVent Multi-Smart® Arm, has eliminated all unwanted airflow interference which is commonly experienced in other designs.
- The hood connection hose has been reduced in length to minimize reduction in airflow, contaminant build up and lower replacement cost in critical environments.
- The steel hood and the handle makes the arm robust and stable.
- The entire mounting is safely encased making the work area safe from squeezing accidents etc.
- Our Arm is not only designed to protect the workers environment. It also has built-in safety features to protect the workers themselves.
- Smooth aluminium tubing makes MultiSmart® Arm light and strong.
- Strong mounting makes the MultiSmart® Arm almost indestructible.
- Specially developed gas springs make it possible for you to steer the MultiSmart® Arm with one finger – One Touch.
- Simple installation and replacement procedures reduce your costs.
- Available in 3 m/10 ft and 4 m/14 ft and in three diameters: Ø 125 mm/5", Ø 160 mm/6.3" and Ø 200 mm/8".
- It is clear to see the difference between the MultiSmart® Arm and the competition. In a clear stream comparison, posotion both arms out straight. – Can you see clear thru ? If not, it's clear your choice should be PlymoVent MultiSmart® Arm.

PlymoVent reserves the right to make design and technical changes.

Supplied assembled

MultiSmart® Arm is delivered to your door fully assembled, saving you installation time and money in the field. Even the joints are preadjusted to perfection. Other manufacturers provide their products to you in parts which could require one to three hours of your time to build their product. Avoid assembly mistakes, buy a product that is already assembled.

Safety encased parallelogram arm

Our patent pending fully safety encased external parallelogram construction gives an uninterrupted airflow and optimum safety. Other arms only offer unprotected spring or scissor type mechanisms which can pinch fingers and hands. Our external arm chassis, which cradles the arm tubes, provides an extremely strong support which gives MultiSmart® Arm outstanding stability and balance.

No fine tuning

Balance friction control working in harmony with the operator allowing adjustment of the arm to the desired settings of movement.

The secret lies in special gas springs with pre-set positions, allowing a unique One Touch position exactness.

TECHNICAL DATA

Painted construction Product no:	Working radius:	Weight:	Tube/hose diam:	Max airvolume m³/h/CFM	Max airvolume m³/h/CFM
MSA-125-3	3 m/10 ft	22,5 kg/49.5 lbs	Ø 125 mm/5"	800/470	400-700/240-410
MSA-125-4	4 m/14 ft	27,5 kg/60.5 lbs	Ø 125 mm/5"	800/470	400-700/240-410
MSA-160-3	3 m/10 ft	23,3 kg/51.3 lbs	Ø 160 mm/6.3"	1500/890	800-1400/470-820
MSA-160-4	4 m/14 ft	28,6 kg/62.9 lbs	Ø 160 mm/6.3"	1500/890	800-1400/470-820
MSA-200-3	3 m/10 ft	24,6 kg/54.2 lbs	Ø 200 mm/8"	2100/1240	1300-2000/770-1180
MSA-200-4	4 m/14 ft	30,3 kg/66.7 lbs	Ø 200 mm/8"	2100/1240	1300-2000/770-1180

Accessories Product no:	Halogen light:	Damper:	SmartArmExtension from 3-4 m/10-14 ft:	Extension from 4-5 m/14-17 ft:	Extension from 4-6 m/14-20 ft:
MSA-125-3/-4	HL-20/24-125	D-125	SAE-125-4	PA-110	PA-220
MSA-160-3/-4	HL-20/24-160	D-160	SAE-160-4	PA-110	PA-220
MSA-200-3/-4	HL-20/24-200	D-200	SAE-200-4	PA-110	PA-220

Extractor type	No. of extractors	FS/FUK/FUA 1300* m³/h/CFM	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM	FS/FUK/FUA 4700** m³/h/CFM
MSA Ø 125 mm/5"	1	800/470	900/530			
	2			800/470		
	3				825/485	
	4					800/470
	5					700/410

Extractor type	No. of extractors	FS/FUK/FUA 1300* m³/h/CFM	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM	FS/FUK/FUA 4700** m³/h/CFM
MSA Ø 160 mm/6.3"	1	900/530	1100/650	1300/765		
	2				1100/650	
	3					1275/750
	4					975/575

Extractor type	No. of extractors	FS/FUK/FUA 1300* m³/h/CFM	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM	FS/FUK/FUA 4700** m³/h/CFM
MSA Ø 200 mm/8"	1			1700/1000	2000/1175	
	2					1800/1060

* System pressure loss 100 Pa/0.4"wg.

** System pressure loss 200 Pa/0.8"wg.

Recommended fans

LM-2 – PlymoVent Junior

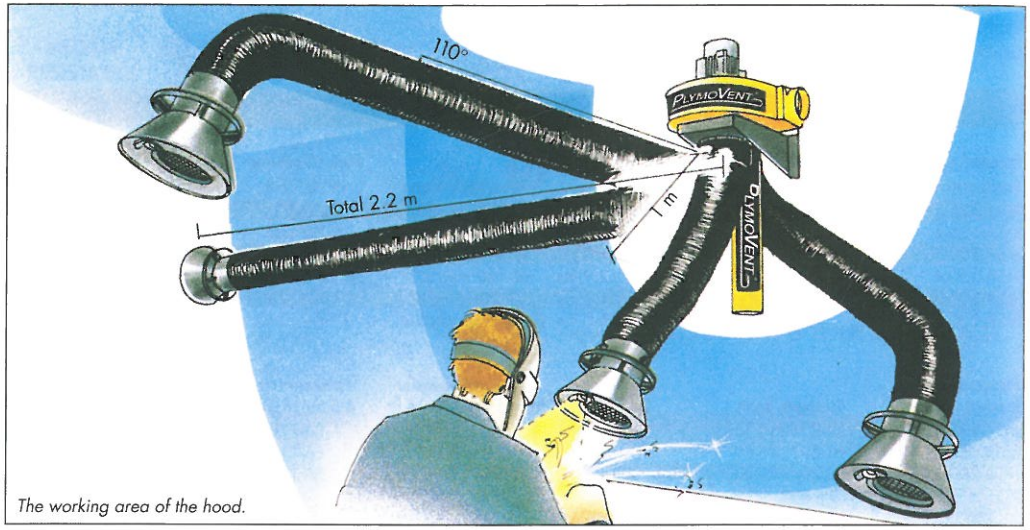
Compact and handy extractor for small work places.

PlymoVent Junior will soon become your close friend and working partner. Specially designed for schools, colleges, small working booths and areas with low ceiling. An efficient, versatile benchwork extractor, always at hand and easy to reach.

Single handed.

Why not get yourself the best benchwork extractor on the market - the one already chosen by many schools and colleges! The Junior is incredibly easy to move. So easy that you can position the hood anywhere within the whole working radius, with just your index finger! That's no exaggeration - try it yourself!

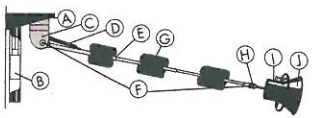
ESSENTIAL FACTS



The working area of the hood.

PlymoVent Junior works according to the "telescope" principle. The extraction arm has a springbalanced telescopic tube with a counterweight. It can be extended and contracted concertinafashion and can be angled and positioned exactly as required.

- You can alter the Junior's working radius, within 2 m/7 ft, in one simple movement. And it will stay exactly where you put it.
- The arm can be turned easily and smoothly through 300° due to PlymoVent's famous ball-bearing joint with adjustable friction brake in the mounting bracket.
- The arm is manoeuvred from the hood, which itself can be angled 110° in any direction by means of the large ring handle.
- The arm flow at the hood is easily controlled by a built-in damper.
- A powerful 20 watt halogen lamp cartridge can be fitted to the hood, to provide illumination to the work place.
- The length of the arm can be easily extended by removal of the hood and attachment of an extension hose.
- For fans to be used with the Junior please see PlymoVent's complete program.



A Wall mounting bracket with ball-bearings and inlet spigot Ø 160 mm/6.3".
B Counterweight and counterweight tube.
C Arm bracket.
D Tensioned spring.
E Three-part square-section telescopic tube with nylon bushes.
F Joints with friction pads for adjustment of tension of arm.
G Flame-proof double skin flexible hose of PVC-coated woven polyamide with internal steel spiral.
H Universal joint.
I Hood collar with manual shut-off damper.
J Hood with safety mesh and quick-fit coupling. Hood opening Ø 300 mm/11.8". Can be turned 110° in all directions.

TECHNICAL DATA

Junior LM-2 (wallbracket, arm, hose and hood with damper included)

Prod. no:	Max length:	Min length:	Hose:	Rec. airflow at the hood:
LM-2	2.0 m/7 ft	1.0 m/3 ft	Ø 160 mm/6.3"	800 - 1200 m³/h/500-700 CFM

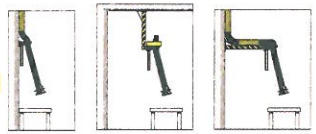
Complementary products and accessories

Halogen lamp cartridges

Prod. no:	Rating
SK-20/24	20 watt/24 V

Stanchions for ceiling, floor or wall mounting

Prod. no:	Length
PA-110	110 cm/3.6 ft
PA-220	220 cm/7.2 ft



Fans for mounting directly to wall bracket

(Note! The fans should be fitted with recommended motor overload)

Prod. no:	Airflow freeblowing m³/h/CFM	Motor kW/HP:	Voltage:	Motor overload Amps:	Motor overload Prod. no:	Approx. airflow at the hood with 10 m/30 ft outlet duct, m³/h/CFM
FUA-1300	1400/825	0,37/0.5	400, 3-ph	1,0 - 1,1	MS-1.0/2.9*	900/530
FUA-1301	1400/825	0,37/0.5	230, 1-ph	2,7 - 2,8	MS-1.0/2.9*	900/530
FUA-1800	18001060	0,55/0.75	400, 3-ph	1,4 - 1,5	MS-1.0/2.9*	1200/705
FUA-2100	2160/1270	0,75/1.0	400, 3-ph	1,9 - 2,0	MS-1.0/2.9*	1300/765
FUA-2101	2160/1270	0,75/1.0	230, 1-ph	5,0 - 5,2	MS-3.7/12.0*	1300/765

** For installation in PlymoVent starterpanel.*

Extractor type	No. of extractors	FS/FUK/FUA 1300* m³/h/CFM	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM	FS/FUK/FUA 4700** m³/h/CFM
Junior	1	900/530	1100/650	1300/765		
	2				1100/650	
	3					1275/750
	4					975/575

* System pressure loss 100 Pa/0.4"wg.

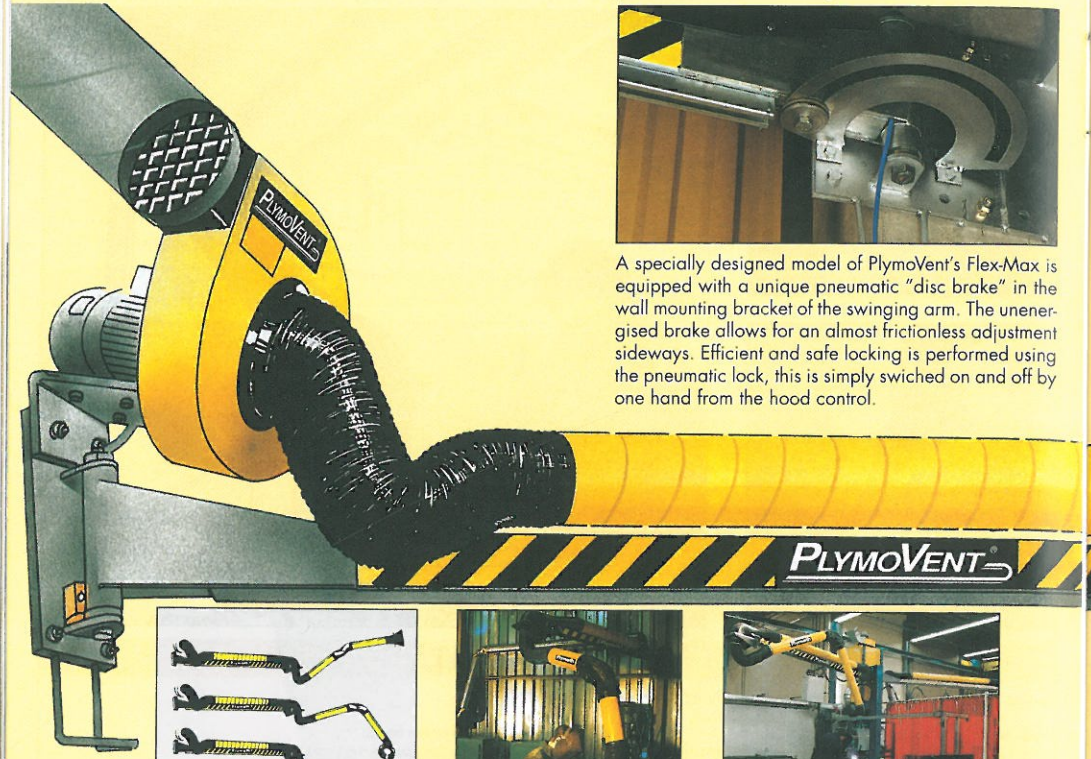
** System pressure loss 200 Pa/0.8"wg.

Recommended fans

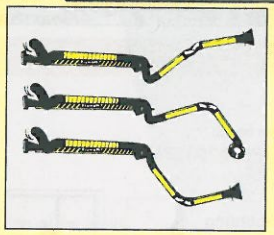
* System pressure loss 100 Pa. ** System pressure loss 200 Pa.

FM – PlymoVent Flex-Max

At last a fume extractor that reaches all the way, even into the tightest corners.



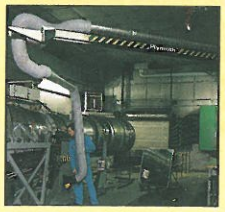
A specially designed model of PlymoVent's Flex-Max is equipped with a unique pneumatic "disc brake" in the wall mounting bracket of the swinging arm. The unenergised brake allows for an almost frictionless adjustment sideways. Efficient and safe locking is performed using the pneumatic lock, this is simply swiched on and off by one hand from the hood control.



Thanks to its patented ball-bearing joints Flex-Max is easy to move and can be adjusted to reach all those awkward spots in the working areas.

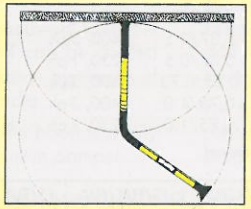
Through its unique construction, Flex-Max can also be mounted in areas with a low ceiling, or where you simply want a low mounting height.

The hood can be positioned in one simple movement anywhere within a radius of about 9 m/30 ft and up to 8 m/26 ft in height (largest model).

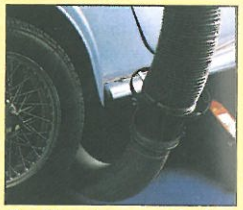


Flex-Max at work at the Aircraft motor Division of the Volvo Company.

Flex-Max is light but very robust. The inner arm can carry tools and accessories up to 50 kg/110 lbs in weight. In spite of the heavy load, the arm is very easy to move, thanks to the patented ball-bearing joints.



The outer arm is PlymoVent's new ball-bearing KUA arm. It can be positioned in one simple movement within its total reach and can be turned through 360°.



Flex-Max is unmatched in its ability to reach into and under work-pieces – very handy when you are welding on cars, inside containers etc. Shown here with extension FSL-1.

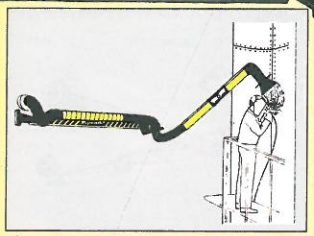
Flex-Max is the perfect extractor for those "awkward spots" and areas with a low ceiling. It is unmatched in its ability to reach to high positions and locations far from the arm's mounting position. Very handy when it comes to reaching into and under work pieces, or when you need to mount the arm at a lower height.

Maximum working area
Just as the name implies, Flex-Max gives maximum flexibility in the whole working area. The unique construction of the arm, with no fewer than five adjustable joints, two of which are ball-bearing mounted, makes positioning quick and simple. This enables the extractor to work efficiently even under the most difficult conditions and in restricted space.

Quality at an unbeatable price
One of the most pleasant surprises will surely be the price. In spite of the fact that Flex-Max is an advanced extractor, its price will bring a fume-free working environment within everyone's price range.

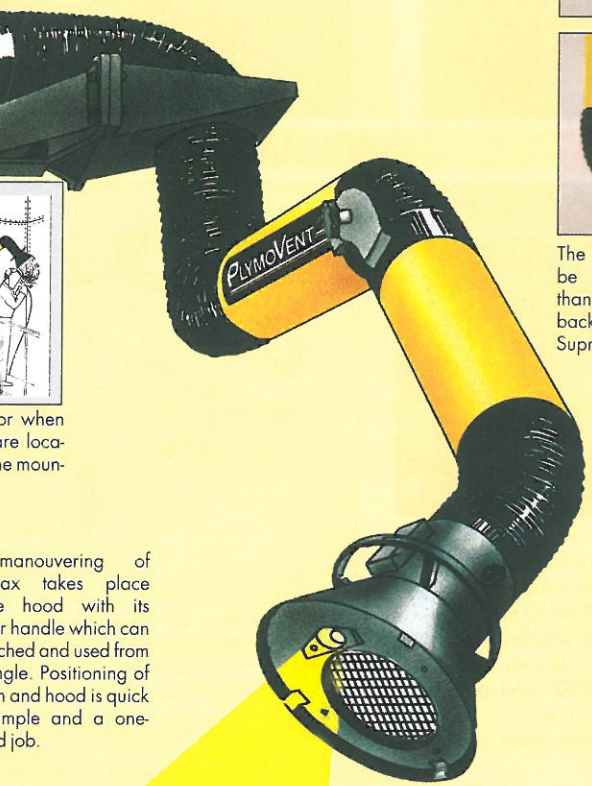
PlymoVent offers you a clean working environment at the right price.

The extractor hood can be angled through more than 110° – forwards, backwards and sideways. Supreme flexibility.



Flex-Max is the ideal extractor when welding high objects which are located either close to or far from the mounting point of the arm.

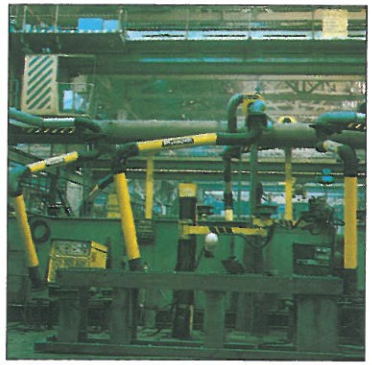
All manouvering of Flex-Max takes place at the hood with its circular handle which can be reached and used from any angle. Positioning of the arm and hood is quick and simple and a one-handed job.

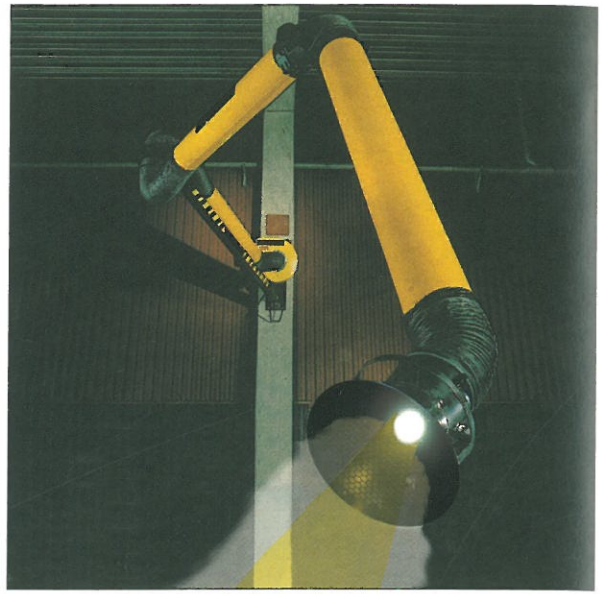


Light up your work piece – use the PlymoVent 20 watt halogen lamp cartridge, HL-20/24, an accessory which complements the arm.

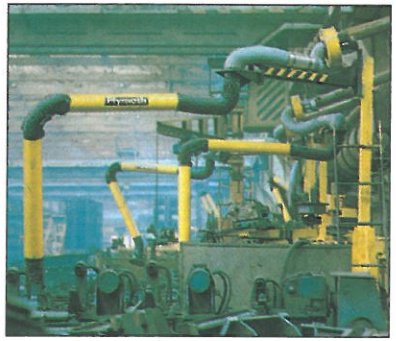
Flex-Max reaches areas that other extractors can't

Flex-Max consists of an inner arm and an outer arm, which are both hinged in ball-bearings. The outer arm has three adjustable joints. This design and construction makes it so easy for you to position the arm just where you want it, in one swift movement. It can be mounted at any height – high or low.





ESSENTIAL FACTS

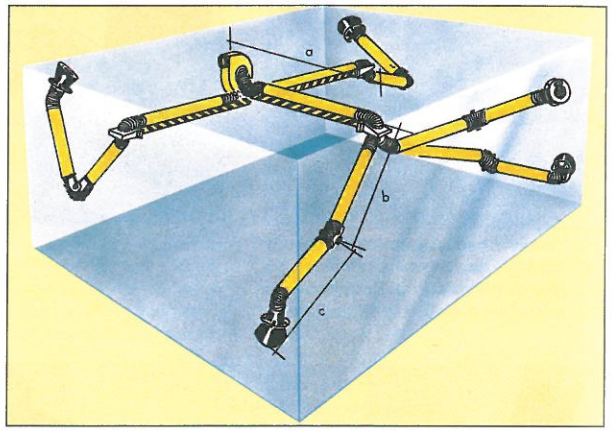


The inner arm, from which you can suspend up to 50 kg/110 lbs in weight, tools, equipment etc., comes in 4 different lengths from 1.5 m/5 ft to 4.5 m/15 ft.

The outer arm is available in 3 lengths 2 m/7 ft, 3 m/10 ft and 4 m/14 ft. It can be turned through 360° and positioned anywhere within its radius.

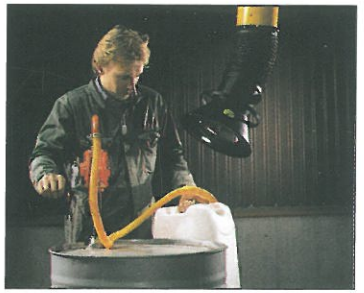
All manoeuvring takes place at the hood with one hand only.

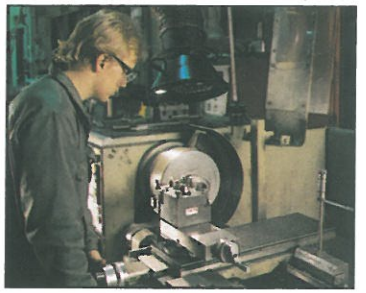
Together these two arms make Flex-Max, the extractor with maximum flexibility with a reach for all needs anywhere from 0 to 9 m/30 ft.



Prod. no:	a	b	c
FM-1520	1576 mm/62.1"	1314 mm/51.7"	1023 mm/40.3"
FM-1530	1576 mm/62.1"	1894 mm/74.6"	1473 mm/58.0"
FM-1540	1576 mm/62.1"	2239 mm/88.2"	1818 mm/71.6"
FM-2520	2576 mm/101.4"	1314 mm/51.7"	1023 mm/40.3"
FM-2530	2576 mm/101.4"	1894 mm/74.6"	1473 mm/58.0"
FM-2540	2576 mm/101.4"	2239 mm/88.2"	1818 mm/71.6"
FM-3520	3588 mm/141.3"	1314 mm/51.7"	1023 mm/40.3"
FM-3530	3588 mm/141.3"	1894 mm/74.6"	1473 mm/58.0"
FM-3540	3588 mm/141.3"	2239 mm/88.2"	1818 mm/71.6"
FM-4520	4588 mm/180.6"	1314 mm/51.7"	1023 mm/40.3"
FM-4530	4588 mm/180.6"	1894 mm/74.6"	1473 mm/58.0"
FM-4540	4588 mm/180.6"	2239 mm/88.2"	1818 mm/71.6"

Flex-Max connected directly to PlymoVent's EF-filter.





TECHNICAL DATA

PlymoVent Flex-Max (Wall bracket, arm, hose and hood with damper included)

Prod. no:	Max workingradius:	Hose Ø:	Total weight:	Rec. mounting height:	Rec. airflow at hood:
FM-1520	4.0 m/13 ft	160 mm/6.3"	46 kg/101 lbs	2.0-3.0 m/7-10 ft	800-1200 m³/h/500-700 CFM
FM-1530	4.9 m/16 ft	160 mm/6.3"	48 kg/106 lbs	2.0-4.0 m/7-14 ft	800-1200 m³/h/500-700 CFM
FM-1540	5.8 m/19 ft	160 mm/6.3"	50 kg/110 lbs	2.5-5.0 m/8-16 ft	800-1200 m³/h/500-700 CFM
FM-2520	5.0 m/16 ft	160 mm/6.3"	58 kg/128 lbs	2.0-3.0 m/7-10 ft	800-1200 m³/h/500-700 CFM
FM-2530	5.9 m/19 ft	160 mm/6.3"	60 kg/132 lbs	2.0-4.0 m/7-14 ft	800-1200 m³/h/500-700 CFM
FM-2540	6.8 m/22 ft	160 mm/6.3"	62 kg/137 lbs	2.5-5.0 m/8-16 ft	800-1200 m³/h/500-700 CFM
FM-3520	6.0 m/19 ft	160 mm/6.3"	79 kg/174 lbs	2.0-3.0 m/7-10 ft	800-1200 m³/h/500-700 CFM
FM-3530	6.9 m/23 ft	160 mm/6.3"	81 kg/179 lbs	2.0-4.0 m/7-14 ft	800-1200 m³/h/500-700 CFM
FM-3540	7.8 m/25 ft	160 mm/6.3"	83 kg/183 lbs	2.5-5.0 m/8-16 ft	800-1200 m³/h/500-700 CFM
FM-4520	7.0 m/23 ft	160 mm/6.3"	91 kg/200 lbs	2.0-3.0 m/7-10 ft	800-1200 m³/h/500-700 CFM
FM-4530	7.9 m/26 ft	160 mm/6.3"	93 kg/205 lbs	2.0-4.0 m/7-14 ft	800-1200 m³/h/500-700 CFM
FM-4540	8.8 m/30 ft	160 mm/6.3"	95 kg/209 lbs	2.5-5.0 m/8-16 ft	800-1200 m³/h/500-700 CFM

Fans for mounting directly to the wall bracket
(Note! The fans must be fitted with relevant motor overload)

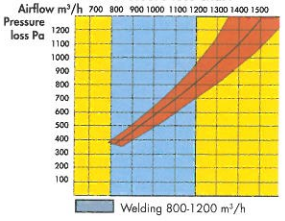
Prod. no:	Airflow freeblowing m³/h/CFM	Motor kW/HP	Voltage:	Overload Amps:	Overload Prod. no:	Approx. airflow at the hood with 10 m/30 ft outlet duct, m³/h/CFM
FUK-1800	1800/1060	0,55/0.75	3-ph	1,4 - 1,5	MS-1.0/2.9*	750/440
FUK-2100	2160/1270	0,75/1.0	3-ph	1,9 - 2,0	MS-1.0/2.9*	1000/590
FUK-2101	2160/1270	0,75/1.0	1-ph	5,0 - 5,2	MS-3.7/12.0*	1000/590

** To be fitted in PlymoVent starter panel. For other installations, please contact customer service.*

Extractor type	No of extractors	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM	FS/FUK/FUA 4700** m³/h/CFM
Flex-Max	1	800/470	1100/650		
	2			875/515	
	3				1100/650
	4				825/485

Rec. fans

Pressure loss chart



* System pressure loss 100 Pa/0.4"wg.
** System pressure loss 200 Pa/0.8"wg.

UK – PlymoVent Extractor crane – Plymoth®

A heavy-weight extractor to handle a heavy-weight problem.

PlymoVent Extractor Crane – Plymoth® is a combined extractor and suspension arm for tools. A proven all-in-one solution for both removing fumes from the working environment and suspending your workshop equipment which will move around with you. Perfect for the heavy industrial environment including welding workshops, the motor, plastics and chemical industries.

50 kg/110 lbs can be suspended from the inner arm which has a sliding services rail. 10 kg/22 lbs can be suspended from the outer arm. Perfect for tools etc.

A robust, far-reaching partner that will stand up to any amount of use.

The Extractor Crane consists of a rigid suspension arm, mounted with ball-bearings and hinged in the middle and a telescopic vertical section with a large extraction capacity.

The suspension arm can easily be moved sideways and the hood raised and lowered with just one hand.

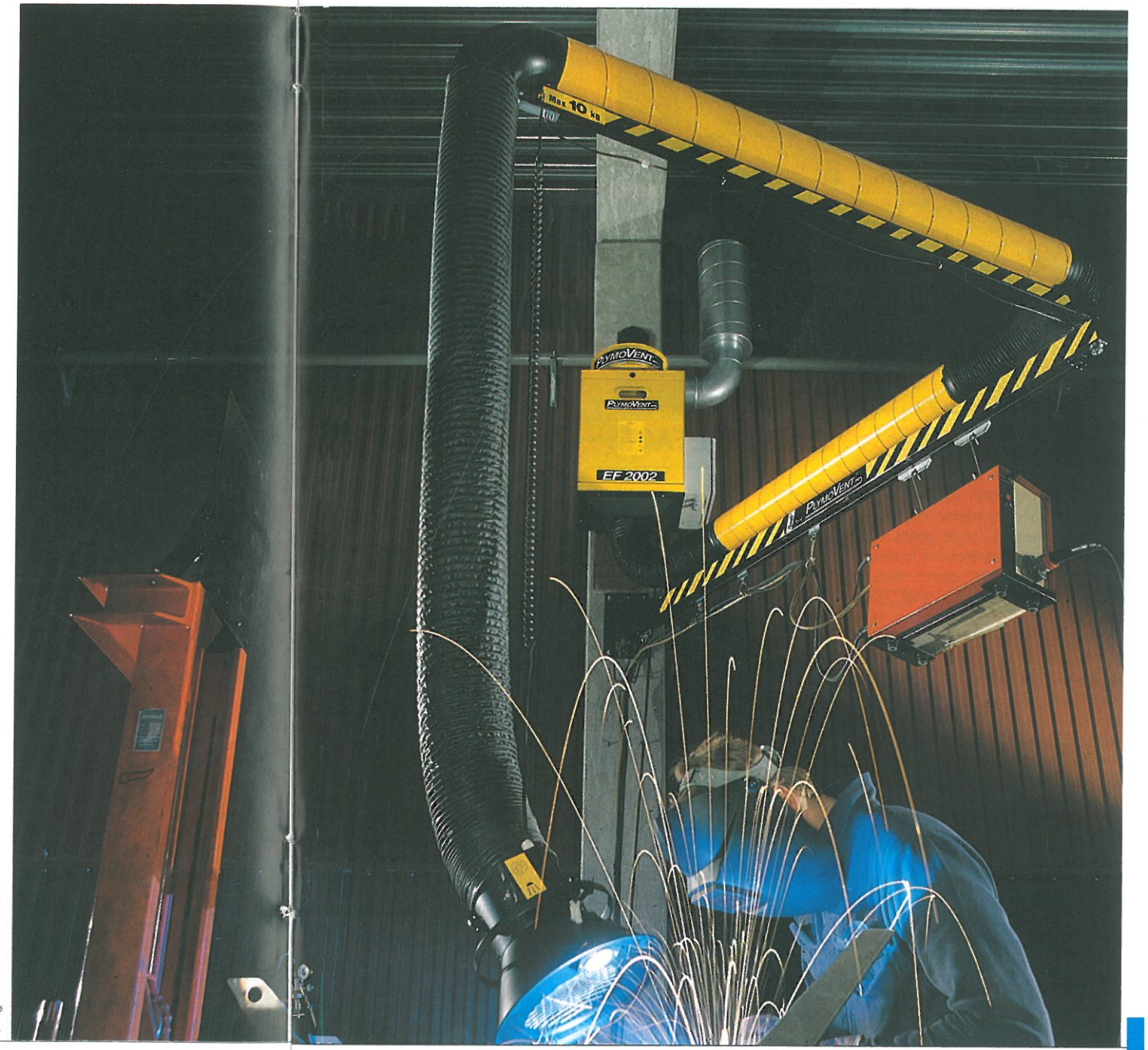
Even with heavy loads, wire feeders, cables, tools etc., suspended from the inner and outer arms, the Crane is still easy to move. Handy, practical and ECONOMICAL !!

More advantages immediately.

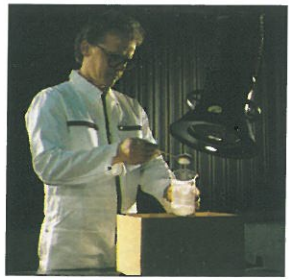
With the PlymoVent Extractor Crane – Plymoth® you will reduce your costs by cutting down on wear and tear to your cables, hoses and tools, yet still have them at hand when you need them. And the workshop is, of course, a safer place - clean, healthy and no risk of stumbling over equipment.

Lots of advantages right from the moment you install it!

PlymoVent offers you a clean working environment at the right price.



PlymoVent Extractor Crane – Plymoth® with an EF-2002/AL-filter, fan and silencer.

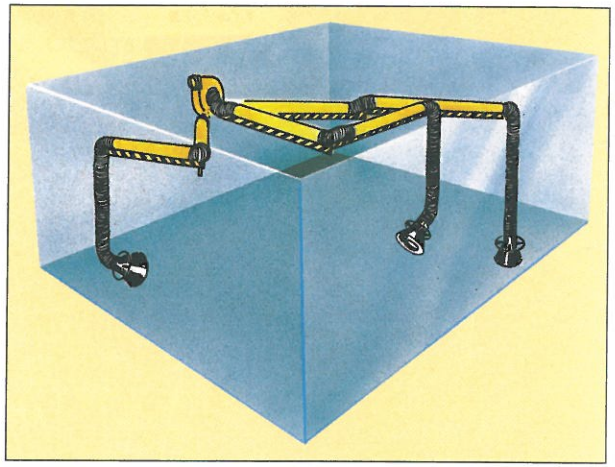



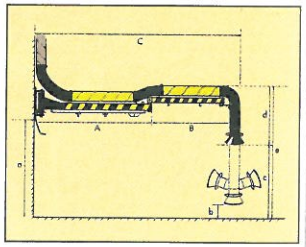

ESSENTIAL FACTS

PlymoVent Extractor Crane – Plymoth® is a combined extractor and suspension arm for covering large areas. Designed and built with heavy industry in mind.

The suspension arm consists of two horizontal parts – one inner and one outer arm, both hinged in double ball-bearings with PlymoVent's patented friction brake. It has the facility to suspend 50 kg/110 lbs from the inner arm and 10 kg/22 lbs from the outer arm. Ideal for jig welding. Has a working radius right up to 8 m/26 ft.

The vertical extractor section can be extended and contracted telescopically. The hood is perfectly balanced and can be raised and lowered 1.6 m/5 ft.





Prod. no:	A cm/inch	B cm/inch	C cm/inch	a cm/inch	b cm/inch	c cm/inch	d cm/inch	e cm/inch
UK-3016	155/61	120/47	300/118	320/126	55/22	210/83	140/55	350/138
UK-4516	255/100	175/69	455/179	320/126	55/22	210/83	140/55	350/138
UK-6016	355/140	240/94	620/244	315/124	55/22	210/83	140/55	350/138
UK-8016	455/179	340/134	820/323	315/124	55/22	210/83	140/55	350/138

PlymoVent reserves the right to make design and technical changes.

Lower Service Costs

Because tools, hoses and cables are suspended from the Extractor Crane, damage to these is avoided, thus reducing service and replacement costs.

Time Saving

Move the Extractor Crane from one place to another and the tools, welding gun, grinding machine etc. will move with you.

No loss of time. And time is money!

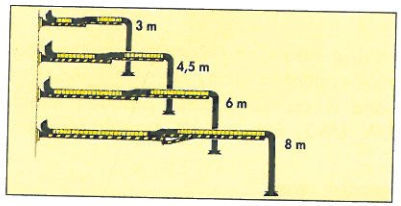
More value for money

The PlymoVent Extractor Crane – Plymoth® is less expensive than a conventional worksite extractor plus a separate jib arm. It will rationalise your work area, preventing collisions of equipment, and save you money by avoiding the double mounting costs.

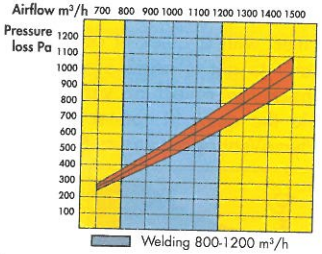
TECHNICAL DATA

PlymoVent Extractor Crane – Plymoth® (Wall bracket, arm, hose and hood with damper included)

Prod. no:	Hose Ø	Max workingradius	Length horizontal hose	Length vertical hose	Total hose length
UK-3016	160 mm/6.3"	3.0 m/10 ft	4 m/14 ft	3 m/10 ft	7 m/24 ft
UK-4516	160 mm/6.3"	4.5 m/15 ft	6 m/20 ft	3 m/10 ft	9 m/30 ft
UK-6016	160 mm/6.3"	6.0 m/20 ft	8 m/26 ft	3 m/10 ft	11 m/36 ft
UK-8016	160 mm/6.3"	8.0 m/26 ft	10 m/33 ft	3 m/10 ft	13 m/43 ft



Pressure loss chart



Fans for mounting directly to the wall bracket
(Note! Fans should be fitted with the recommended motor overload)

Prod. no:	Airflow freeblowing m³/h/CFM	Motor kW/HP	Voltage	Overload Amps	Overload Prod. no.	Approx. airflow at the hood with 10 m/33 ft outlet duct, m³/h/CFM
FUK-1800	1800/470	0,55/0.75	3-ph	1,4 - 1,5	MS-1.0/2.9*	1000 m³/h
FUK-2100	2160/1270	0,75/1.0	3-ph	1,9 - 2,0	MS-1.0/2.9*	1200 m³/h
FUK-2101	2160/1270	0,75/1.0	1-ph	5,0 - 5,2	MS-3.7/12.0*	1200 m³/h

* For installation in PlymoVent starter panel. For other installations, please contact customer service.

Extractor type	No of extractors	FS/FUK/FUA 1800* m³/h/CFM	FS/FUK/FUA 2100* m³/h/CFM	FS/FUK/FUA 3000** m³/h/CFM	FS/FUK/FUA 4700** m³/h/CFM
Extractor Crane	1	800/470	1100/650		
	2			875/515	
	3				1100/650
	4				825/485

Recommended fans

* System pressure loss 100 Pa/0.4"wg.
** System pressure loss 200 Pa/0.8"wg.

Accessories for PlymoVent Extraction Arms

PLYMOVENT
INTELLIGENT PROCESS VENTILATION™

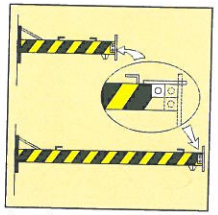
Enhance your extraction arms – improve your productivity

PlymoVent are aware that every extraction problem doesn't have an off the shelf solution and so have developed, with the co-operation of their many existing customers, a range of products to complement standard solutions. Talk to your PlymoVent contact about how the products on these pages can be used to ensure that your installation is best suited to your local requirements.

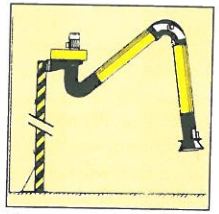
Stanchions

Robust flexibility

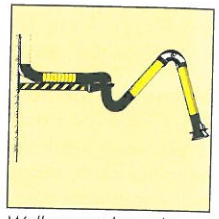
Available in either 1.1 m/3 ft (PA-110) or 2.2 m/7 ft (PA-220) lengths Plymo-Vent stanchions give greater flexibility in the installation of your extraction arms. Floor wall or ceiling or even bench mounted these stanchions give you an alternative solution. You no longer need to fix extraction arms directly to the structure of the building, enabling the installation team to ensure that you can get straight to the heart of the problem while taking up the minimum of space in your workplace. Sturdy and practical you can hang up to 50 kg/110 lbs of tools from the specially designed anchor plate, again reducing clutter and so improving the workspace. Suitable for all lengths of the KUA, EA, LM-2 and MSA ranges of arms.



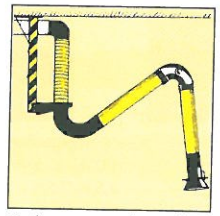
Stanchions PA-110 and PA-220



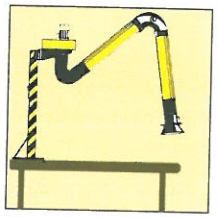
Floor mounted stanchion



Wall mounted stanchion



Ceiling mounted stanchion

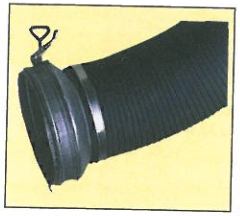


Bench mounted stanchion

Arm Extensions

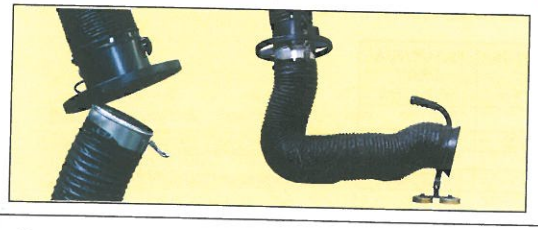
Extending the possibilities

Fitted with a quick fit coupling the PlymoVent selection of extraction arm extension pieces enable the operator to get to areas easily and effectively that normal extraction arms cannot normally reach, for example inside an object or vessel. Available in two lengths, 1 m/3 ft and 3 m/10 ft, these products attach via the quick fit connection with ease to the hoods of the EA, KUA, LM-2, FM and UK ranges of arms. PlymoVent again ensure that every problem has a solution.



The FSL-1, is a 1 m/3 ft, Ø 125 mm/5" extension of a plastic semi-rigid construction enabling it to be both flexible and adjustable.

The LEH-10 is a 1 m/3 ft long hood that can replace the standard hood where a long suction area is preferred, welding on long pieces or glueing car windows are typical applications.

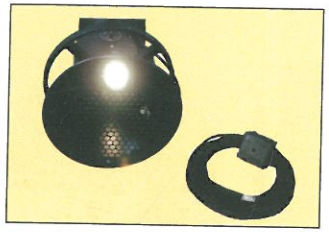


The 3 m/10 ft SLE-30 is Ø 160 mm/6.3" constructed of steel spiral, PVC coated woven polyamide extraction hose terminating in an easily positioned hood with a handle and magnetic feet.

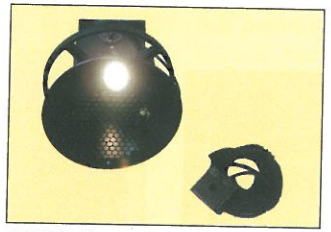
Work area illumination – *Clean air – clear vision*

Fume, dust and smoke from work processes can sometimes make it difficult to see clearly when you need it most. Using PlymoVent arms fitted with safe low voltage halogen lamp cartridges you can not only remove fume and dust you can also illuminate the work area. Particularly useful where natural light is a problem or artificial light is not satisfactory a halogen bulb in the extraction hood is the best solution available – close to the point of work and easily manoeuvrable. Supplied at the same time as purchase of extraction arms or retro-fitted to your existing Plymo-Vent systems, this is an excellent example of clear thinking from the clean fresh air specialists. Supplied complete to fit to the hood, with a hood mountable switch and 10 m/33 ft length of cable you need to add only a transformer (available from PlymoVent) to light up your work piece. When using PlymoVent control equipment the low voltage can be supplied from there. With four models HL-20/24 for the EA, FM, KUA, MM-100 and MSA ranges, the SK-20/24 for the Junior and Extractor crane and the MM-002 for the MM-75 the choice is clear.

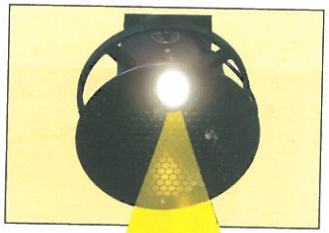
When you order your fume extraction system don't forget to talk to your PlymoVent contact about work area illumination.



HL-20/24 for KUA, EconomyArm, Flex-Max MultiSmart® Arm and Miniman 100.

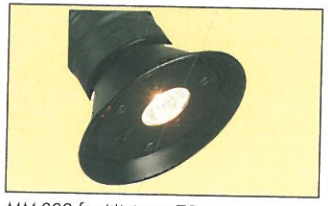


SK-20/24 for Junior and UK.



Light up your work piece!

Installation of work area illumination not only lightens up the work piece, it also ensures correct positioning of the fume extractor with better working environment as a result.



MM-002 for Miniman 75.

Transformer 220-240 V/24 V, 75 W, for work area illumination (HL-20/24, SK-20/24).

TECHNICAL DATA

Prod. no:	Description
PA-110	Stanchion for floor, wall, ceiling or bench mounting, L=1,1 m/3.6 ft.
PA-220	Stanchion for floor, wall, ceiling or bench mounting, L=2,2 m/7.2 ft.
FSL-1	Semi-rigid extension, L=1 m/3 ft, Ø 125 mm/5".
SLE-30	Extension with magnetic hood, L=3 m/10 ft, Ø 160 mm/6.3"
LEH-10	Long extraction hood, L=1 m/3 ft
MM-002	Round hood with light for Miniman Ø 75 mm/3", 20 W/24 V
HL-20/24-100	Work area illumination for Miniman Ø 100 mm/4", 20 W/24 V
HL-20/24-125	Work area illumination for MSA Ø 125 mm/5", 20 W/24 V
HL-20/24-160	Work area illumination for KUA, EA, FM and MSA Ø 160 mm/6.3", 20W/24V
HL-20/24-200	Work area illumination for MSA Ø 200 mm/8", 20 W/24 V
SK-20/24	Work area illumination for UK and LM, 20W/24V
TR-24/75	Transformer 220-240 V/24V, 75W for work area illumination
S-100	Switch assembly with 10 m/33 ft cable
SK-300	Switch assembly with 3 m/10 ft spiral cable

High performance fans for Intelligen Process Ventilation

PLYMOVENT
INTELLIGENT PROCESS VENTILATION™

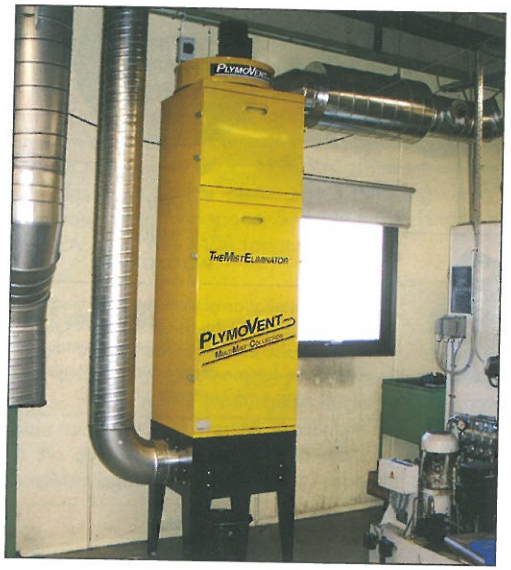
The heart of the dust and smoke collection system

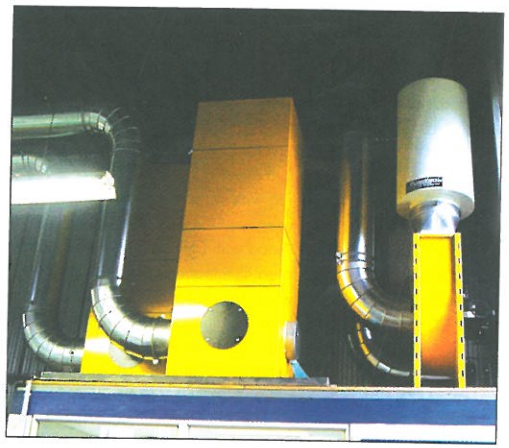
When designing and planning a dust/smoke capture system, the selection of fan is a very important decision. Many parameters need to be evaluated.

Central system fan or one fan for each unit

The best possible noise level is always achieved by installing the fan in a designated area, separated from the working space. Normally this means a central fan.

Should flexibility be important, a fan on each filter unit and re-circulation is the best choice.





Higher pressure requirements

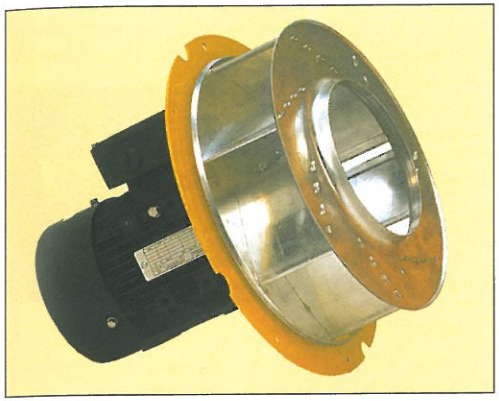
A central fan gives the opportunity to increase the pressure normally required in a central system. Using a DCV Controller gives the possibility to adapt to low volume when needed.

The direct fit fans are designed to give a pressure suited for the application, with normal duct work and at source extraction.

PlymoVent reserves the right to make design and technical changes.

The PlymoVent Fans – The impeller

PlymoVent fan impellers are designed in high impact aluminium alloy, suited for continuous temperatures up to 80°C/180°F.



Self cleaning

PlymoVent fan impellers are suited for both general ventilation applications and process ventilation applications requiring the removal of dust, mist, smoke and fumes. The backward incline design eliminates the build up of material that would upset the balance of the fan impeller thus reducing air delivery and increasing the vibration/noise.

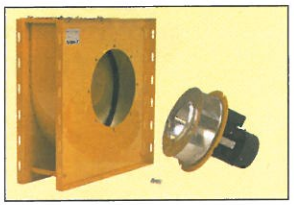
Self balancing

The high tech machine stamped impellers guarantee perfect balance and alignment every time.

Non-sparking

An extra precaution if extracting unintended gases.

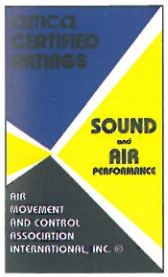
Easy access



All PlymoVent fan housings are designed for easy access to the impeller. Our design allows an installer or service technician to remove the motor and impeller wheel without removing inlet or outlet duct work or disassembling the fan housing.

It provides the installer the option of separating the fan into two pieces when mounting takes place in confined locations above drop ceilings or tight access ways.

The PlymoVent Fans – AMCA certified



PlymoVent is one of very few worldwide fan manufacturers who have tested and certified all their fans completely at AMCA (Air Movement and Control Association), the international authority on air system components.

High performance fans for Intelligent Process Ventilation

PLYMOVENT®
INTELLIGENT PROCESS VENTILATION™

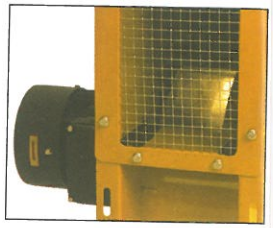
The PlymoVent TEV-fans

Energy saving ventilators make a perfect match to any intelligent process ventilation system.

High efficiency with air foil impeller

PlymoVent in co-operation with an internationally recognized university, has designed the ultimate air foil fan impeller.

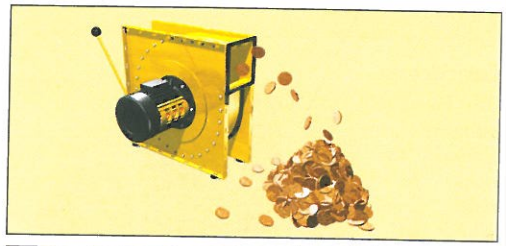
PlymoVent has designed a fan impeller that maximizes air delivery at higher static pressure and in turn reduces energy consumption at the same time.



Energy Saving

PlymoVent TEV fans require less kW versus air volume delivered. This does not only equate to less power consumption but also less installation cost.

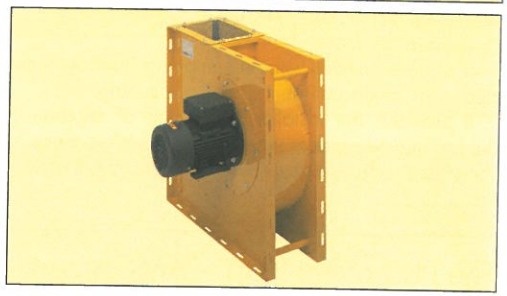
This allows the electrical installer to reduce the cost of installation by reducing the associated components required to run the motor.



Noise level

Today it is critical to control noise pollution in the work place. Recognizing this problem, PlymoVent has produced a fan (TEV) that will operate at a lower sound power level (db) and a lower sound pressure level (dbA) than other competitive models.

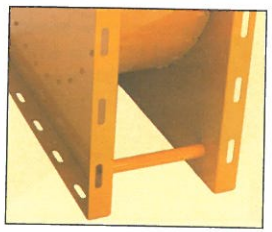
All PlymoVent fans have been tested by AMCA in accordance with AMCA 300 standard.



No weld fan housing

PlymoVent's patented no-weld housing is produced with a state of the art fastening technique which eliminates the need for metal welding which distorts metal components and destroys critical tolerances.

This provides for less vibration and better fit and finish.



Unit finish

Built in corrosion resistant galvanized steel, treated with baked epoxy powder coat finish, to resist harsh industrial environment.

Easy mount housing

The new TEV series has been designed with slotted mounting channels on all four sides for a wide variety of mounting options. This eliminates the cost for suspensions or platforms.

The PlymoVent FUA-fans

PlymoVent reserves the right to make design and technical changes.

Flexible direct mount fan for PlymoVent filter systems. The standard PlymoVent fan that gives an integrated part of the installation.

Noise level

The FUA fans have a high capacity and relatively low noise level. In installation near the operators working area PlymoVent recommend a silencer and/or ducted outlet.

Safety first

PlymoVent fans are provided with protective safety screens on both the inlet and outlet of the fan housing.

PlymoVent protects your investment and personnel from the moving parts of the fan.

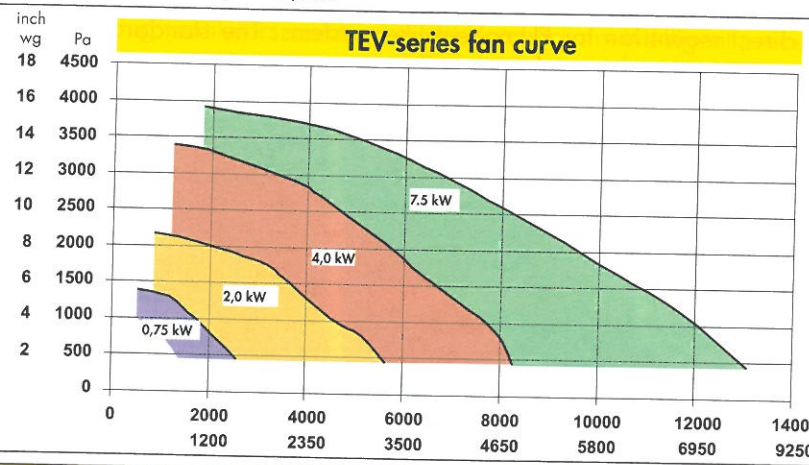
Rotational outlet

When fan is fitted on top of filter house, it can be rotated to allow discharge in any direction. This reduces the cost for additional fan outlet transition.

Fans – 50 Hz, Conforms to CE standards

Please consult PlymoVent technical data sheets for specific motor data.
Additional voltages available upon request.

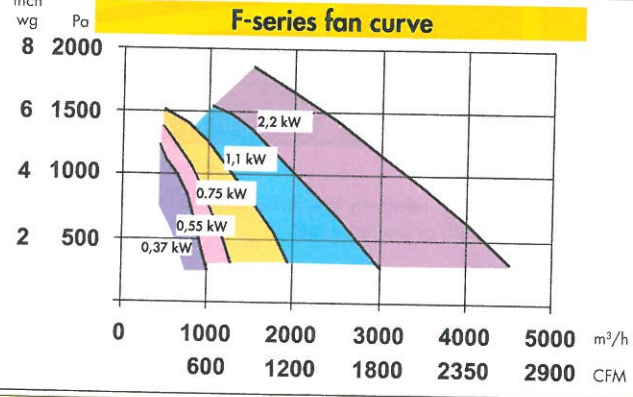
TEV-series fan curve



Measurement in accordance with SS ISO-5801.

Prod. no:	Motor kW	50 Hz Voltage	Weight kg/lbs	Inlet size Ø mm/inch	Outlet size mm/inch	Housing	Impeller
TEV-385-50	0,75	3-ph, 220-240/380-420 V	31/68	160/6.3	160x252/6.3x9.9	Powder painted steel	Aluminium
TEV-585-50	2,2	3-ph, 220-240/380-420 V	51/112	200/7.8	200x320/7.8x12.6		
TEV-765-50	4,0	3-ph, 220-240/380-420 V	78/172	250/9.8	220x400/8.7x15.7		
TEV-985-50	7,5	3-ph, 380-420/690 V	157/345	315/12.4	250x448/9.8x17.6		

F-series fan curve



* 220-240/380-420 V
** 220-240 V

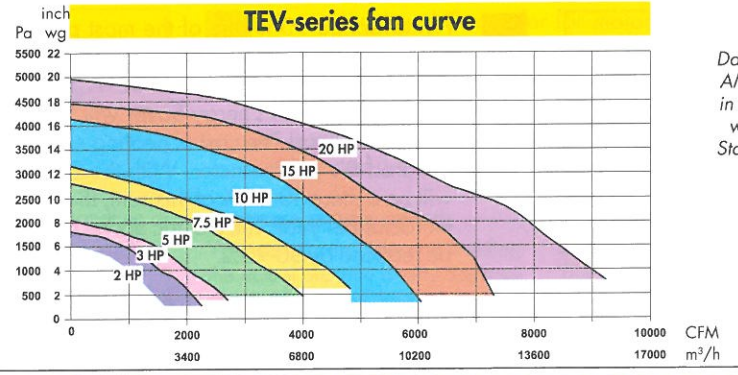
Prod. no:	Motor kW	50 Hz Voltage	Weight kg/lbs	Inlet size Ø mm/inch	Outlet size mm/inch	Housing	Impeller
FUA-/FS-1300	0,37	3-ph,*	12.6-15,6/27.7-34.3	160/6.3	Ø 160/6.3	Powder painted steel	Aluminium
FUA-/FS-1301	0,37	1-ph,**	13.2-16.2/29.0-35.6	160/6.3	Ø 160/6.3		
FUA-/FS-/FUK-1800	0,55	3-ph,*	13.4-16.4/29.5-36.1	160/6.3	Ø 160/6.3		
FUA-/FS-/FUK-2100	0,75	3-ph,*	16.4-19-4/36.1-42.7	160/6.3	Ø 160/6.3		
FUA-/FS-/FUK-2101	0,75	1-ph,**	16.6-19.6/36.5-43.1	160/6.3	Ø 160/6.3		
FUA-/FS-/FUK-3000	1,1	3-ph,*	24.0-27.0/52.8-59.4	250/9.8	142x215/5.6x8.5		
FUA-/FS-/FUK-4700	2,2	3-ph,*	32.0-35.0/70.4-77.0	250/9.8	142x285/5.6x11.5		

Fans – 60 Hz, Conforms to NEMA standards

Please consult PlymoVent technical data sheets for specific motor data.
Additional voltages available upon request.

PlymoVent reserves the right to make design and technical changes.

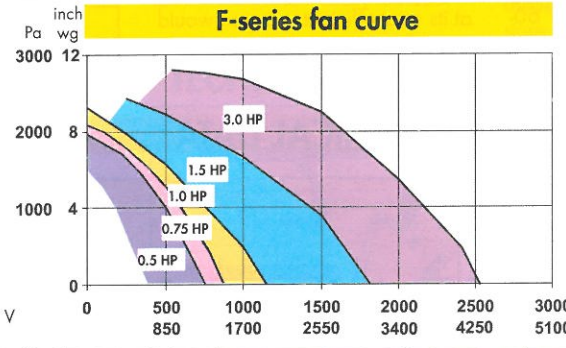
TEV-series fan curve



Data based on AMCA testing in accordance with AMCA Standard 210.

Prod. no:	Motor HP	60 Hz Voltage	Weight kg/lbs	Inlet size Ø mm/inch	Outlet size mm/inch	Housing	Impeller
TEV-359-60	2.0	3-ph, 208-230/460/575 V	36/80	200/7.87	160x252/6.3x9.92	Powder painted steel	Aluminium
TEV-3110-60	3.0	3-ph, 208-230/460/575 V	39/85	200/7.87	160x252/6.3x9.92		
TEV-559-60	5.0	3-ph, 208-230/460/575 V	79/175	250/9.84	200x320/7.87x12.6		
TEV-585-60	7.5	3-ph, 208-230/460/575 V	84/185	250/9.84	200x320/7.87x12.6		
TEV-745-60	10	3-ph, 208-230/460/575 V	132/290	315/12.40	220x400/8.66x15.74		
TEV-768-60	15	3-ph, 208-230/460/575 V	145/320	315/12.40	220x400/8.66x15.74		
TEV-798-60	20	3-ph, 208-230/460/575 V	191/420	315/12.40	220x400/8.66x15.74		

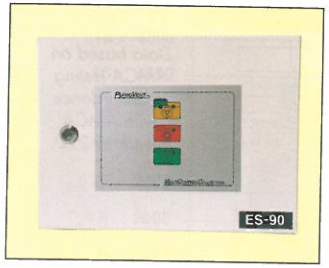
F-series fan curve



* 208-230/460/575 V
** 115/230 V

Prod. no:	Motor HP	60 Hz Voltage	Weight kg/lbs	Inlet size Ø mm/inch	Outlet size mm/inch	Housing	Impeller
FUA-/FS-1300	0.5	3-ph *	18 / 40	160/6.3	Ø 160/6.3	Powder painted steel	Aluminium
FUA-/FS-1301	0.5	1-ph **	18 / 40	160/6.3	Ø 160/6.3		
FUA-/FS-/FUK-1800	0.75	3-ph *	19 / 42	160/6.3	Ø 160/6.3		
FUA-/FS-/FUK-1801	0.75	1-ph **	19 / 42	160/6.3	Ø 160/6.3		
FUA-/FS-/FUK-2100	1.0	3-ph *	22 / 48	160/6.3	Ø 160/6.3		
FUA-/FS-/FUK-2101	1.0	1-ph **	22 / 48	160/6.3	Ø 160/6.3		
FUA-/FS-/FUK-3000	1.5	3-ph *	27 / 60	250/9,8	142x215/5.6x8.5		
FUA-/FS-/FUK-4700	3.0	3-ph *	43 / 95	250/9,8	142x285/5.6x11.2		

Energy Saver ES-90 for automatic start



PlymoVent ES-90 is one of the most profitable investments you can make when it comes to welding fume extraction. Be intelligent – save between 80-90% of your energy bill. In many cases the Energy Saver will have a payback time less than a year! The cost of heating extracted air is several hundred £'s per extractor. With the Energy Saver this cost will be a mere 10-20% of this sum, that is just £20-£40 per extractor per year. The electric power comsumption will also be reduced by 80-90%.

Large volumes extracted – but only when required

The more fumes an extractor can take, the more efficient it is. A large volume of air, such as 1000 m³/h / 650 CFM, guarantees that pollutants are effectively extracted without great concern about the exact positioning of the hood. By using PlymoVent ES-90 the total volume of air is reduced to approximately 10-20% of the actual extracted air volume (1000 m³/h / 650 CFM during operation gives a working day average of 100-200 m³ / 60-115 CFM extracted air per hour, as the fan is only running when it's needed.)

Pay only for effective work time

The explanation is simple but brilliant. Using the ES-90 extraction only takes place when welding is actually being carried out. Practical surveys have shown that actual arc-time is only 5-20% of the total working hours. The ES-90 starts the extraction fan automatically when welding starts and stops it after welding has stopped. This gives a dramatic saving of energy and therefore money! Your extractor is working at its most efficient – as you would naturally expect.

Build your own fully automatic system

There are no limits with the PlymoVent Energy Saver You can size and build your own system exactly to suit the requirements of your work place. That level of freedom of choice - another advantage of the ES-90.

Just add Control Unit M-1000 for the central duct propeller fan (see page 50), and your system will be fully automatic.

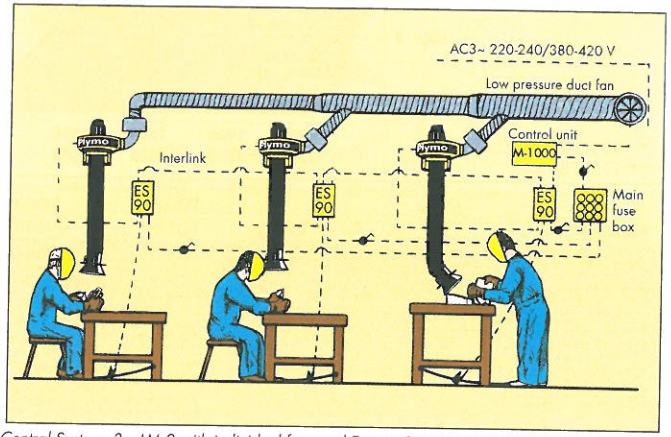
Saves up to 90% of energy costs on systems with individual fans

TECHNICAL DATA

Supply: 230/400 V, 3 phase. Contactor relay for fans up to 4,0 kW is built-in. Must be fitted with relevant motor overload (not included).
Outlet: 400 V 3 phase to the fan. Also works on 230 V single phase fans provided unit's supply is 230 V single phase.
Sensitivity: The sensor reacts to alternating current (A.C.) and direct current (D.C.) down to 15 amps – to be attached to welding cable. For gas welding, light sensor LS-12 should be used instead of the inductive sensor clamp. LS-12 is available as an accessory.
Automation: Adjustable over-run time - 7 seconds to 6 minutes. Has a manual override.

Prod. no:
ES-90-005 Energy Saver for automatic start/stop of the fan with built-in transformer 75 VA-230/24 V for halogen lamp cartridge for 1 work place.

Motor overloads: Overloads for installation inside electrical control boxes.
Prod. no:
MS-1.0/2.9 Overload, 1,0 - 2,9 Amp.
MS-1.6/5.0 Overload, 1,6 - 5,0 Amp.
MS-3.7/12.0 Overload, 3,7 - 12,0 Amp.



Central System: 3 x LM-2 with individual fans and Energy Savers connected to M-1000 Control Unit and low pressure duct fan.

Local Controller ICE-LC for motorised damper

PlymoVent Local Controller for motorised damper is intelligent simplicity itself for a central system. Any central system using individual extraction arms can be improved – whether the system is new or existing does not matter, provided there is a single central fan and each extraction arm is fitted with a motorised damper and an ICE-LC.

The ICE-LC controls the handling of motorised damper, light or other accessories needed to operate the local workstation. All sensor in the PlymoVent range can be used. The ICE-LC must be completed with motorised damper and activation sensor, see accessories below.

The inductive sensor, MCC-05, is fitted to the welding cable and will sense when welding starts. The damper will automatically open, and remain open as long as welding is taking place. It closes automatically when welding stops. There is an over-ride control which is adjustable between 7 sec. and 6 min., which will allow the damper to remain open to extract residual after-fume.

Enormous energy savings

With standard production welding the actual arc-time is only approximately 10-20% of the total working hours. By using the PlymoVent ICE-LC, damper and sensor you only extract the air during that time. Your heat loss will therefore be reduced by 80-90%.

Several extractors – central fan

A further advantage of using ICE-LC with accessories is that the central fan can be reduced quite substantially in size for new systems. Your initial outlay on the fan and running costs are therefore dramatically reduced.

Get intelligent – update your existing central system

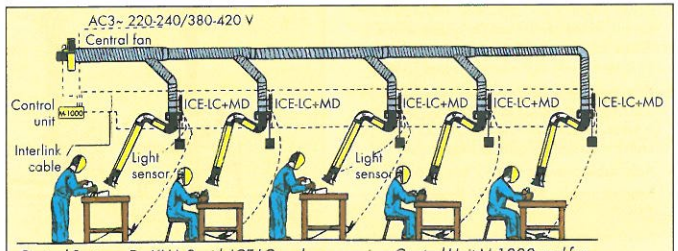
The ICE-LC is the most cost effective and simple way to increase the extraction capacity of an old central system. No major changes to the system, you simply fit your extractors with sensors, motorised dampers and ICE-LC and immediately notice improved extraction rates.

If you wish to save even more energy, you should connect the PlymoVent Control Unit M-1000 to the central fan and use it in conjunction with the ICE-LC. When the first person starts welding the fan will switch on automatically and will stop automatically when the last person stops welding.

TECHNICAL DATA

- Standard after-run time: 15 sec. Adjustable after-run time: 7 sec - 6 min.
- ICE-LC can be connected to M-1000 for control of the central fan.
- One ICE-LC required for each extractor.
- Power supply 110-120/208-240 V.

Prod. no: ICE-LC



Central System: 5 x KUA-3 with ICE-LC and accessories, Control Unit M-1000 and fan. Recommended number of workplaces: Fan FS-2100: 2-4, FS-3000: 3-6 and FS-4700: 4-8.

ACCESSORIES

MCC-05 - Inductive sensor
The MCC-05 is a sensor the measures the inductive field around an electric cable and sends the reading to a connected ICE-LC. This sensor is typically used in welding applications where it is positioned on the welding machines grounding cable.
Prod. no: MCC-05

LS-12 - Light sensor
The LS-12 is a light sensor that senses variation of light and sends the reading to a connected ICE-LC. This sensor is typically used in low aperage welding applications <30 Amp or gas welding applications.
Prod. no: LS-12

MD - Motorised Damper
The MD are motorised dampers in various sizes that is controlled by the Local Controller. 24 VAC supply, 5 seconds opening/closing time.

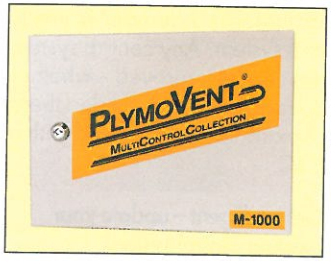
Prod. no:		
	MD-160	Ø 160 mm/6.25"
	MD-200	Ø 200 mm/7.85"
	MD-315	Ø 315 mm/12.4"
	MD-400	Ø 400 mm/15.75"

S-100 - Switch box
The S-100 is a switch box fitting EA, KUA, FlexMax and MSA extraction arms. Incl. 2 switches for light and fan/damper control and 10 m/32.8 ft cable.
Prod. no: S-100

SK-300 - Switch box
The SK-300 is a switch box fitting LM-2 and UK telescopic extraction arms with the plastic hood collar. Incl. 2 switches for light and fan/damper control and 3 m/9.8 ft spiral cable.
Prod. no: SK-300

Intelligent Control Equipment

Control Unit M-1000



PlymoVent Control Unit M-1000 controls the central fan in systems with up to 10 extractors. Must be used in conjuction with PlymoVent Energy Savers or Automatic Dampers ICE-LC/MD. An intelligent device which saves a lot of energy.

Safe, simple operation and quick response

As soon as someone starts welding an impulse is passed from the Energy Saver or Automatic Damper to the M-1000, which in turn starts the central fan. When the last person stops welding the M-1000 automatically stops the central fan.

There is an adjustable over-run time between 7 sec. and 6 min to remove all residual after-fume from the system.

Automatic shutdown facility

At any periods when the working activity ceases, such as lunch, shift changes and the end of the day the M-1000 will automatically shut down the system until work resumes. Simple, safe and convenient.

Reduces energy costs

As the central fan only runs when welding is taking place, you save energy and reduce the running costs.

M-1000 is very simple to install. Making it more economical.

Less noise

You automatically reduce the background noise in your workshop when you install the M-1000.

PlymoVent offers you a clean and intelligent working environment at the right price.

Has intelligent control of your central extraction system

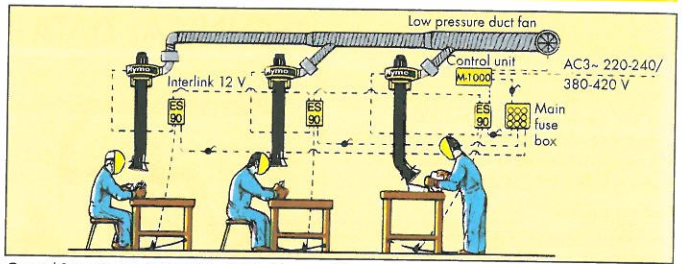
TECHNICAL DATA

- For connection to Energy Saver ES-90 and Automatic Damper ICE-LC/MD.
- Power supply – 3~ 220-240/380-420 V for control of the central fan (in system with ICE-LC) or for control of the low pressure duct fan (in systems with individual fans and ES-90).
- When used with the Local Controller ICE-LC the 230 V power supply to operate the dampers is taken directly from the M-1000 for up to 10 units on the system. Simple installation.
- Adjustable over-run time – 7 sec. to 6 min.
- Interlink cable: Max 12 V (from ICE-LC or ES-90).
- Motor overload – not included. The motor overload is to be sized according to the central fan used (see data on fan motors).

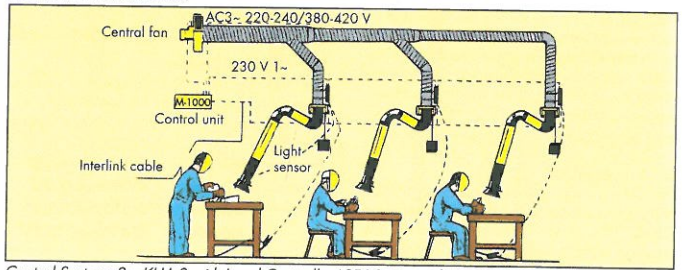
Prod. no: M-1000

Motor overloads: Overloads for installation inside electrical control boxes like ES-90, M-1000, SA-24 and control boxes for wall mounted filters.

Prod. no:
MS-1.0/2.9 Overload, 1,0 - 2,9 Amp.
MS-3.7/12.0 Overload, 3,7 - 12,0 Amp.
MS-12.0/32.0 Overload, 12,0 - 32,0 Amp.



Central System: 3 x LM-2 with individual fans and Energy Savers, connected to Control Unit M-1000 for control of ductwork fan.



Central System: 3 x KUA-3 with Local Controller ICE-LC, Control Unit M-1000 and one central fan FS-3000 or FS-2100.

Light Sensor LS-12

Light Sensor LS-12. One look is enough

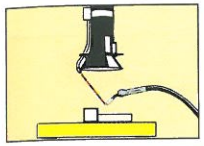
The LS-12 is designed to be used with the Energy Saver and Local Controller as a complement or an alternative to using the inductive sensor clamp. It is ideal for gas welding or gas cutting where no magnetic field can be detected.

The difference between an inductive sensor and a light sensor is that the inductive sensor reacts to the magnetic field created by the welder's electric cable, whereas the light sensor reacts to small beams of light. It "sees" the change of light when someone starts or stops welding and automatically operates the fan or damper. The light sensor can be connected in parallel to the inductive sensor which will make it possible to work with different methods.

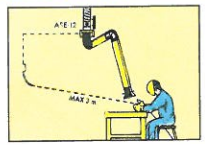
Prod. no. LS-12.

PlymoVent offers you a clean and intelligent working environment at the right price.

TECHNICAL DATA

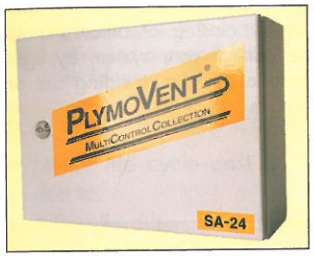


The light sensor is mounted close to the hood of the extractor. It is connected to Energy Saver ES-90 which operates the fan or, in a central system, the Local Controller ICE-LC.



Light sensor wall mounted. Maximum distance between sensor and welding operation is 3 m. The LS-12 is connected to the Local Controller ICE-LC which opens and closes the airflow from the central fan or connected to the ES-90.

Starter SA-24



PlymoVent offers you a clean working environment at the right price.

With the SA-24 you can operate the fan and working light from a switch at the extractor hood.

The starter is supplied to be used with one extractor with a light in its hood and one fan. The starter is mounted to the wall, supplied with 230/400 V.A.C. and connected to the extractor fan. It comes complete with switch assembly for the hood, 10 m of cable, built-in contactor and 24 V/75W transformer. It has a contactor which operates the fan via a supply of 24 V. The working light in the hood of the extractor is connected to the 24 V transformer in the starter.

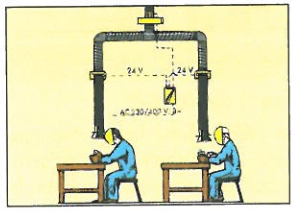
- Increases the use of the extractor. The fan start/stop switch and the light switch are always close to operator, therefore convenient to use.
- Energy saving. The operator can quickly and easily stop the fan.
- SA-24 makes the electrical installation simple.

TECHNICAL DATA

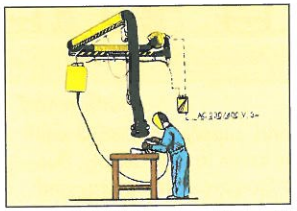
Prod. no. SA-24/75
For one extractor with one fan. Complete with switch assembly.
Power supply: 400/230 V
Transformer: 75 W-24 V for one halogen working light HL-20/24. The transformer also controls the built-in contactor. The contactor must be fitted with relevant motor overload (not included).

Motor overloads: Overloads for installation inside electrical control boxes like ES-90, M-1000, SA-24 and control boxes for wall mounted filters.

Prod. no:
MS-1.0/2.9 Overload, 1,0 - 2,9 Amp.
MS-1.6/5.0 Overload, 1,6 - 5,0 Amp.
MS-3.7/12.0 Overload, 3,7 - 12,0 Amp.



Starter SA-24 connected to two extractors (PlymoVent LM-2) with one fan and with lights in the hoods of the extractors (extra SK-300 needed).

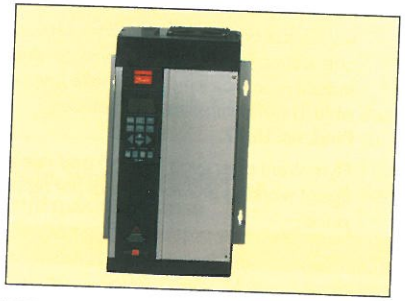


Starter SA-24/75 in connection with PlymoVent Extractor Crane UK-4516 with halogen working light and FUK-1800 fan.

Intelligent Control Equipment

DCV-Controller – ensures ventilation efficiency on demand

The PlymoVent Demand Controlled Ventilation (DCV) system will pay for itself within months not years!



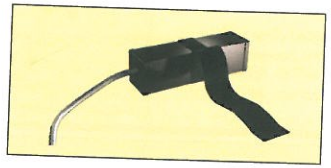
Demand controlled ventilation

The DCV-Controller will operate your process ventilation by monitoring the air pressure of your system.

The DCV-Controller will only run fans to meet the demand of your production and do it automatically. You will never have to oversize your air requirements or depend on staff to control your system manually.

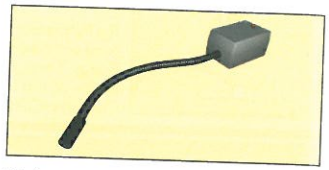
Pressure transmitter

Pressure transmitter will adjust the air delivery by adjusting air volume based on duct system pressure.



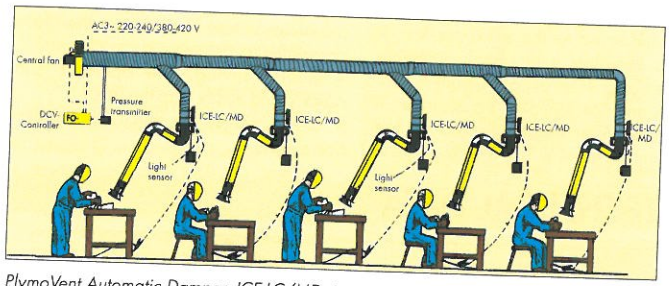
Induction sensor

Induction sensor will adjust the opening or closing of auto-dampers that control your system by magnetic or electrical impulse. I.e. power cables, magnetic field.



Light sensor

Light sensor will adjust the opening or closing of auto-dampers that control your system by light photo optics. I.e. welding arc or light source.



PlymoVent Automatic Damper, ICE-LC/MD, in a system complete with pressure transmitter and DCV-Controller.

Invest in the most intelligent working environment and let your savings pay for all of it!

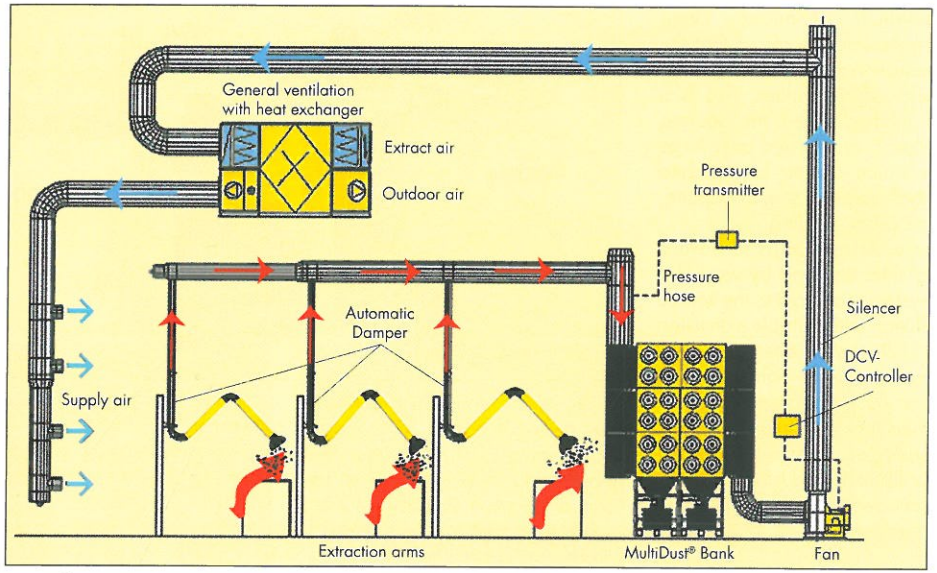
The world supply of energy will continue to run in short supply. Due your part to save costly energy and reduce your operating overhead by reducing peak demand on electricity, reducing running time for process ventilation fans, reducing power consumption, reducing air delivery to your process by demand only operation, reducing heating and cooling costs.

We can save you up to 50% on energy cost, call today for details and a free energy audit of your process ventilation system.

Don't let your energy provider charge you a high user surcharge! **Call PlymoVent now!**

Lower cost – balanced ventilation

When designing a general ventilation and process ventilation system, the use of DCV-Controller and heat exchanger will provide the best solution available in terms of a balanced, economical and more intelligent system.



Central system: 3 x KUA-4 with automatic dampers ICE-LC/MD, pressure transmitter, DCV-Controller, process filter and a central fan. Process ventilation incorporated into the general ventilation system including a heat exchanger.

Benefits from demand controlled general- and process ventilation:

- Lower life cycle cost (LCC) due to:
  - * Smaller filters (less filter to replace) and increased lifetime of process ventilation filter cartridges
  - * Savings on power to fans, both general- and process ventilation fans
  - * Heating energy savings (to heat variable supply airflow)
  - * Less maintenance hours on general ventilation (replacing filters)
  - * Less cost for replacement filter for general ventilation
- Demand controlled capacity of the process ventilation
- Balanced ventilation at all time
- Very high quality indoor air
- Lower noise levels
- Very intelligent!

TECHNICAL DATA

DCV-Controller

- IP-54 Enclosure
- EMC filter
- Cooling fan
- Built-in PID-regulator
- Sizes according to fan power

PlymoVent Pressure Transmitter

- 15-33 V DC supply (from DCV-Controller)
- 4-20 mA output signal
- 3 ranges 0-1600 Pa/6"wg, 0-2500 Pa/10"wg and 0-5000 Pa/20"wg

Prod. no: TG-1600, TG-2500, TG-5000

PlymoVent EF

Electrostatic Filter EF, for fumes and dust particles.

You can clean up smokey and dusty premises in two ways:

One method is to use free-hanging filters which continuously clean and recirculate the air so that the concentration of dust particles drops below accepted values. This is a good method when the sources of pollution are spread over large areas which cannot be reached directly through at source capture, such as robot welding.

The other method is to have a central filter unit and by way of a duct system reach out to the source of pollution with suitable extraction arms. Whichever alternative you choose PlymoVent can offer you the most economical solution.

PlymoVent electrostatic filters are equipped with robust electrostatic cells of the industrial type (not domestic ventilation cells).

An electrostatic filter normally has a long life and so is a real money-saver. For each year that the heating costs increase, so the annual sum you save by cleaning and recirculating the air will also increase.

PlymoVent offers you a clean working environment at the right price.

ESSENTIAL FACTS

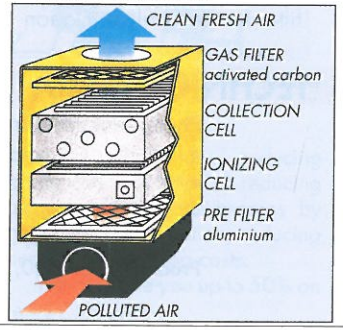
- Energy saving by cleaning and recirculation of the air.
- Washable filter cells.
- High efficiency filtration.
- Simple installation.
- Self-contained extraction systems do not interfere with existing ventilation systems.
- Available with alarm. When the filter is full an alarm signal sounds and the fan stops after about 20 sec. The filter must now be cleaned before it can be used.

Function.

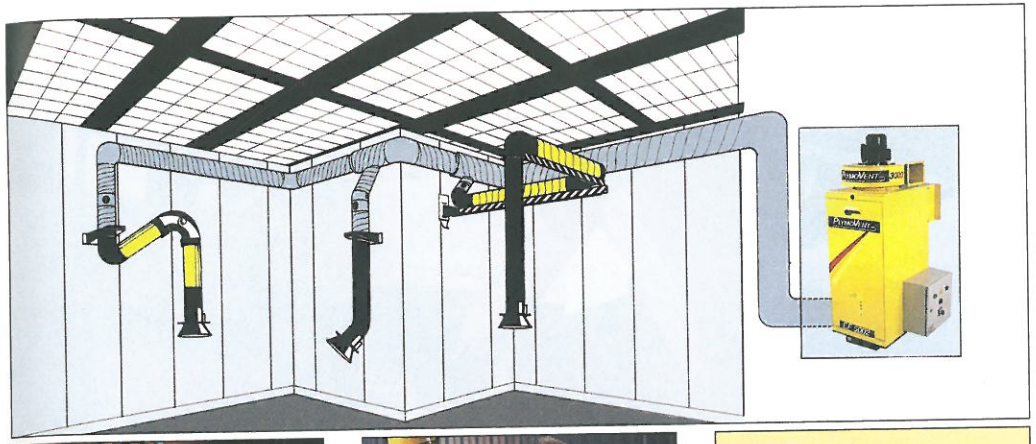
Smoke and dust are drawn into an inlet at the base of the EF. Larger particles are collected in an aluminium prefilter, while all other particles are charged to 12 000 V in the ionizing cell. The particles are then separated in the collection cell which has a power of 6 000 V. Any gases from the polluted air can easily be filtered in an activated carbon filter, which is placed after the collection cell. The cleaned air is then recirculated into the premises.

Facts about electrostatic filters.

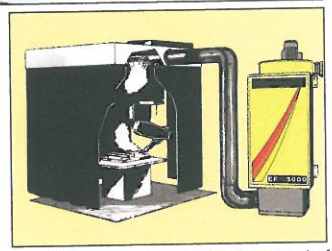
- PlymoVent electrostatic filters EF work using the principle of electrostatic precipitation (see p. 78). Larger particles, down to 50 µm (0.05 mm) in size, are collected in the aluminium prefilter. All other particles are charged in the ionizing cell up to 12 000 V. Particles between the sizes of 100 µm and 0.005 µm (0.1 mm/0.004" and 0.000005 mm/0.0000002") are then effectively separated in the collection cell. This means that particles smaller than a virus can be collected.



- The PlymoVent EF range is used for filtration of solid, dry particles such as welding fumes, metal oxides, talcum, dust, carbon black etc.
- PlymoVent electrostatic filters have undergone very stringent tests in tough, industrial environments with large companies, operating up to 3 shifts in the 24 hour day.
- Robust design and construction in powder-coated steel, 1.5 mm/0.06" thick.
- Separate collection cells and ionizing cells of the industrial type.
- Prefilter, ionizing cell and collection cell are all washable and can be used for many years.
- Payback period 1 to 3 years, depending on the climate. Less general ventilation means heavily reduced heating costs.
- Simple installation. Different filter sizes for 1 to 10 work places.
- Can be connected to a central system with at source extractors, or mounted free-hanging on wall or ceiling for filtration of general workshop pollution.



PlymoVent KUA arm mounted directly to an EF filter.



An efficient way of preventing the spread of fume, for example from robot welding.

TECHNICAL DATA

PlymoVent Electrostatic Filter EF

Prod. no:	Rec. fan:	Rec airflow m³/h/CFM	Rec. No. of places	Active Filter area, m²/sq.ft	Dimensions incl. fan and inlet Height mm(inch	Width mm/inch	Depth mm/inch	Weight kg/lbs
EF-3002/AL	FUA-1800	1500/880	1-2*	16,4/176	1070/42.2	506/20	750/29.5	105/231
	FUA-2100	1500/880	1-2*	16,4/176	1075/42.4	506/20	750/29.5	108/238
	FUA-3000	1500/880	1-3*	16,4/176	1110/43.8	506/20	750/29.5	113/249
EF-5002/AL	FUA-2100	3000/1765	1-2*	32,8/353	1510/59.6	506/20	750/29.5	158/348
	FUA-3000	3000/1765	1-3*	32,8/353	1550/61.1	506/20	750/29.5	163/359
	FUA-4700	3000/1765	2-5*	32,8/353	1615/63.7	506/20	750/29.5	173/381

*With PlymoVent Automatic Damper ICE-LC/MD the number of extractors can often be doubled. Please contact our customer service.
All models are delivered with standard vertical inlet.

Complimentary products and accessories

Prod. no:	Description
CF-002	Activated carbon filter for EF-3002/-5002

Inlet (for mounting under the filter)

Prod. no:	Height mm/inch	Width mm/inch	Depth mm/inch	Description:
IS-3000	310/12.2	600/23.5	505/20	Inlet from one or both sides. Ø 250 mm

MF – Mechanical filter

The new "One for All" filter for fumes and light dust

- One filter for all applications, today and tomorrow
- Adapts to changes in production
- Expandable, just add one more module
- Easy to reconfigure
- Mix and match for tailor made solution
- Minimizes your risk of making the wrong investment
- The safest decision you will ever make

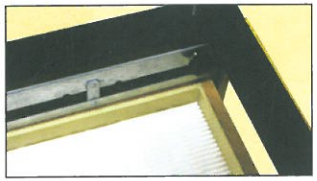
Unique modular assembly

The unique modular assembly (patent pending) and special bolts will make sure that installation is easy and at the same time has the same stability as a one piece unit.

- **Change the filter** – If the application changes you can easily insert a different media into the same cabinet
- **Free standing with 3 optional inlets** – Right, left or back, means flexibility when connecting to duct work
- **Add one extra filtration step**
- **Rebuild / extend the filter** – when changes in production take place

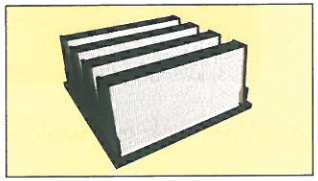
Filter life indicator

Tells exactly when to change filters and what filters to use in the unit.



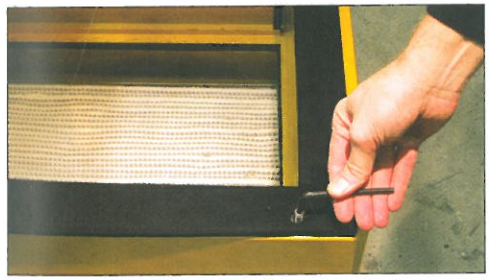
HEPA (High Efficiency Particulate Arrestor)

Optional HEPA filter with high surface area and H12 filter class. Guarantees high separation efficiency, which does not deteriorate over long periods of time.



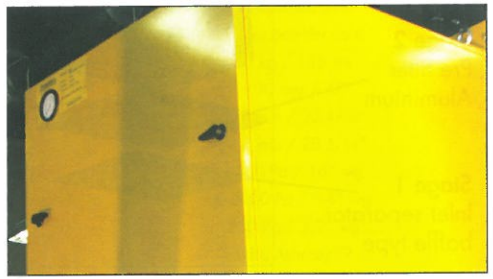
Carbon filter to remove odours and gases

Option to remove odours, vapours from organc gases, solvents, welding, soldering and ozone.



Easy assembly at site

The filter can be assembled with only one tool. This enables installation in areas where large units are difficult to place.



Unit finish

Produced from corrosion resistant galvanized, treated with baked epoxy powder coat finish to resist harsh industrial environment.

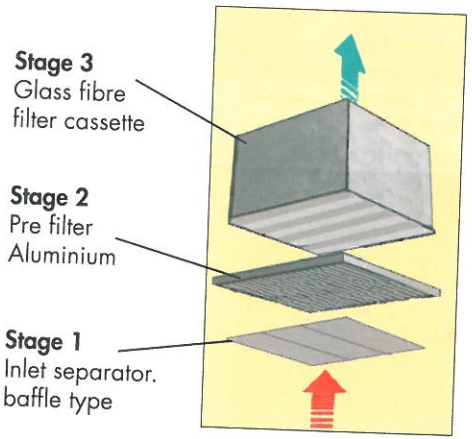
MF – Mechanical filter

PlymoVent MF – Mix and match for tailor made solutions

The "one for all" mechanical filter that adapts to changes and is easy to configure. Mix and match to suit specific processes or choose from our standard configurations.

PlymoVent MF for welding fumes

Designed for use with PlymoVent wall mounted extraction arms or connected to existing extraction system.

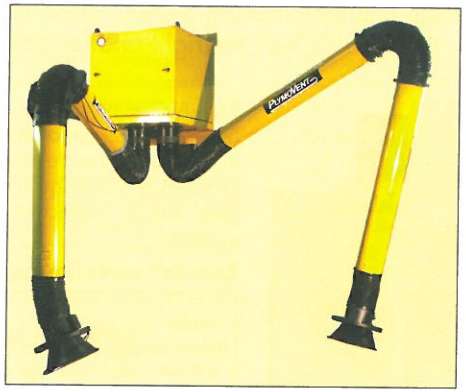


Stage 1 Inlet separator with spark arrestor. Makes sure that no sparks enter the filter.

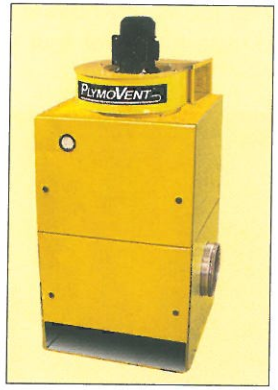
Stage 2 Pre-filter with aluminium mesh to screen out larger particles.

Stage 3 Fine-filter - Glass fibre. Filtration efficiency standard at BIA C, Eurovent F9 and 95% ASHRAE. Disposable filter cassette with long filter life.

Standard unit configurations



MF-30 – Wall mounted with two KUA extraction arms suitable for fan FUA-4700



MF-31 – Free standing suitable for fan FUA-3000

TECHNICAL DATA

PlymoVent Mechanical Filter MF

Prod. no.		MF-30	MF-31
Filtration step		3	3
Air volume		1-2x800-1200 m³/h / 1-2x470-700 CFM	2500 m³/h / 1470 CFM
Inlet		PlymoVent Extraction arm	Centralsystem
		Type: 1-2 x KUA/EA	3 sides 250 mm / 10"
Housing material		Galvanized steel	Galvanized steel
Housing finish		Epoxy powder coat	Epoxy powder coat
Weight		49 kg / 108 lbs	72 kg / 158 lbs
Dimensions	Height	857 mm / 33 3/4"	1190 mm / 47"
	Width	675 mm / 26 9/16"	675 mm / 26 9/16"
	Depth	712 mm / 28"	718 mm / 28 5/16"
Max. negative pressure		4000 Pa / 16" wg	4000 Pa / 16" wg
Filterlife indicator		0-2000 Pa / 0-8" wg	0-2000 Pa / 0-8" wg
Final filter pressure		800 Pa / 3.2" wg	800 Pa / 3.2" wg
Unit efficiency		95% Ashrae/F9	95% Ashrae/F9
		EuroVent BIA-C	EuroVent BIA-C

PlymoVent reserves the right to make design- and technical changes.

S-1 Smart"One"

Brings longer life to your workers. "One smart choice".

The Smart"One" is the most state-of-the-art dry dust and smoke collector on the world market today. PlymoVent's **Ram-Air™** High Energy Cleaning System, developed and field tested for over four years makes, the Smart"One" the right one for your application.

Over the years many manufacturers have made unsubstantiated claims of technical advances in dust collection design. PlymoVent again redefines dust collector standards by the introduction of the Smart"One".

One new filter

The new filter design of the Smart "One" gives an exceptional degree of filtration provided by one extended surface cartridge filter with up to 99,9% efficiency. Due to PlymoVent's advancements in synthetic cartridge filter technology, we have been able to succeed in the development of a filter with higher airflow and better cleaning ability through pleat stabilizing design. This superior filter combined with our continuous advancements in our Clean Card™ technology automatically monitors the status of the filter and initiates cleaning only when needed. This results in lower compressed air usage and extended filter life. When you purchase a PlymoVent product, you are assured that our product will outlast your investment.

Cleaning Control System

The equipment comes with a newly developed and highly advanced visual filter monitoring system.

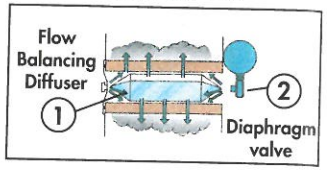
The filter can be manually cleaned at any time. Clear and simple instructions on the filter housing lid plus a simple handle make filter changing simple and convenient.

Ram-Air™:
A higher level of cleaning

The PlymoVent dust collectors use Ram-Air™ technology for filter cleaning.

Ram-Air™ High Energy Cleaning System was designed by PlymoVent in 1994 to overcome the historical problem of cartridge filters plugging due to ineffective cleaning systems.

Ram-Air™ works like this:



Inside each cartridge filter is a Ram-Air™ Flow Balancing Diffuser (1), which reduces the open inside area of the filter. Its triangulated design and air-foil tips at the front and back direct the cleaning energy provided by compressed air. The air rapidly fills the inside of the filter and equally cleans the entire outside filter surface.
Other manufacturers try to clean two filters at the same time or pack twice the filter media in the cartridge and Just Cannot Clean It.

The Clean Card™ combines soft touch controls with trouble-free integrated design:

- Full pressure controlled automatic cleaning.
- Manually operated off-line cleaning.
- On/off fan control.
- Fully adjustable timer settings.
- Filter status indicator light.

FEATURES AND BENEFITS

Hopper & dust bin
- Hopper designed for ease of dust removal.
- 40 l dust bin as standard.
- 250 mm diameter connection between dust bin and hopper.
- Air tight seal on dust bin.

Single Filter System
- Large capacity.
- Easily removed – horizontal design.
- Spun bond polyester standard, other type of filters are available.
- Positioning guide in cartridge door.

Self cleaning
- Pressure controlled automatic cleaning.
- Manual off-line cleaning – standard.
- Internal air tank.
- Manual air bleed valve.

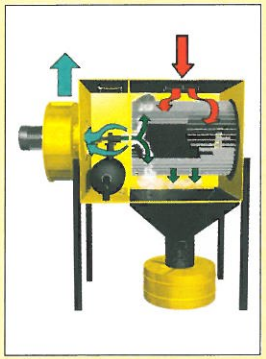
Ram-Air™ Flow balancing diffuser
- Extends filter life.
- Uses 50% less compressed air.
- Non-wire frame.
- Enhanced cleaning efficiency.
- Better air distribution during pulse cycle.

Control box/panel
- Soft touch controls.
- Cartridge cleaning indicator light.
- Push button cleaning.
- No switches to break or wear.
- Cleaning control pressure sensor.
- Manual off-line cleaning included.
- Dust and water resistant.

With a PlymoVent Smart"One":

- We reduce consumption of expensive compressed air by 50%.
- We reduce your replacement filter cost.
- We reduce the running pressure, which reduces electric consumption.
- We increase airflow provided to your process.
- We reduce your need for off-line cleaning, which increases production time.

When your application calls for a compact, self-cleaning, dry dust collector, the Smart"One" is the right one for virtually all intermittent or continuous industrial processes.



Its flexible design allows for any installation possibility

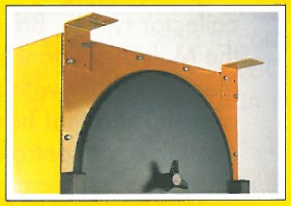
If your application calls for one unit, a direct-mounted fan can be provided. But if you require multi-units, a system fan can be supplied. This will allow you to connect two or more Smart"One"s together and reduce your cost of electric installation and operation. This feature is also good when the sound of fans in an area may be objectionable to employees. In this case, the Smart"One" allows you to remotely mount the fan unit.

TECHNICAL DATA

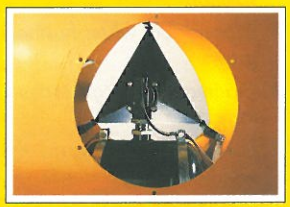
Prod. no:	S-1
Max airvolume:	1400 m³/h/824 CFM
Typ. airvolume:	1000-1200 m³/h/588-705 CFM
Weight:	103 kg/227 lbs
Dimensions:	935x660x1580 mm/36.8x26.0x62.2"
Electrical supply:	AC-1 or 3 phase
Compressed air:	Max 5 Bar dry, clean air
Filter area:	20 m²/215 sq.ft.
Inlet Top:	Ø 250 mm/10"
Outlet left, right or top:	Ø 160 mm/6"

Accessories:	
CAR:	compressed air filter regulator
RS-1:	floor rack
FUA-3000:	Fan - 1,1 kW/ 1.5 HP
Mounting:	
Wall and ceiling brackets as standard or optional floor rack mounting.	

Quality from top to bottom!

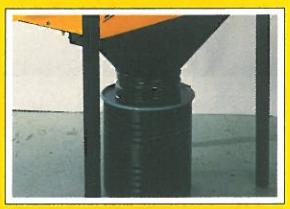


Flexible mounting options allow the Smart"One" to be mounted from the ceiling, wall or floor.



Ram-Air™ *Balancing Diffuser forces and distributes the compressed air, maximizing cleaning and reducing compressed air consumption.*

One Point Hook-up of electric and compressed air makes start-up easy. Built in compressed air water drain allows for quick service.



Smart"One" includes a 60° incline dust transport hopper and dust drum.

MDB – MultiDust® Bank

MultiDust® Bank brings you into the frontline of air cleaning and economy.

With the MultiDust® Bank PlymoVent introduces the 3rd generation flexible cartridge collector system. Based on vast experience from worldwide applications over 9 years the MultiDust® Bank gives you the latest techniques and still the best return on investment. Together with the MultiDust® Bank comes the experience, technical knowhow and support that has made PlymoVent the supplier of the widest production range available for controlling industrial pollution.

- *Efficient filtration of dust and fumes up to 99.9%*
- *Modular design for any size solution*
- *Expandable when business grows*
- *Optimal cartridge technology*
- *RamAir™ really cleans the whole cartridge*

MultiDust® Bank – The total solution for dust collection

The modular design of the MultiDust® Bank provides for any capacity application.

In addition, the impressive performance of each module allows for a more compact solution compared to other systems, facts that clearly mean economy of investment. The range of technical features and the latest filter technology adds up to a completely cost effective system to operate and maintain.

Altogether, it brings The MultiDust® Bank to the forefront in total dust collection solutions.

One important main objective has guided the design of the MultiDust® Bank: A performance with maximum economy in every cubic metre of processed air. When other people talk about filter area we talk about the economy of filter cartridge efficiency and optimum filter cleaning performance for 99.9% Clean Fresh Air.

The MultiDust® Bank introduces you to the future of dust collection standards. A well balanced system where the numerous features together fulfil their mission for highest performance. PlymoVent experience over the years has created a total dust collection solution, not only for 99.9% clean fresh air but also for the low cost of ownership.

MultiDust® Bank has air volume capacity from 1 000 m³/h/ 588 CFM up to 70 000 m³/h/ 50 000 CFM!

The MultiDust® Bank talks a language you'll understand

With the MultiDust® Bank, PlymoVent has again set new standards in handling industrial pollution. The benefits are not only the numerous technical features of the MultiDust® System, but also the economy this frontline technology gives in daily operation and for years to come. The intelligent technology used in this filter considerably reduces the Life Cycle Cost (LCC).

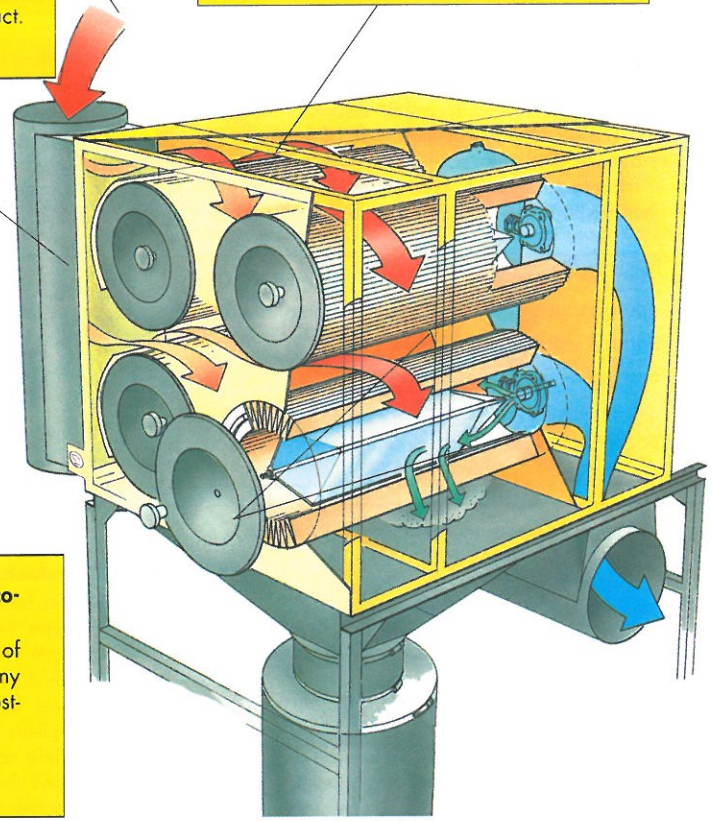
Yes, the MultiDust® Bank has a clear message: Cleans 99.9% of fumes and dust in the most economical way.

1. The MultiFlow multiposition inlet can be fitted in a variety of positions depending on size, concentration of particles and space requirements. The inlet can be supplied in various dimensions to fit the relevant duct.

2. Pre-filter for safety
In applications where hot sparks might be a risk for damage or fire an optional slide-in pre-filter can be positioned in the inlet. Here we talk economy in cartridge life as well as safety.

3. Control systems for best economy
PlymoVent provides a variety of control systems in order to fit any application need in the most cost-effective way.

4. The unique MultiFlow airshield disperses incoming air evenly, resulting in equal air flow throughout multiple modules.

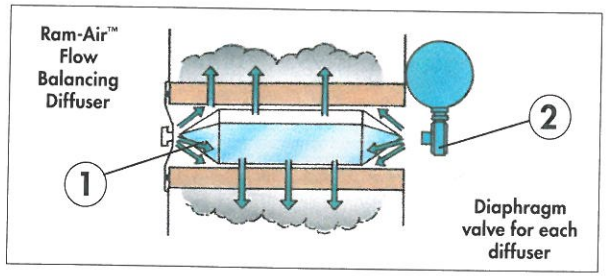


PlymoVent reserves the right to make design and technical changes.

MDB – MultiDust® Bank

Ram-Air™ cleaning means filter cartridge economy

Ram-Air™ High Energy Cleaning System was designed by PlymoVent in 1994 to overcome the historical problem of cartridge filters plugging due to ineffective cleaning systems.



Ram-Air™ works like this:

Inside each cartridge filter is a Ram-Air™ Flow Balancing Diffuser (1), which reduces the open inside area of the filter. Its triangulated design and air-foil tips at the front and back direct the cleaning energy provided by compressed air. The air rapidly fills the inside of the filter and equally cleans the entire outside filter surface.

Other manufacturers try to clean two filters at the same time or pack twice the filter media in the cartridge and just cannot clean it.

The Ram-Air™ benefits:

- Reduced consumption of expensive compressed air by 50%.
- Reduced replacement filter cost.
- Reduced running pressure, which reduces electricity consumption.
- Increased airflow provided to your process.
- Reduced need for off-line cleaning, which increases production time.

Options and accessories

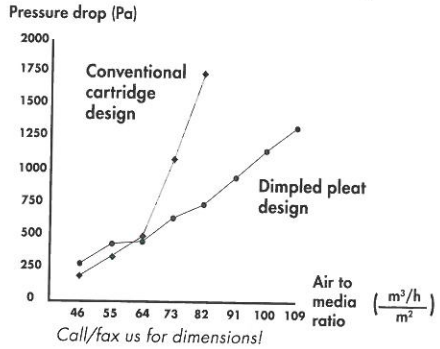
Pneumatic supply unit with pressure gauge feeds filtered compressed air with correct pressure to the MultiDust® Bank.

To avoid filter cartridge damage caused by hot particles, a slide-in pre-filter is available. Positioned in the inlet it is easily cleaned.

Pressure relief panel (EN ISO certified) available for safety in explosive dust/fume applications.

- Special filter media
- Dustbins; 40, 60, 200 l.
- Racks 120, 170 cm heights
- Explosion-proof solenoid valves
- Full range of fans
- Pre-separators and cyclones

The chart shows the superiority of the new pleat stabilizing technique compared to conventional cartridges.

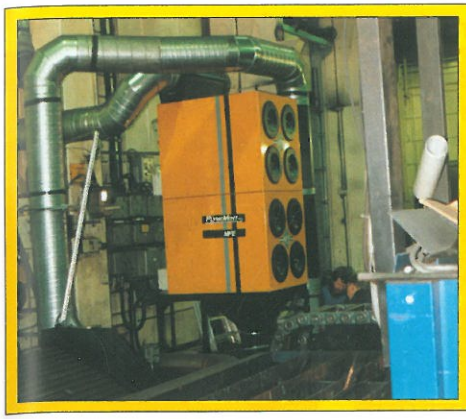


Call/fax us for dimensions!

Latest pleat stabilising filter technology

The spun bound polyester cartridges have a new technique in pleat stabilising which ensures correct distances between cartridge pleats. This allows more filter area in each filter and the best cleaning ability. In the end, this means a lower cartridge replacement rate.

PlymoVent reserves the right to make design and technical changes.



Cetetherm AB, Sweden, manufactures boilers and heat exchangers. PlymoVent was contracted to replace an existing extraction system which failed to filter fumes from the plasma cutting table. The problem was solved by installing a modern extraction system and 8-cartridge filter unit, meeting todays high environmental standards. Stainless as well as black steel of various thicknesses are cut on the table which is sectioned for more efficient fume extraction.

The HWK Welding school in Koblenz, Germany, was opened in 1984 with a simple extraction system consisting of arms and open hoods. As the system didn't work sufficiently, the school turned to PlymoVent for help. The school has 83 work places for welding, but sometimes only five or ten are in use.

PlymoVent installed 83 pcs 100 mm/4" Miniman Arms, Automatic Dampers ASE-12 and Frequency Inverters FO. In addition, we also installed two 32-cartridge MultiDust® Banks and 45 kW fans to take care of the vapors. The system works at the capacity needed at a specific moment, depending on how many welding workplaces are in use. This keeps the energy cost down to a minimum, at the same time as it ensures that the system always removes the pollution sufficiently.

The Fagro organization is a subcontractor to the car industry in Germany, manufacturing doors for the Ford Transit and oil sumps for Mercedes-Benz.

PlymoVent was contracted to design a system to extract particles from grinding and polishing of car doors at two work stations as well as welding and soldering oil sumps.

As rotating grinding tables are used, the unusual problem of constantly grinding in the same direction arises. Together with Fagro's operation and production manager, PlymoVent designed optimum extraction systems tailored to an 8-cartridge filter unit with fan. Thanks to a successful filter installation, Fagro ordered another filter system with an air capacity of 11 200 m³/h/6593 CFM for welding and soldering fumes at the oil sump production.

EMK – Mobile Elektrostatic filter

Highly efficient extraction and filtration unit for temporary work stations

PlymoVent mobile electrostatic filter EMK-1602/AL efficiently solve the problems of welding fumes, dust and smaller particles. Use them for those intensely hazardous jobs that can occur anywhere in the workshop. A perfect complement to your PlymoVent fixed extraction system.

The EMK units are fitted with heavy-duty industrial electrostatic cells which filter the air in 3 stages.

The filtration efficiency is extremely high, even with high volumes of air. The filter cells are easily accessible. Just wash them and re-use them!

Robust and versatile

The big wheels and handles on the unit allow it to be moved easily to exactly where it is needed. The extraction arm is PlymoVent's super flexible "KUA" which offers maximum versatility in all situations.

PlymoVent's mobile electrostatic filters give at source extraction around the workshop. They are available with a choice of three arms, 2 m/7 ft, 3 m/10 ft or 4 m/14 ft. The 4 m/14 ft arm can reach up to 5.2 m/17 ft from floor level and anywhere within a working area of 8 m/26 ft. The PlymoVent EMK is the sensible first step for a company to solve its problems with welding fumes, as it can be used exactly where it is required. All you need is a single phase socket and the extractor is ready to go into action.

For companies who have already solved their main welding fume problems with wall mounted fume extractors, the EMK is the perfect complement.

It can be used at those temporary workplaces around the factory where welding is only occasionally carried out, but where fume removal is necessary; and of course it is invaluable as a reserve so that if any of the wall mounted extractors are out of order it can take over and prevent a stoppage of work.

The big advantage with electrostatic filters is that they can easily be cleaned and used again. How often you have to clean them depends on how much fume and dust you extract.

PlymoVent mobile electrostatic filters use powerful industrial cells, and are built throughout from robust components for tough, demanding industrial use.

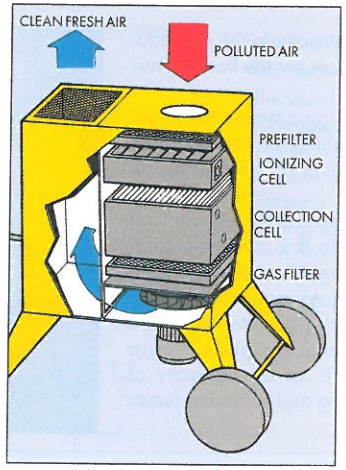
PlymoVent offers you a clean working environment at the right price.

ESSENTIAL FACTS

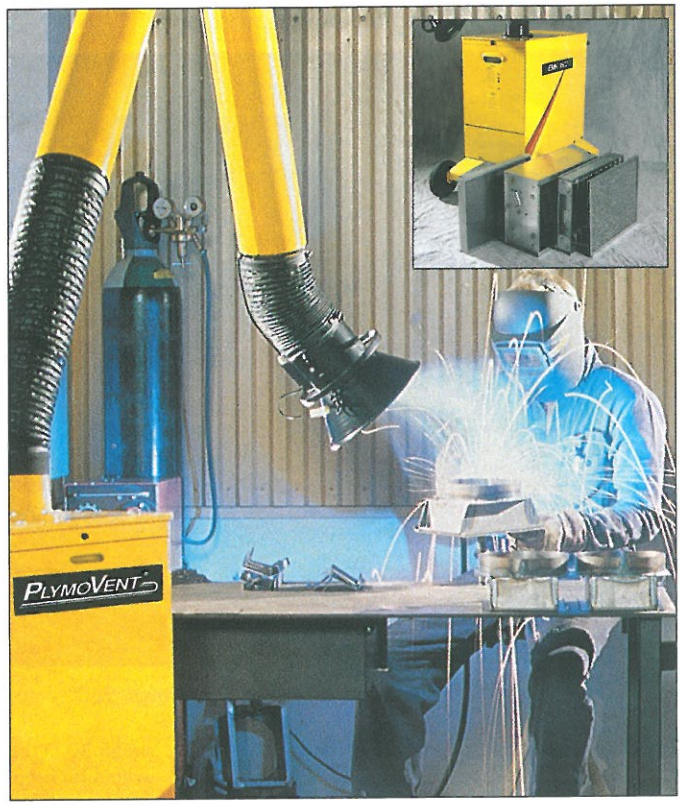
The EMK filters particles down to 0,005 µm (0,000005 mm/ 0.0000002") in two stages. Particles which pass through the pre-filter are charged with 12 000 V in the ionizing cell. These are then separated in the collection cell at a voltage of 6 000 V.

The cleaned air is discharged upwards from the unit. A third stage in the filtration process can be carried out by an activated carbon filter which can be fitted after the collection cell.

- See page 78 for information about the electrostatic principle.
- For use with single phase 230 V supply, or single phase 110 V supply.



- Equipped with a transformer to enable a halogen lamp cartridge to be fitted in the hood.
- When the filter is full, a yellow warning light comes on and on alarm signal sounds. About 20 seconds later the fan stops and a red light comes on. The collection cell and the ionization cell must be cleaned before starting the filter again.
- Low noise level – < 70 dB(A) at a distance of 1 m/3 ft.
- Stability is assured due to robust legs.
- Manoeuvrability provided by rear wheels, designed to swivel through operated parking brake.



TECHNICAL DATA

PlymoVent Mobile Electrostatic Filter – EMK

Prod. no:	Fan	Active filterarea m²/sq.ft	Height mm/inch	Width mm/inch	Length mm/inch	Weight kg/lbs	Noise level ca dB(A)	Max airflow through the hood m³/h/CFM
EMK-1602/AL	0,75 kW, 110/230 V, 1-ph freeblowing 2160 m³/h/1300 CFM	16.4/176	1240/49	900/35	1340/53	118/260	< 70	1500/960

Complementary products and accessoires

CF-002	Activated carbon filter for EMK-1602/AL

PlymoVent reserves the right to make design and technical changes.

MFC – MultiFume® Caddie

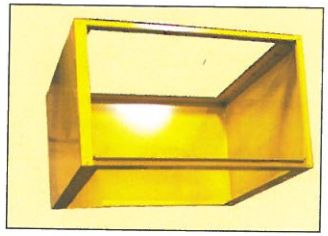
Mechanical mobile filter that fulfils your requirements for a better and safer working environment during welding operations.

The PlymoVent Extraction arm can be rotated through 360° – reach everywhere!

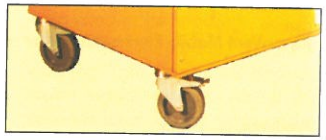
A mobile fume extractor is perfect in applications that require flexibility: Easy to move and can always be used near the process where fumes are generated.

With a PlymoVent MultiFume® Caddie, fumes and dust from welding are captured from a distance between 30-50 cm/12-20" from the welding source and within an area of 0,5 -1,0 m/1.6-2.6 ft. the captured fumes are filtered and re-circulated within the premises. This eliminates problems with heat loss without disturbing existing ventilation systems.

Front access makes the welding filter easy to remove.



The PlymoVent MultiFume® Caddie is just one product from our range of Mechanical filters, built with a unique modular assembly (patent pending).



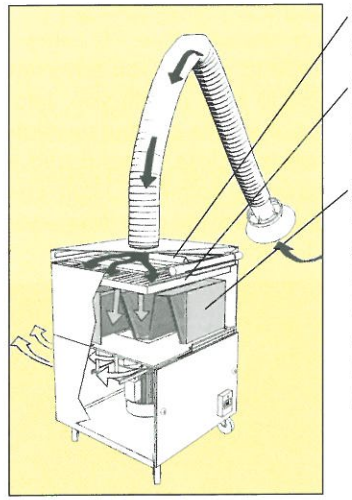
Stay in place with the help of lockable wheels.

Also available with automatic start/stop function.

The MultiFume® Caddie is designed to extract and filter fumes generated during the welding operation. It is the perfect solution for light engineering and repair work.

The unit has a built in high efficiency filtering system with spark arrestor, pre filter and a welding filter surface area of 35 m²/377 ft². This gives a high separation efficiency and whilst maintaining powerful extraction rates and ensures long filter life.

Compact design and a low centre of gravity (the unit is only 1 m/3 ft high) makes the unit very easy to move.



Stage 1
Spark arrestor

Stage 2
Pre-filter Aluminium
Prod No: PF-INL-AL cassette.

Stage 3
Filter elements

Standard: Basic welding filter: BIA G, F8 EuroVent, 35 m²/377 ft²
Prod No: CLMF

Optional: Glass fibre filter: BIA C, EuroVent F9, 25 m²/270 ft²
Prod No: GFMF

TECHNICAL DATA

PlymoVent Mobile Mechanical filter "MultiFume® Caddie"

Product no	**MFC-1200**		
Housing material	Galvanized steel		
Housing finish	Epoxy powder coat		
Unit dimensions	Height: 1007 mm / 39"	Width: 689 mm / 27"	Depth: 771 mm / 30 5/16"
Air volume	1200 m³/h / 700 CFM		
Extraction arm	Economy Arm, 2 m/7 ft or 3 m/10 ft, Ø 160 mm / 6.25"		
	KUA Arm, 2 m/7 ft or 3 m/10 ft, Ø 160 mm / 6.25"		
Extraction arm rotation	360°		
Area of reach	max 3 m/10 ft, both vertical and horizontal		
Filter monitoring	Yes – red light when filter is full		
Noise level	< 70dB(A)		
Filter unit weight	105 kg / 231 lbs		
Power supply	0,75 kW, 220-240/380-420 V, 50 hz, 3-ph		
	0,75 kW, 230 V, 50 hz, 1-ph		
	Other power supply available on special request		
Product no	**MFC-1204** - as MFC-1200 but prepared for automatic start/stop and halogen working light		

Accessories

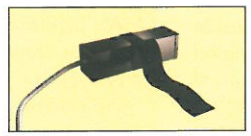
Extension hoses
Fitted directly to the hood collar, 3 m/10 ft, Ø 160 mm/6.25"

Prod. no: SLE-30

Extension of semi-rigid construction
Both flexible and adjustable, 1 m/3 ft, Ø 125 mm/5"

Prod. no: FSL-1

Inductive sensor
For automatic start/stop in welding applications, 5 m/16 ft cable (accessory for MFC-1204)



Prod. no: MCC-05

Halogen working light
Including switchbox and cable (accessory for MFC-1204)

Prod. no: HL-20/24-160

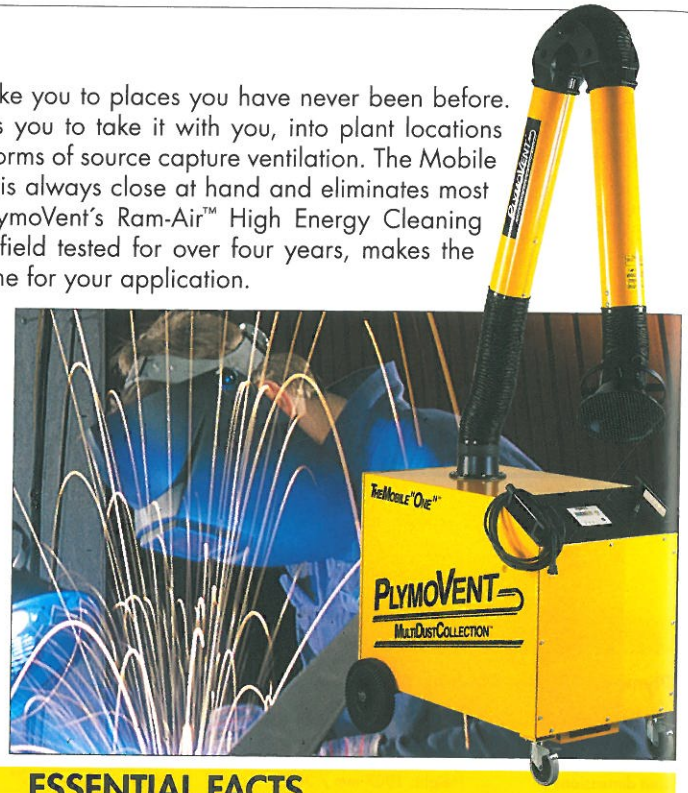
M-1 – Mobile"One"

"One" great advantage.

The Mobile"One" will take you to places you have never been before. The Mobile"One" allows you to take it with you, into plant locations not accessible by other forms of source capture ventilation. The Mobile "One's" versatile design is always close at hand and eliminates most dry dust and smoke. PlymoVent's Ram-Air™ High Energy Cleaning System, developed and field tested for over four years, makes the Mobile"One" the right one for your application.

- Higher filter cleaning energy.
- Better filter surface cleaning.
- 50% less compressed air required to clean the cartridge.

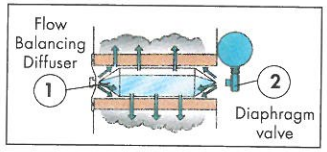
Over the years many manufacturers have made unsubstantiated claims of technical advances in dust collector design. PlymoVent again redefines dust collector standards by the introduction of the Mobile"One".



ESSENTIAL FACTS

Ram-Air™ High Energy Cleaning System was designed by PlymoVent in 1994 to overcome the historical problem of cartridge filters "plugging" due to ineffective cleaning systems.

Ram-Air™ works like this:



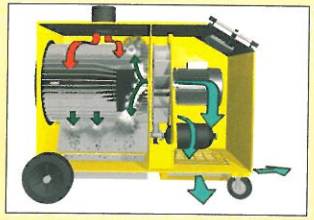
Inside each cartridge filter is a Ram-Air™ Flow Balancing Diffuser (1), which reduces the open inside area of the filter. Its triangulated design and air-foil tips at the front and back direct the cleaning energy provided by compressed air. The air rapidly fills the inside of the filter and equally cleans the entire outside filter surface 100%.

Other manufacturers try to clean two filters at the same time or pack twice the filter media in the cartridge and just cannot clean it.

With PlymoVent Mobile"One":

- We reduce consumption of expensive compressed air by 50%.
- We reduce your replacement filter cost.
- We reduce the running pressure, which reduces electricity consumption.
- We increase airflow provided to your process.
- We reduce your need for off-line cleaning, which increases production time.

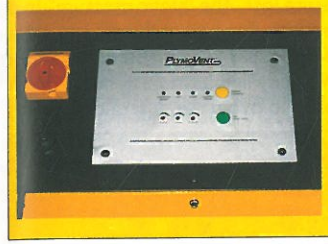
When your application calls for a compact, self-cleaning, dry dust collector, the Mobile"One" is the right one for nearly any intermittent or continuous industrial process.



ONE new filter
The new filter design of the Mobile "One" gives an exceptional degree of filtration provided by one extended surface cartridge filter with up to 99,9% efficiency. Due to PlymoVent's advancements in synthetic cartridge filter technology, we have been able to succeed in the development of a filter with higher airflow and better cleaning ability through pleat stabilizing design.

This superior filter combined with our continuous advancements in Clean Card™ technology automatically monitors the status of the filter and prescribes cleaning only when needed. This results in lowered compressed air usage and extended filter life. When you purchase a PlymoVent product, you are assured that our product will outlast your investment.

Cleaning Control System
The equipment comes with a newly developed and highly advanced visual filter monitoring system. The filter can be manually cleaned at any time. Clear and simple instructions on the filter housing lid plus a simple handle make filter change simple and convenient.



The Clean Card™ combines soft touch controls with trouble-free integrated design:

- Full pressure controlled automatic cleaning
- Manually operated off-line cleaning
- On/off fan control
- Fully adjustable timer settings
- Filter status indicator light

FEATURES AND BENEFITS

Single filter cartridge
- Large capacity.
- Easily removed – horizontal design.
- Spun bond polyester standard, other type of filters are available.
- Positioning guide in cartridge door.

Self cleaning
- Pressure controlled automatic cleaning.
- Manual off-line cleaning – standard.
- Internal air tank.
- Manual air bleed valve.

Ram-Air™ Flow Balancing Diffuser
- Extends filter life.
- Uses 50% less compressed air.
- Non-wire frame.
- Enhanced cleaning efficiency.
- Better air distribution during pulse cycle.

Portable
- Light weight.
- Easy to move.
- Large solid rubber wheels.
- Locking swivel castors.
- Compact design

Control panel
- Soft touch controls.
- Cartridge cleaning indicator light.
- Single phase operation.
- No switches to break or wear.
- Cleaning control pressure sensor.
- Manual off-line cleaning included.
- Dust and water resistant.

Extraction arm
- Two models available. Standard and Economy, 2-4 m/7-10 ft reach.
- 360 degree rotation.

TECHNICAL DATA

Product no	**M-1**
Max airvolume	1400 m³/h / 824 CFM
Typical airvolume	1000 - 1200 m³/h / 588 - 705 CFM
Filter area	20 m² / 215 sq.ft.
Dimensions	1170 x 790 x 970 mm / 46 x 31 x 38.2"
Weight	169 kg / 373 lbs
Electrical supply	230 V, 1-phase, AC
Compressed air	Max 5 Bar / 65 psi dry, clean air
Noise level	< 70 dBA

Quality from top to bottom!

Spark and abrasive dust arrestor pro-tects the filter from spark damage etc.

An onboard, pressurized air-tank cleans the Mobile"One" filter twice without a compressed air connection. It is no longer a problem to temporarily work away from the usual work place. The Ram-Air™ balancing diffuser reinforces and distributes the compressed air to achieve maximum effect, drastically reducing compressed air consumption.

Dust baffle eliminates back suction.

Integrated seal-tite dust tray prevents dust from re-entering or escaping from the filter.

Two models!
Patent Pending design

Pressure Loss

Pressure loss is the No. 1 enemy in a ventilation system. It is no good buying the world's best fume extractor if the pressure loss in your ducting network is too high. To help you understand pressure loss and how to minimise the effects of it in your system, the next two pages show in simple form how you can calculate it.

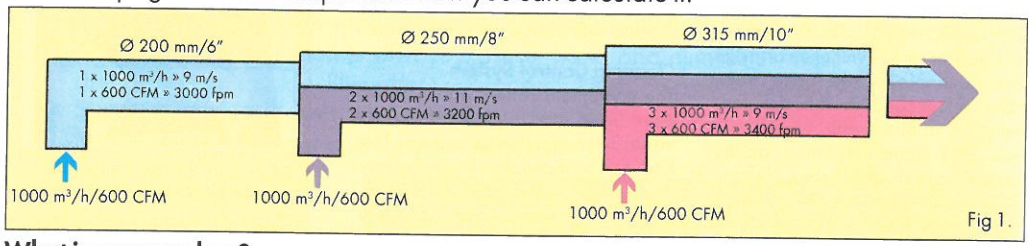


Fig 1.

What is pressure loss?

The air resistance in a ductwork system is mainly determined by the velocity of the air in that system. As the velocity increases, the resistance also increases. This is, in fact, what we call pressure loss. The "static pressure" in a fan indicates the volume of air that the fan can extract, given a certain pressure loss. The higher the pressure loss is, the less air the fan will extract. The diagram above demonstrates how the pressure loss (resistance) can be kept down, by increasing the size of the ducting so that you achieve an even velocity in the whole system. When extracting fumes and dust you must, however, maintain a relatively high velocity to avoid the dust and particles settling in the ducting system. A velocity of 10-15 m/sec / 2000-3000 fpm is considered reasonable.

How to calculate the pressure loss?

Pressure is measured in Pascal (Pa) / Inches Water Gauge ("w.g.). To calculate how many Pa / inch wg you get in a certain duct, you must know how much air is passing through that duct. Air volume is measured in m³/h (cubic metres per hour) / CFM (Cubic Feet per Minute)or l/s (litres per second). On the next page you will find a pressure loss table and an example of the calculation.

Conversion factors

1 mm wg ≈ 10 Pa
1 m³/h ≈ 0,28 l/s

Recommended values:

Air velocity in ducting:
10-15 m/s / 2000-3000 fpm
Air volume per fume extractor:
1000 m³/h / 600 CFM

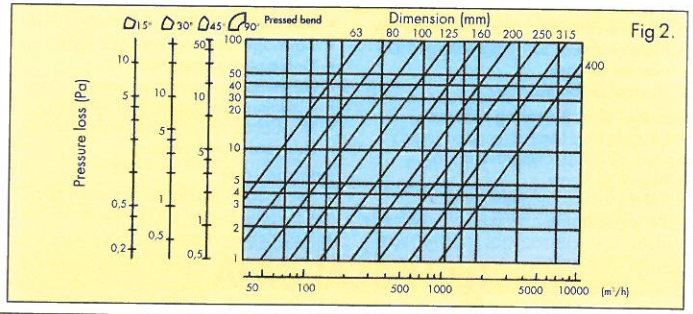
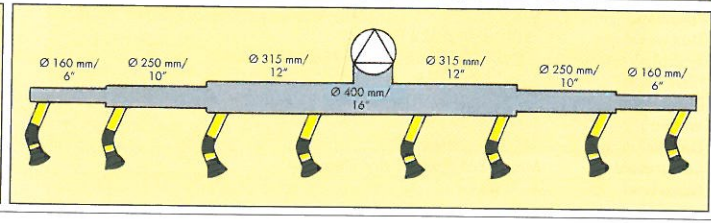


Fig 2.

SUGGESTION!

In larger systems it is usually a good idea to position the fan in the middle of the system. This gives several advantages – on one hand a lower pressure loss and on the other hand you can use smaller dimensioned ducting.



The pressure loss calculation

PLYMOVENT® INTELLIGENT PROCESS VENTILATION™

Duct diam. in mm	1000 m³/h mm wg	Pa	m/s	2000 m³/h mm wg	Pa	m/s	3000 m³/h mm wg	Pa	m/s	4000 m³/h mm wg	Pa	m/s	5000 m³/h mm wg	Pa	m/s	6000 m³/h mm wg	Pa	m/s	7000 m³/h mm wg	Pa	m/s	8000 m³/h mm wg	Pa	m/s	9000 m³/h mm wg	Pa	m/s	10000 m³/h mm wg	Pa	m/s
Ø160	1,8	18	13	6	60	26																								
Ø200	0,5	5	9	2	20	18	4,5	45	26	7,5	75	35																		
Ø250	0,2	2	5,5	0,6	6	11	1,4	14	17	2,2	22	22	4	40	28	5	50	34	7	70	39									
Ø315				0,2	2	6,5	0,3	3	9	0,6	6	13	0,9	9	16	1,1	11	19	1,7	17	22	2,2	22	26	2,7	27	28	3,2	32	32
Ø400							0,1	1	7	0,2	2	9	0,3	3	11	0,5	5	12	0,6	6	15	0,8	8	17	1,0	10	18	1,2	12	22
Ø500										0,1	1	6	0,1	1	7	0,2	2	8	0,2	2	10	0,3	3	11	0,3	3	13	0,4	4	14

Table shows pressure loss in both mm wg and Pa per m. ducting with air velocity in m/s at different air volumes and different ducting dimensions.

PRACTICAL EXAMPLE

1. Start by making a simple sketch of the position of your fume extractors and the central fan, including the length of ducting between each extractor. See sketch 1.
2. Decide on the air volume in each part of the system (recommended air volume per extractor is 1000 m³/h/600 CFM). See sketch 2.
3. Calculate the pressure loss and ducting diameter for each one of the sections shown A, B, C and D.

Section A.
Determine the ducting diameter for section A by using the table above as follows: Recommended air velocity in the duct is 10-15 m/s. Read down in the 1000 m³/h column until you find a value between 10-15 m/s. Follow that line across to the left and read off the ducting diameter. Also note down the figure in column headed Pa of that line and multiply this by the number of metres of ducting. In this case the result will be 13 m/s, 160 mm Ø duct and 18 Pa x 3 m. Is that correct?
A = 1000 m³/h, 160 mm, 13 m/s, 18 Pa x 3 m = 54 Pa

Section B.
Do the same thing with section B, but remember you should now calculate 2000 m³/h in the duct. Here you get 11 m/s, 250 mm Ø duct, 6 Pa x 3 m.
B = 2000 m³/h, 250 mm, 11 m/s, 6 Pa x 3 m = 18 Pa

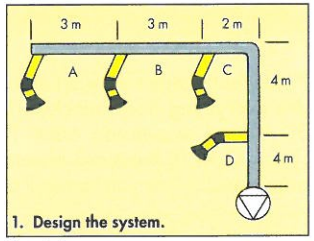
Section C.
To calculate section C is a little more complicated. In the column for 3000 m³/hr there is no alternative between 10-15 m/s, only 9 or 17. Your decision on which is best to use will depend on the air velocity you have in the rest of the system. Remember, always try to maintain an even airflow. If you choose 17 m/s you get 14 Pa, but only 3 Pa with 9 m/s. Therefore 9 m/s will be best in this example.
C = 3000 m³/h, 315 mm, 9 m/s, 3 Pa x (2 + 4 m) = 18 Pa

Section D
D = 4000 m³/h, Ø 315 mm, 13 m/s, 6 Pa x 2 m = 12 Pa

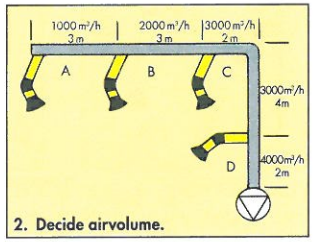
4. When the last section is complete you must look now at the 90° bend in the system. Bends will of course be the same diameter as the ducting adjoining them; here, that is 315 mm. 3000 m³/h is to pass through the bend and on page 80 you will find the table for calculating resistance in bends. Look for 3000 on the scale at the bottom and follow up to the diagonal for 315 mm diameter. In the left column for 90° bends read off pressure loss in Pa. The result is approximately 17 Pa See sketch 4. Now add together all of the Pa values you have noted down. That is, the four sections and the 90° bend: 54 Pa + 18 Pa + 18 Pa + 12 Pa + 17 Pa = 119 Pa To this has to be added the pressure of the fume extractor furthest away from the fan. Let's suppose it is a Junior LM-2 (see page 30). At 1000 m³/h LM-2 has 350 Pa 119 Pa + 350 Pa = 469 Pa This figure tells you the maximum pressure loss in the system and determines the fan it is possible to use. The total pressure loss over the other fume extractors will be lower the closer you get to the fan, therefore you should use adjustable dampers for each fume extractor.

You have now designed your system! You have created an even airflow in the system and now know you need a fan that can extract 4000 m³/h at 469 Pa pressure loss. Remember also that if you use ducting on the outlet of the fans you should include this in calculating the demand on the fan.

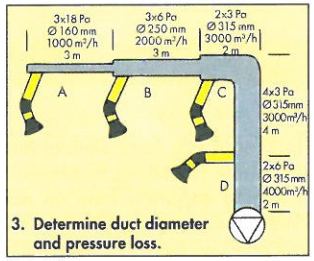
How to select your fan
Select a fan from the pressure loss chart for fans (page 44) that meets your requirements of 4000 m³/h at 469 Pa. In this case it will be the FS-4700 which gives you 3700 – 3800 m³/h at 469 Pa. This unit will give 950 m³/h for each fume extractor.



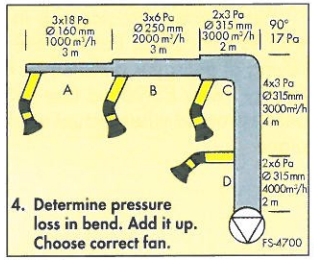
1. Design the system.
Sketch 1.



2. Decide airvolume.
Sketch 2.



3. Determine duct diameter and pressure loss.
Sketch 3.



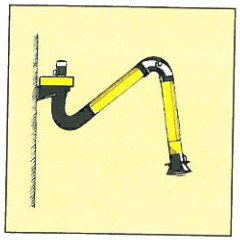
4. Determine pressure loss in bend. Add it up. Choose correct fan.
Sketch 4.

Systems and installation

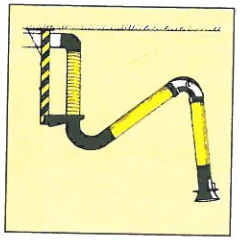
PlymoVent offers all possible variations of systems and installation. PlymoVent has by far the largest range of equipment and accessories for building fume extraction systems, which allows you to construct exactly to your requirements. If you have the ideas, we have the products. But we can also supply the ideas. A number of the most common installation alternatives are detailed below.

SINGLE WORKPLACES

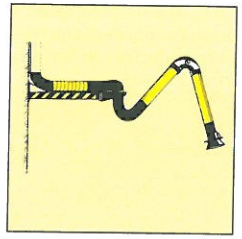
PlymoVent's large range of fume extraction arms includes everything from benchwork extractors to 9 m/30 ft long suspension arms. For the shorter arms (1-4 m/3-14 ft) there are mounting stanchions available, which allow you to install a fume extractor close to wherever you need it, even if there are no walls or ceiling support columns close by. These places can then be served by their own fan which is mounted directly onto the fume extractor.



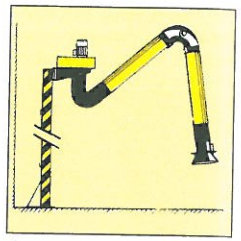
KUA-3 with standard mounting bracket and separate fan.



Ceiling mounted KUA-3 with stanchion PA-110 or PA-220.



Wall mounted KUA-3 with stanchion PA-110 or PA-220.

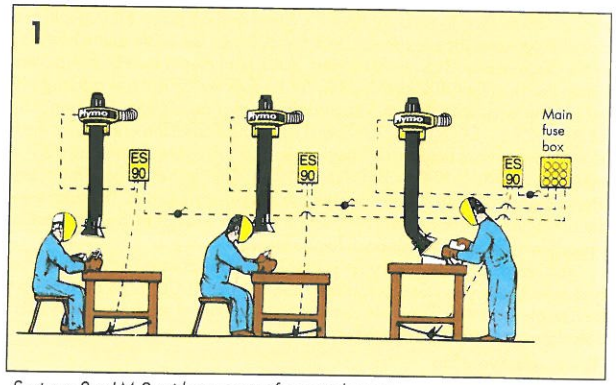


Floor mounted KUA-3 with stanchion PA-220 and separate fan.

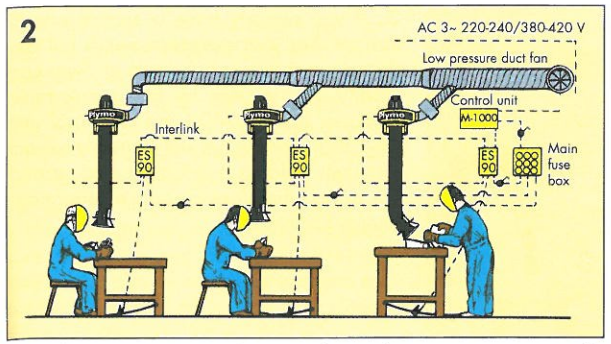
SYSTEM SOLUTIONS

1. Even if you have several fume extractors, there is nothing to prevent you from mounting separate fans on each individual fume extractor. On the contrary, this will give you even more flexibility to make changes to your system in the future.

Each fume extractor has its own fan with its own outlet through the wall. The saving of energy is handled by PlymoVent Energy Saver ES-90, so that heated air is only extracted when actual work is taking place.



System: 3 x LM-2 with separate fans and energy savers.

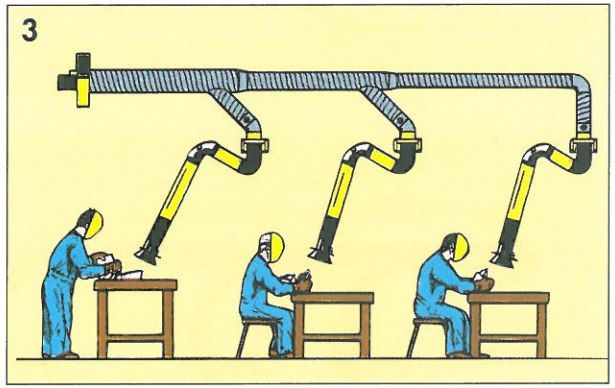


Central system: 3 x KUA-3 with separate fans and energy savers, connected to control unit M-1000 for controlling channel fan (max. pressure 200-400 Pa).

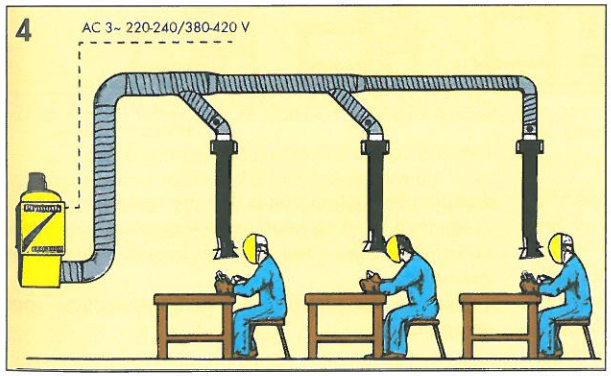
2. Separate fans and energy savers are an excellent solution when you need to connect the fume extractors to central ducting. The airflow in the central duct is then handled by a low-pressure duct fan. The energy savers are connected in series to a control unit, which starts and stops the duct fan at the same time as the fans for the fume extractors.

The advantage with a central duct is that you only need one outlet through the wall. The system demands non-return dampers on the outlets of each fan.

3. System solutions with a central fan can be carried out in many different ways. The simplest solution is to connect the fume extractors to a central duct and a fan, with a large enough capacity, at the other end. The fan will then extract with full power all the time through all the fume extractors. This solution is normally used in new buildings, where the extraction from individual processes has been calculated as a part of the total ventilation required.

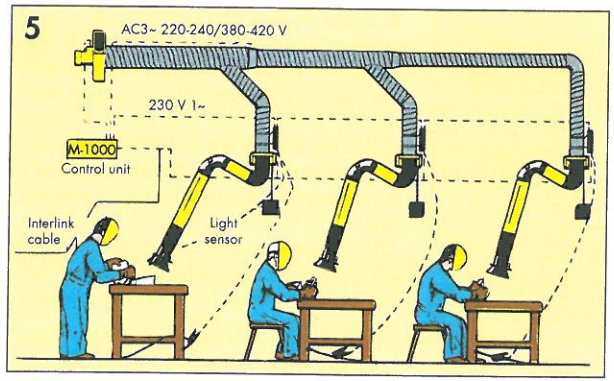


Central system: 3 x KUA-3 with central fan FS-4700. Recommended number of places: FS-3000: 2-3, FS-4700: 3-4.



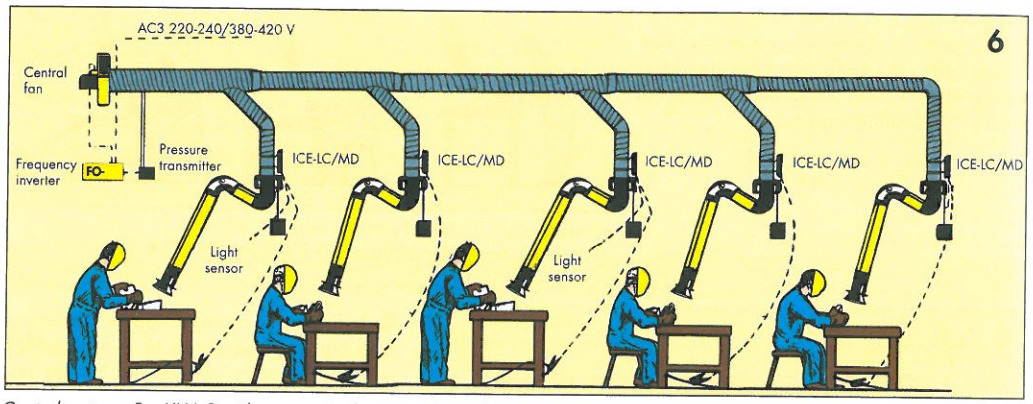
Central system: 3 x LM-2 connected to an electrostatic filter EF-3000. Recommended number of places: EF-3000: 2-3, EF-5000: 3-5 by continuous running. If you want to increase the number of places per filter, you should use ICE-LC/MD (see solution 6).

4. To save even more heated air the central duct can be connected to a filter which will clean and recirculate the heated air. This option is especially recommended if you do not want to disturb the balance between incoming air and outgoing air in an established ventilation system. If this solution is combined with solution 5 it will give you the possibility of connecting even more fume extractors per filter than the table shows.



Central system: 3 x KUA-3 with automatic dampers ICE-LC/MD, control unit M-1000 and a central fan FS-3000 or FS-2100. Rec. number of places: FS-2100: 2-4, FS-3000: 3-6, FS-4700: 4-8.

5. If you already have a central system that satisfies your extraction needs but you do not want to waste heated air, you can modify your system by fitting automatic dampers (ICE-LC/MD) and a control unit (M-1000). The system will then only extract air when welding is actually being carried out, and therefore produce enormous energy savings.



Central system: 5 x KUA-3 with automatic dampers ICE-LC/MD, pressure transmitter TG-1600, DCV-Controller and central fan FS-4700.

6. To perfect a system using automatic dampers, a DCV-Controller, or variable speed drives as they are often called, is used to control the amount of air exhausted in the system. A pressure transmitter reads system pressure that varies when dampers open or close and signals to the frequency inverter to speed up or slow down the fan depending on how many dampers/extraction points that are open.

Minimal building heat loss, lower power consumption and reduced noise provides benefits that pay for themselves.

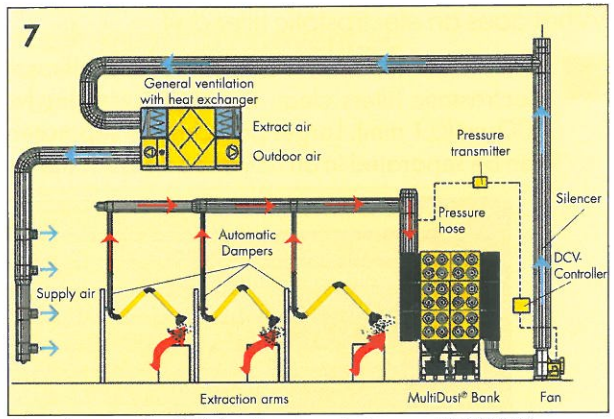
This is a more intelligent system that reduces your energy cost.

7. In the most intelligent system you can add on general ventilation, a filter and a heat exchanger.

If the system operates with substances that are not allowed to recirculate directly a heat exchanger system can be used to collect the energy from the heated air being exhausted from the process. System 7 with automatic dampers, pressure transmitter and DCV-Controller controls the amount of air exhausted from the process, no more no less. A filter cleans the exhausted process air and when the energy from the cleaned air is collected in a heat exchanger to optimise the technical and economical solution.

This solution reduces your energy costs remarkably and reduces your life cycle cost (LCC).

This is the best recommendation.



Central system: 3 x KUA-4 with automatic dampers ICE-LC/MD, pressure transmitter, DCV-Controller, process filter and a central fan. Process ventilation incorporated into the general ventilation system including a heat exchanger.

Points to consider when designing your system

1. Single work places, remote position.

A mobile fume extractor is often a simpler and cheaper solution than installing long expensive central ducting systems.

2. Connecting to an existing ventilation system.

This can be very difficult as you will have to take into consideration the following questions:

Has the existing fan the necessary excess capacity to be sufficient for more fume extractors? Too many extractors to one central fan will mean that the whole system is ineffective. This can be avoided by using PlymoVent automatic motordriven dampers ICE-LC/MD.

Will the central ducting system be able to handle the increased air volume?

Increasing the number of fume extractors on a system will increase the volume of air and air resistance in the central ductwork. You will quickly reach a point where it is no longer possible for the duct system to handle any further increases in air volume, irrespective of the size of the fan.

The total volume of air in the system can be reduced by up to 50% by installing PlymoVent automatic dampers ICE-LC/MD. If you have any doubts whether your duct system and fan can cope, you should consider installing a separate fume extraction system instead of risking your whole ventilation system not working correctly.

3. Separate fans or central fan system.

Separate fans having their own outlet through the wall or ceiling have the advantage that every work place is absolutely independent of the other. The extraction rate will not vary with the number of fume extractors in use at any particular time and it is very easy to move or resite extractor units.

A central fan requires a central ducting system to link the different work stations. Always ensure that the ducting does not obstruct any overhead cranes or other high-level equipment. If so, it may be possible in these circumstances to modify the system by dividing it and using two smaller central fans.

4. Demand controlled ventilation.

With the increasing costs for energy and the awareness of our environment, demand controlled ventilation systems are the best solution. Operating with a minimum of exhaust air and regaining the energy from the already heated air, this is the solution for the future. The life cycle cost (LCC) is in most cases lower on these type of system than on conventional, lower investment systems.

Electrostatic filtration

What does an electrostatic filter do?

Electrostatic filtration is one of the most efficient forms of filtration known. PlymoVent electrostatic filters clean the air of particles from 0.005 µm (0.000005 mm) up to 100 µm (0.1 mm). Larger particles are separated in the mechanical prefilter and gases can be separated in an activated carbon filter (supplied as an accessory).

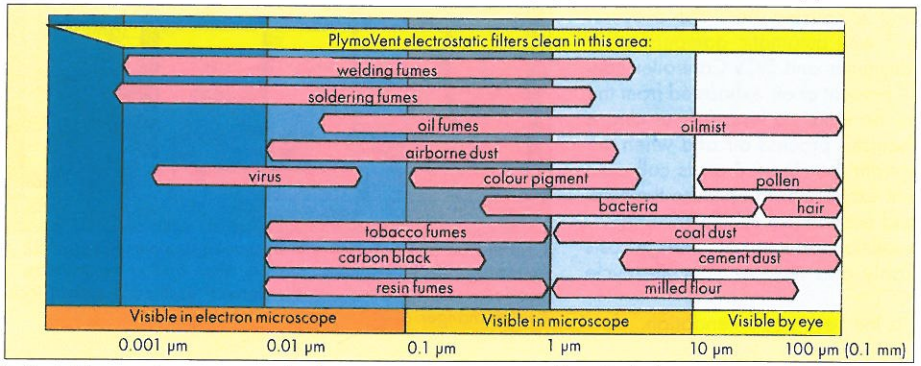
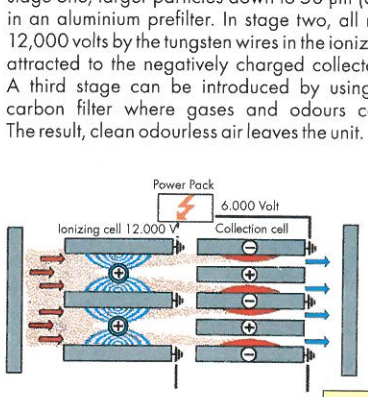
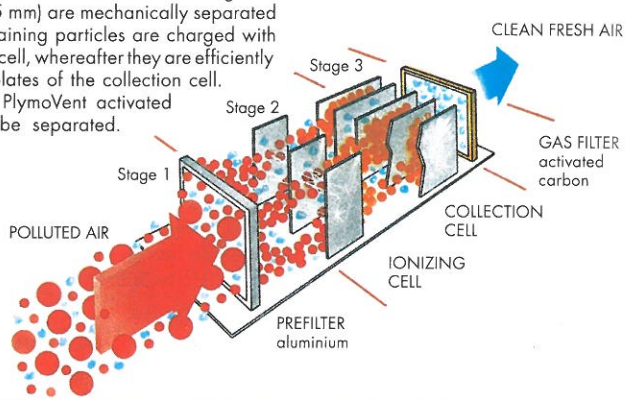


Table 1. The most dangerous particles that can cause respiratory problems for the lungs (0.005 µm-100 µm) are separated by PlymoVent Electrostatic Filters.

How does an electrostatic filter work?

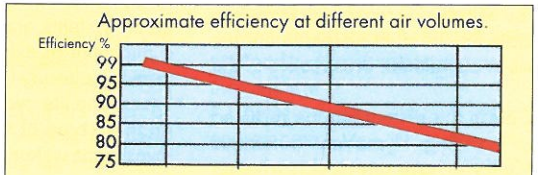
Filtration in PlymoVent electrostatic filters takes place in either two or three stages. In stage one, larger particles down to 50 µm (0.05 mm) are mechanically separated in an aluminium prefilter. In stage two, all remaining particles are charged with 12,000 volts by the tungsten wires in the ionizing cell, whereafter they are efficiently attracted to the negatively charged collector plates of the collection cell. A third stage can be introduced by using a PlymoVent activated carbon filter where gases and odours can be separated. The result, clean odourless air leaves the unit.





How efficient is the electrostatic filter?

The efficiency of the filter depends on the velocity of the air through the filter, ie. the less air that passes through the filter, the higher the efficiency (see table 2).



PlymoVent filter	m³/h	m³/h	m³/h	m³/h
EF-3002	1500	1900	2300	2800
EMK-1602	1500	1900	2300	2800
EF-5002	3000	3500	4000	4800

Table 2.

PlymoVent reserves the right to make design and technical changes.

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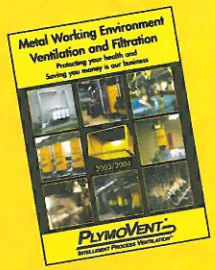

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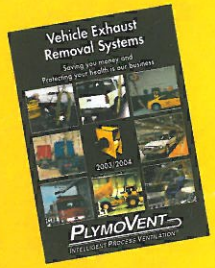

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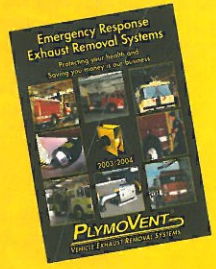

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