

Fume Extraction

Easy Solutions Guide For Source Extraction



Rapid Welding & Industrial Supplies Ltd

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W3 compliant (EN-ISO 15012-1:2013)



Preferred sequence of solution:

1. Examine the welding process and addition of materials. Any other possibilities? If not:
2. Source extraction
3. Extraction hood + personal protective equipment (PPE)
4. General ventilation and filtration systems + personal protection equipment (RPE)



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Health and Safety Executive—Safety Alert

Bulletin No: STSU1 – 2019

Issue Date: February 2019

Target Audience:

All workers, employers, self-employed, contractors' and any others who undertake welding activities, including mild steel, in any industry.

Key Issues:

There is new scientific evidence that exposure to all welding fume, including mild steel welding fume, can cause lung cancer.

There is also limited evidence linked to kidney cancer.

There is a change in HSE enforcement expectations in relation to the control of exposure of welding fume, including that from mild steel welding.

All businesses undertaking welding activities should ensure effective engineering controls are provided and correctly used to control fume arising from those welding activities.

Where engineering controls are not adequate to control all fume exposure, adequate and suitable respiratory protective equipment (RPE) is also required to control risk from the residual fume.

Introduction:

There is new scientific evidence from the International Agency for Research on Cancer that exposure to mild steel welding fume can cause lung cancer and possibly kidney cancer in humans. The Workplace Health Expert Committee has endorsed the reclassification of mild steel welding fume as a human carcinogen.

Consequences: With immediate effect, there is a strengthening of HSE's enforcement expectation for all welding fume, including mild steel welding; because general ventilation does not achieve the necessary control.

Outcome:

Control of the cancer risk will require suitable engineering controls for all welding activities indoors e.g. Local Exhaust Ventilation (LEV). Extraction will also control exposure to manganese, which is present in mild steel welding fume, which can cause neurological effects similar to Parkinson's disease.

Where LEV alone does not adequately control exposure, it should be supplemented by adequate and suitable respiratory protective equipment (RPE) to protect against the residual fume.

Appropriate RPE should be provided for welding outdoors. You should ensure welders are suitably instructed and trained in the use of these controls.

Regardless of duration, HSE will no longer accept any welding undertaken without any suitable exposure control measures in place, as there is no known level of safe exposure.

Risk assessments should reflect the change in the expected control measures.

Action required:

1. Make sure exposure to any welding fume released is adequately controlled using engineering controls (typically LEV).
2. Make sure suitable controls are provided for all welding activities, irrelevant of duration. This includes welding outdoors.
3. Where engineering controls alone cannot control exposure, then adequate and suitable RPE should be provided to control risk from any residual fume.
4. Make sure all engineering controls are correctly used, suitably maintained and are subject to thorough examination and test where required.
5. Make sure any RPE is subject to an RPE programme . An RPE programme encapsulates all the elements of RPE use you need to ensure that your RPE is effective in protecting the wearer.

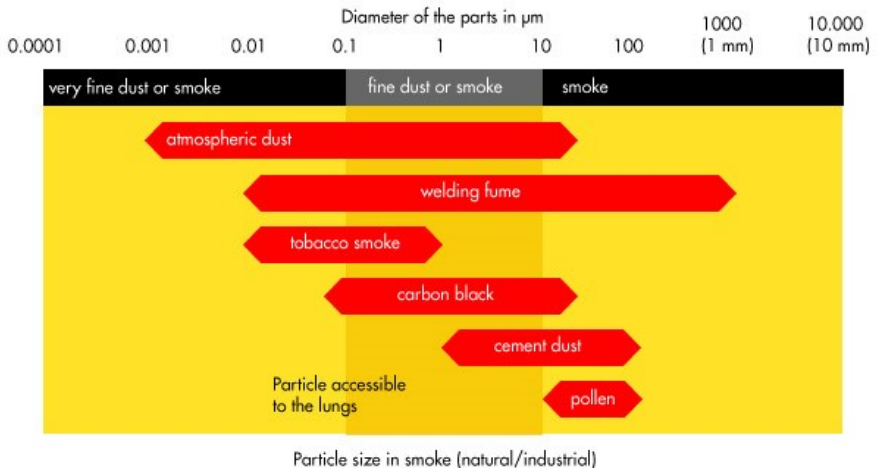
About Welding and Cutting Fumes

Welding fumes are a mixture of metal fumes and gasses produced during welding operations. They generally have different compositions, depending on the metals used for welding, so they contain several contaminants.

- Mixture of airborne particles and gasses released or produced by the welding process
- Composition varies according to the welding process and typically contains metal oxides and other metal reaction products, particulate from flux of electrodes and gasses produced by UV light like ozone and shielding gasses
- Finer dust mass fraction is alveolic and can accumulate in the lungs and remain in the body
- Compounds. 90% of the particles come from the welding consumables

Welding fumes enter the human body through the lungs. They mix with the air we inhale.

The picture below illustrates the size of welding fume particles compared to other particles.



Health Risks of Welding Fumes

Exposure to different types of welding fumes may result in different health effects. If a welder inhales gases, fumes and vapours in large quantities over long periods, this may have a negative effect on his health.

Health risks when inhaling welding fumes:

Fume/Dust	Possible immediate effects	Possible long-term effects
Welding fume (general)	Hoarseness, sore throat, eye irritation, metal fever	Bronchitis, reprotoxic
Chromium (in welding fume in case of -among other things- stainless steel welding)		Carcinogenic
Nickel (in welding fume in case of -among other things- stainless steel welding)	Metal fever	Carcinogenic
Aluminium	Irritation of respiratory organs, metal fever	
Manganese	Pneumonia	Damage to central nervous system
Zinc	Metal fever	
Copper	Metal fever	
Magnesium	Irritation of respiratory organs, metal fever	
Lead		Changes of blood and kidneys Reprotoxic

Welding Fume Extraction Solutions

Companies are obliged by law to keep welding fumes in the breathing zone of a welder below a certain limit. As welding fumes are potentially dangerous for people's health, they should be reduced and/or extracted from the area where welding fume collect.

Hierarchy for treatment of welding fumes

There are international standards for the preferred order in which welding fumes must be captured. This order is listed below. The next solution is chosen only when the previous one cannot be applied or is only a partial solution. In practice the total solution for a workshop is often a mixture of methods.

1. Reduce or avoid the production of welding fumes

The first step to creating clean air in your work environment is to ensure that the best available welding process is used for your application. If applicable, you might consider using alternative welding methods. In addition to the welding process the material should be clean, remove oil, coatings and rust etc.

For quality reasons many of our customers already considered this first step. We recommend that you contact your welding machine supplier on matters of welding.

Unfortunately this first step is often not enough to ensure a safe work environment; additional steps need to be taken.

2. At-source capture of welding fumes

Only with at-source extraction is the welder protected and accumulation of welding fumes in the work shop prevented. Source capture methods are preferably integrated in the workspace such as a **downdraft** and **backdraft workbench** which is a combination of workbench and fume extractor. Other methods are extraction arms that can be easily positioned close to the source or welding guns with integrated fume extraction.

3. Separate source and personal protection

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

4. General ventilation and personal protection

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

A cleaner factory

When welding fumes are captured effectively, it will prevent the polluted air from spreading all over the premises. The machine areas, tools, products, offices and rest areas will stay clean as no dust and fumes will fall down anymore.

Less absence due sickness

Welding fume extraction is likely to reduce the absence of the workforce caused by sickness. It can also reduce other health complaints throughout a company, such as occupational asthma and eye irritation.

Portable Fan and Extraction Hose

The MNF is a portable fan that provides extraction in confined spaces and other hard to reach areas. It is supplied with a 5 m extraction hose with nozzle and magnetic foot.

Due to the optional extension/exhaust hose, it is possible to create a configuration with a max. hose length of 10 m.



MNF

The MNF is mounted on a frame for easy removal. A motor protection switch – that is also used as manual on/off switch – prevents overheating of the motor.

- Light weight
- Extraction nozzle with magnetic foot
- Max. hose length 10 m

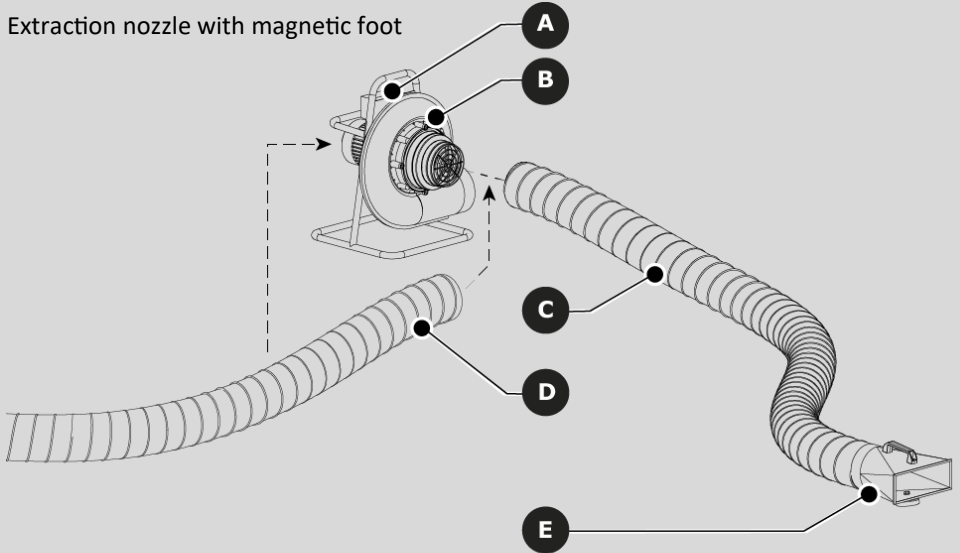
Technical Specifications:

Portable fan	Weight (without hose)	17 kg
	Connection voltage	230V/1ph/50Hz 400V/3ph/50Hz
	Power consumption	0.75 kW
	Max. air volume	1300 m ³ /h
	Control	manually by motor protection switch
	Sound level	69 dB(A)
Extraction hose	Length	5 m or 10 m
	Diameter	Ø 160 mm

Portable Fan and Extraction Hose

Main Components:

- A - Motor protection switch (on/off)
- B - MNF portable extraction fan
- C - SUS-160/5 Extraction hose 5 m
- D - EXS-160/5 Exhaust/extension hose 5 m
- E - Extraction nozzle with magnetic foot



Selection Diagram:

	230v/1ph/50Hz		400v/3ph/50Hz	
	Part Number	Price	Part Number	Price
5m Hose	0000110447	£1755	0000110493	£1460
10m Hose	0000110461	£2095	0000110462	£1790

Portable Fume Extractor

The PHV is a portable high vacuum welding fume extractor. It is equipped with two motors and an automatic start/stop device. The extracted welding fume first passes a metal pre-separator and then goes through the main filter cartridge with integrated aluminium pre filter. The air leaves the unit through a HEPA filter and an activated carbon filter.

With its wheels, the handle and its compact design the machine is extremely suited to be used in relatively small workshops, in confined spaces or near sources of pollution without a fixed location.

The PHV can be switched on/off manually or automatically.

- 5-Stage filtration system
- Automatic start/stop device
- Double motor technology

The PHV is available with two types of nozzles:

EN-20: for MIG-MAG/GMAW, TIG and FCAW welding

EN-40: for stick/ MMAW welding

Technical Specifications:

Portable extractor	Dimensions	H = 730 mm / Ø 360 mm
	Weight	19 kg
	Filter surface	12 m ²
	Connection voltage	230V/1ph/50Hz
	Power consumption	2 x 1000 W
	Max. extraction capacity	low speed: 160 m ³ /h high speed: 230 m ³ /h
	Sound level	low speed: 63 dB(A) high speed: 70 dB(A)
	Filter class	pre filter: G2 main filter: H10 HEPA filter: H12
Extraction hose	Length	2.5 m
	Diameter	Ø 45 mm



PHV

Portable Fume Extractor

Main Components:

EN-20: for MIG-MAG/GMAW, TIG and FCAW welding

A - Extraction/ exhaust hose

EN-40: for stick/ MMAW welding

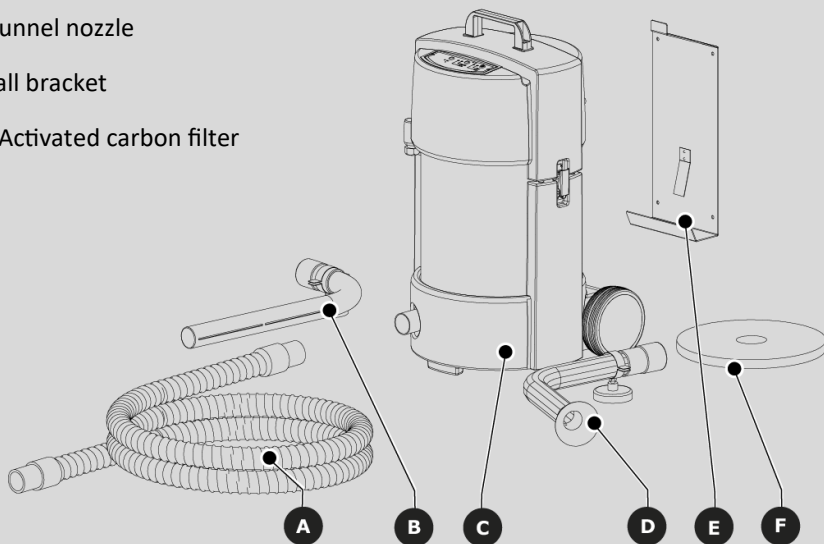
B - EN-40 Slit extraction nozzle

C - PHV Portable welding fume extractor

D - EN-20 Funnel nozzle

E - MBH Wall bracket

F - FAC-HV Activated carbon filter



Selection Diagram:

PHV - 230v /1ph/50Hz

Part Number

Price

EN-20 Funnel nozzle

2.5m hose

[0000115355](#)

£1470

7.5m hose

[0000115356](#)

£1555

EN-40 Slit nozzle

2.5m hose

[0000115357](#)

£1475

7.5m hose

[0000115358](#)

£1560

Binzel RAB Fume Torch

Based on the well established torch series “MB” the RAB GRIP Fume Extraction Torches offer efficient fume extraction through the torch itself. Special design solutions guarantee highly efficient smoke removal directly at its source without affecting the protective gas shield.



Features:

- Direct extraction at the arc – ensures protection of the welder’s respiratory system
- Problem free installation in all existing MIG/MAG work stations
- Small extraction tube diameter for better accessibility
- Aluminium extraction tube a considerable weight saving attribute
- Handle with extraction control and swivel joint for optimized handling
- Smaller diameter extraction hoses for all types to lower handling weight and optimum flexibility

Selection Diagram:

	Part Number	Price
4m Torch	614.0183.1	£439
5m Torch	614.0184.1	£463

Fume Torch and PHV Extractor Package

PHV portable welding fume extractor with 4m RAB Grip 355 Air cooled MIG fume torch.

The RAB GRIP Fume Extraction Torch offers an efficient fume extraction directly at its source without affecting the protective gas shield the special design solutions guarantee highly efficient smoke removal.

The extracted welding fume is sucked through the torch by the high powered vacuum of the PHV unit which first passes through a metal pre-separator and then goes through the main filter cartridge with integrated aluminium pre filter. The air leaves the unit through a HEPA filter and an activated carbon filter.



Selection Diagram:

	Part Number	Price
230V PHV-I & 4M RAB grip 355 air cooled MIG torch	7603001400VP	£1579

Mobile Unit, Disposable Filter and Arm

The MobileGo is a mobile welding fume filter with an extraction arm and a built-in fan. It contains a disposable filter package. Thanks to the four transport wheels (two of which are swivel casters), the MobileGo is suitable for use in relatively small facilities or near sources of pollution without a fixed location.

- Compact design
- Excellent price / performance ratio
- Suitable for occasional to regular welding activities and TIG welding

The unit is available in two versions:

- MobileGo – With a hose tube arm (EconomyArm) and a filter surface of 15 m²
- MobileGo^{plus} – With a metal tube arm (KUA) and a filter surface of 26 m²



Technical Specifications:

Mobile unit	Dimensions (H x W x D)	1100 x 725 x 730 mm
	Filter surface	15 m ² 26 m ² (HEPA E12)
	Welding fume class	W3 compliant (EN-ISO 15012-1:2013)
Fan	Connection voltage	115V/1ph/50Hz 115V/1ph/60Hz 230V/1ph/50Hz
	Power consumption	1.1 kW
	Max. extraction capacity	850 m ³ /h
Extraction arm	Length	2 m 3 m
	Diameter	Ø 160 mm
General	Total weight	approx. 100 kg
	Sound level	67 dB(A)

Mobile Unit, Disposable Filter and Arm

Main Components:

MobileGo

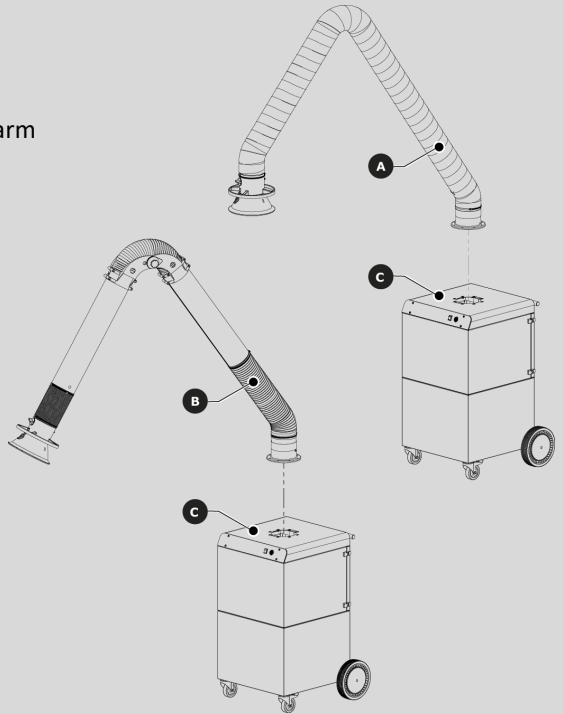
A - Economy arm hose tube extraction arm

C - Mobile filter unit

MobileGo^{plus}

B - KUA Metal tube extraction arm

C - Mobile filter unit



Selection Diagram:

	115v/1ph/50Hz		230v/1ph/50Hz	
	Part Number	Price	Part Number	Price
MobileGo	Hose tube arm, Filter surface 15m²			
2m Arm	0000111450	£1236	0000111449	£1236 W3
3m Arm	0000111471	£1302	0000111470	£1302
MobileGo^{plus}	Metal tube arm, Filter surface 26m²			
2m Arm	0000111453	£1541	0000111452	£1541 W3
3m Arm	0000111474	£1610	0000111473	£1610

Mobile Unit, Disposable Filter and Arm



MFD + UltraFlex

The MFD is a mobile welding fume filter with integrated fan for regular welding applications. It contains an aluminium spark arrester and a disposable filter cartridge. A filter pollution indicator indicates when filter replacement is required.

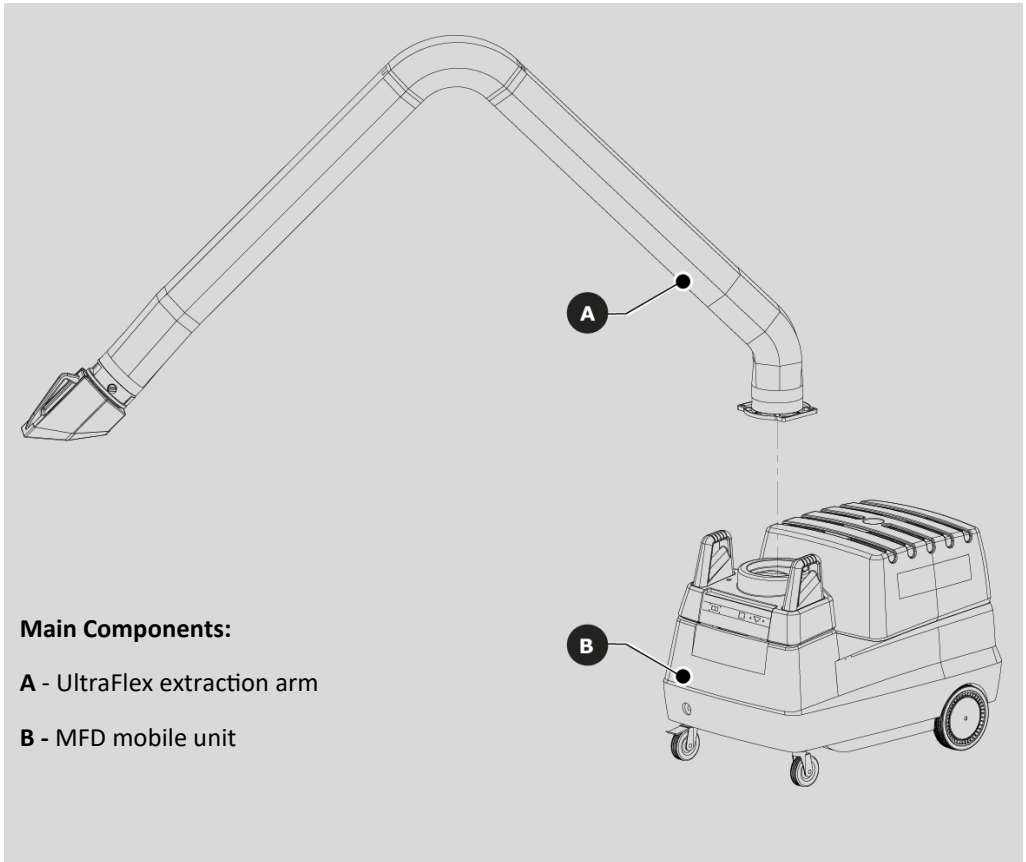
The UltraFlex extraction arm is fitted with a 360° rotatable hood and a throttle valve to control the airflow at the hood opening.

- Largest filter surface on the market
- Ultralight positioning of the arm
- Solid polypropylene housing

Technical Specifications:

Mobile unit	Dimensions (H x W x D)	900 x 1210 x 810 mm
	Filter material	cellulose
	Filter surface	50 m ²
Fan	Connection voltage	400V/3ph/50Hz
	Power consumption	0.75 kW
	Max. extraction capacity	1250 m ³ /h
Extraction arm	Length	3 m 4 m
	Diameter	∅ 203 mm
General	Total weight	approx. 98 kg
	Sound level	69 dB(A)

Mobile Unit, Disposable Filter and Arm



Main Components:

A - UltraFlex extraction arm

B - MFD mobile unit

Selection Diagram:

	MFD		MFD-W3	
	Part Number	Price	Part Number	Price
Ultra Flex Extraction Arm				
3m Arm	0000112535	£2513	0000115371	£3567
4m Arm	0000112536	£2569	0000115372	£3640

W3

Mobile Unit, Self-cleaning Filter and Arm

The MobilePro is a mobile welding fume filter with built-in fan. The highly efficient filter cartridge is self-cleaning by the integrated RamAir™ pulse amplifier, based on external compressed air supply. Dust collection in the dust tray at the bottom of the unit. Thanks to the four transport wheels (two of which are swivel casters), the MobilePro is suitable for use in relatively small facilities or near sources of pollution without a fixed location.

- Large filter surface
- Self-cleaning filter cartridge
- Versatile handlebar

The filter cleaning system can be activated in two ways:

- Automatically (pressure controlled)
- Manually by a push button on the control panel

The MobilePro is available with two types of extraction arm:

EA (EconomyArm) Hose tube arm or KUA Metal tube arm

Technical Specifications:

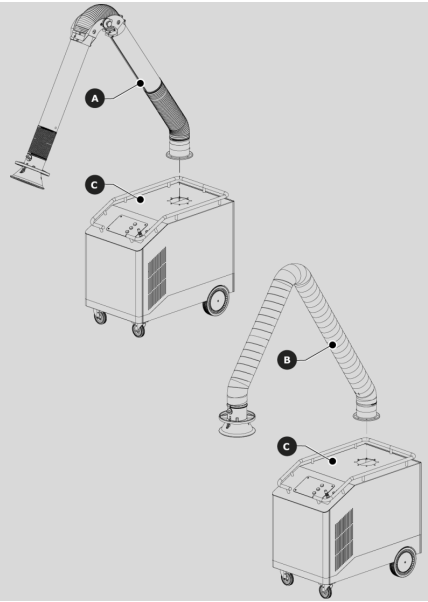
Mobile unit	Dimensions (H x W x D)	1024 x 646 x 1150 mm
	Filter material	MobilePro: BiCo polyester MobilePro-W3: BiCo polyester with PTFE membrane
	Filter surface	MobilePro: 20 m ² MobilePro-W3: 10 m ²
	Connection voltage	230V/1ph/50Hz 400V/3ph/50Hz+N
	Power consumption	1.1 kW
	Max. extraction capacity	1200 m ³ /h
Extraction arm	Length	2 m 3 m 4 m
	Diameter	∅ 160 mm
General	Total weight	approx. 185 kg
	Sound level	72 dB(A)



Mobile Unit, Self-cleaning Filter and Arm

Main Components:

- A - KUA - metal tube extraction arm
- B - Economy arm - hose tube extraction arm
- C - MobilePro mobile unit



Selection Diagram:

	230v/1ph/50Hz		400v/3ph/50Hz	
	Part Number	Price	Part Number	Price
MobilePro + economy arm				
3m	0000110448	£3205	0000110453	£3205
4m	0000110449	£3270	0000110454	£3270
MobilePro + KUA arm				
2m	0000110450	£3340	0000110455	£3340
3m	0000110451	£3405	0000110456	£3410
4m	0000110452	£3510	0000110457	£3510
MobilePro-W3 + economy arm				
3m	0000115345	£3260	0000115350	£3360 W3
4m	0000115346	£3315	0000115351	£3315
MobilePro-W3 + KUA arm				
2m	0000115347	£3385	0000115352	£3385
3m	0000115348	£3455	0000115353	£3455 W3
4m	0000115349	£3360	0000115354	£3560

Extraction Fan and Hose Tube Arm

The hose tube EconomyArm (EA) comes in three lengths and the spring-balanced support mechanism and friction brake guarantee smooth operation inside the entire working radius.

This arm/fan combination is recommended for light duty welding – e.g. maintenance work – and workbench applications.

- 360 degree rotatable arm
- Easy to use ring handle
- Low noise level



FUA + Economy Arm

Connection possibilities of the fan outlet::

- Central duct with / without filter system
- Exhaust to the atmosphere

Technical Specifications:

Extraction Arm	Length	2m 3m 4m
	Diameter	∅ 160 mm
Extraction Fan	Connection Voltage	400V/3ph/50Hz
	Power Consumption	0.55 kW
	Max. air volume	1000 m ³ /h
General	Total weight	approx. 28 kg
Control equipment options:	Wall mounted on/off switch	
	On/off switch on hood + working light	
	Automatic by inductive sensor	

Extraction Fan and Hose Tube Arm

Main Components:

A - FUA-1800 Extraction arm

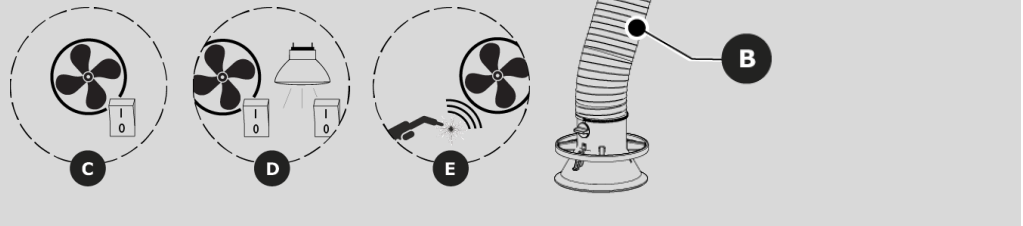
B - Economy arm hose tube extraction arm

Control Equipment (select option):

C - Wall-mounted on/off switch

D - LED working light with on/off switch on the hood of the extraction arm

E - Automatic on/off by inductive sensor



Selection Diagram:

	Part Number	Price
Wall-mounted on/off switch + economy arm		
2m	0000110463	£1035
3m	0000110464	£1210
4m	0000110465	£1270
LED working light with on/off switch on the hood + economy arm		
2m	0000110599	£1755
3m	0000110600	£1780
4m	0000110601	£1840
Automatic on/off by inductive sensor + economy arm		
2m	0000110602	£1835
3m	0000110603	£1855
4m	0000110604	£1925

Extraction Fan and Metal Tube Arm

The KUA is an extraction arm with metal tubes and an external elbow joint. The mounting bracket with ball bearing and friction pad makes maneuvering this arm a simple, one-movement operation.

This arm/fan combination is recommended for medium duty welding, e.g. maintenance and production work.

- Low resistant aluminum tubes
- Hood 110° movable in four directions
- Low noise level



Connection possibilities of the fan outlet::

- Central duct with/without filter system
- Exhaust to the atmosphere

Technical Specifications:

Extraction Arm	Length	2m 3m 4m
	Diameter	Ø 160 mm
Extraction Fan	Connection Voltage	400V/3ph/50Hz
	Power Consumption	0.55 kW
	Max. air volume	1000 m ³ /h
General	Total weight	approx. 33 kg
Control equipment options:	Wall mounted on/off switch	
	On/off switch on hood + working light	
	Automatic by inductive sensor	

Extraction Fan and Metal Tube Arm

Main Components:

A - FUA-1800 Extraction arm

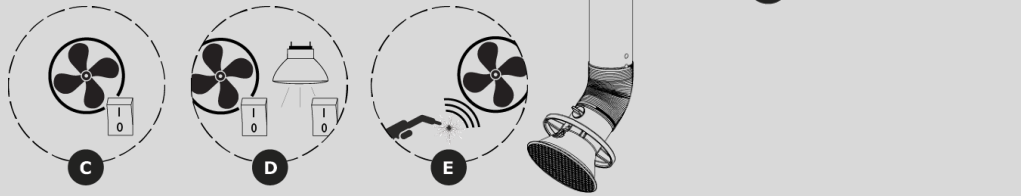
B - Economy arm hose tube extraction arm

Control Equipment (select option):

C - Wall-mounted on/off switch

D - LED working light with on/off switch on the hood of the extraction arm

E - Automatic on/off by inductive sensor



Selection Diagram:

	Part Number	Price
Wall-mounted on/off switch + KUA arm		
2m	0000110471	£1345
3m	0000110472	£1410
4m	0000110473	£1490
LED working light with on/off switch on the hood + KUA arm		
2m	0000110614	£1920
3m	0000110615	£1985
4m	0000110616	£2065
Automatic on/off by inductive sensor + KUA arm		
2m	0000110617	£2000
3m	0000110618	£2070
4m	0000110619	£2145

Stationary Filter Unit, Fan and Arm

The MonoGo is a stationary welding fume filter with an extraction arm and a built-in fan. It contains a disposable filter package.

- Ideal for fixed work stations
- Excellent price / performance ratio
- Effective protection against welding fume exposure

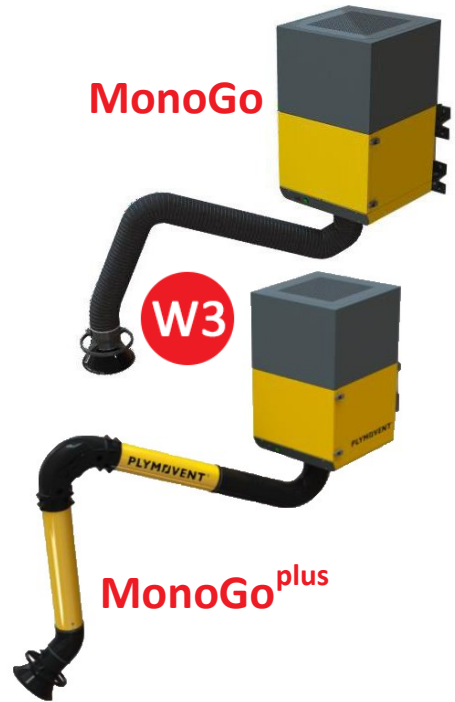
This unit is available in two versions:

- **MonoGo**

With a hose tube arm (Economy arm) and filter surface of 15m²

- **MonoGo^{plus}**

With a meatal tube arm (KUA) and a filter surface



Technical Specifications:

Stationary Unit	Dimensions (H x W x D)	971 x 600 x 746 mm
	Filter surface	15 m ² 26 m ² (HEPA E12)
	Welding fume class	W3 compliant (EN-ISO 15012-1:2013)
Fan	Connection voltage	230V/1ph/50Hz 400V/3ph/50Hz
	Power consumption	1.1 kW
	Max. extraction capacity	850 m ³ /h
Extraction Arm	Length	2 m 3 m 4 m
	Diameter	∅ 160 mm
General	Total weight	approx. 96 kg
	Sound level	67 dB(A)

Stationary Filter Unit, Fan and Arm

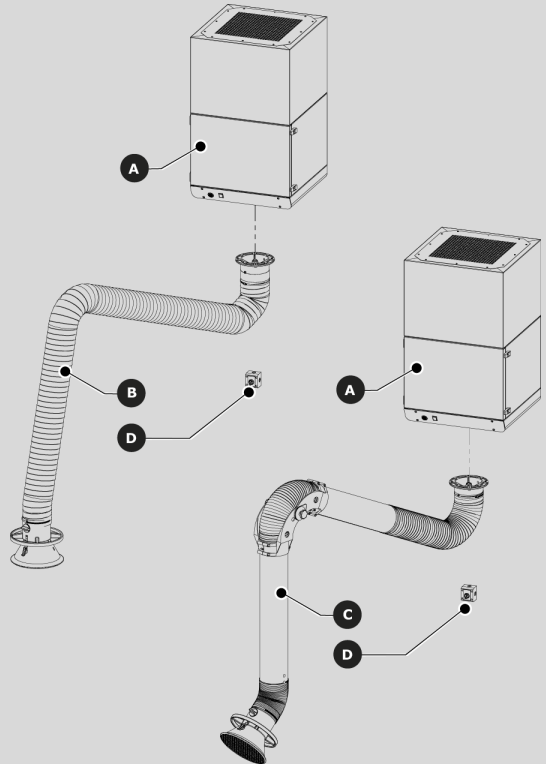
Main Components:

MonoGo

- A - Stationary filter unit with fan
- B - Economy arm hose tube extraction arm
- D—Switch box

MonoGo^{plus}

- A - Stationary filter unit in fan
- C - KUA metal tube extraction arm
- D - Switch box



Selection Diagram:

	115v/1ph/50Hz		230v/1ph/50Hz	
	Part Number	Price	Part Number	Price
MonoGo, Economy arm, Filter surface 15m²				
2m	0000111456	£1890	0000111455	£1890
3m	0000111477	£1917	0000111476	£1917 W3
4m	0000111489	£1980	0000111488	£1980
MonoGo^{plus}, KUA arm, Filter surface 26m²				
2m	0000111460	£2173	0000111459	£2173
3m	0000111480	£2241	0000111479	£2241 W3
4m	0000111492	£2317	0000111491	£2317

Stationary Filter Unit, Fan and Two Arms

The DualGo is a stationary welding fume filter with two extraction arms and an integrated fan. It contains a disposable filter package.

- Space saving solution
- Powerful extraction fan
- Excellent price / performance ration

The unit is available in two versions:

- **DualGo**
with two hose tube arms (EconomyArm); various lengths
- **DualGo^{plus}**
with two metal tube arms (KUA); various lengths



Technical Specifications:

Stationary Unit	Dimensions (H x W x D)	1100 x 633 x 746 mm (incl. fan)
	Filter surface	26 m ² (HEPA E12)
	Welding fume class	W3 compliant (EN-ISO 15012-1:2013)
Fan	Connection voltage	400V/3ph/50Hz
	Power consumption	2.2 kW
	Max. extraction capacity	1700 m ³ /h
Extraction Arm	Length	2 m 3 m 4 m
	Diameter	Ø 160 mm
General	Total weight	approx. 160 kg
	Sound level	79 dB(A) with optional silencer: 70 dB(A)

Stationary Filter Unit, Fan and Two Arms

Main Components:

DualGo

A - Extraction fan

B - Stationary filter unit

C - Switch box

D – Economy arm hose tube extraction arm (2)

F -Outlet transition

DualGo^{plus}

A - Extraction fan

B - Stationary filter unit

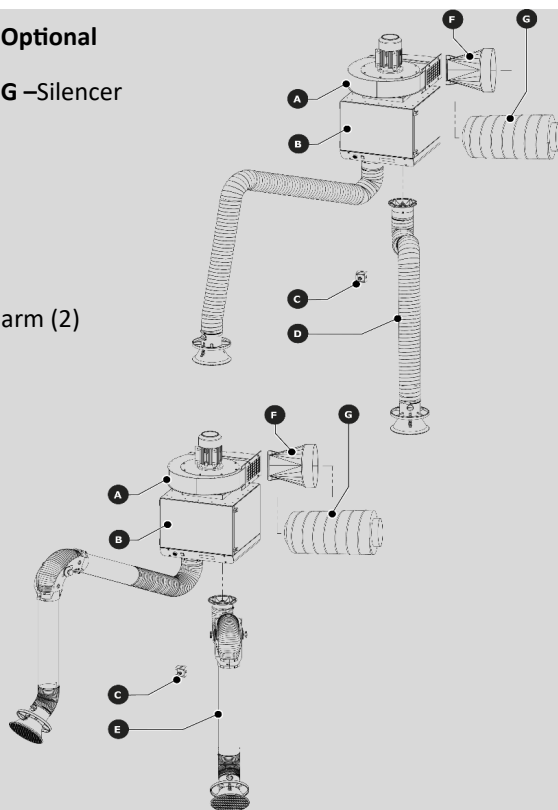
C - Switch box

E – KUA metal tube extraction arm (2)

F -Outlet transition

Optional

G –Silencer



Selection Diagram:

	DualGo W3		DualGo ^{plus} W3	
	Part number	Price	Part number	Price
Arm length	Economy hose tube arm (2)		KUA metal tube arm (2)	
2 + 2 m	0000111462	£2381	0000111465	£2716
3 + 3 m	0000111482	£2436	0000111485	£2850
4 + 4 m	0000111494	£2561	0000111497	£3002
2 + 3 m	0000111500	£2409	0000111503	£2782
2 + 4 m	0000111506	£2471	0000111509	£2859
3 + 4 m	0000111512	£2499	0000111515	£2925
Optional				
Silencer	0000117554	£342	0000117554	£342

Stationary Filter Unit, Fan and Arm(s)

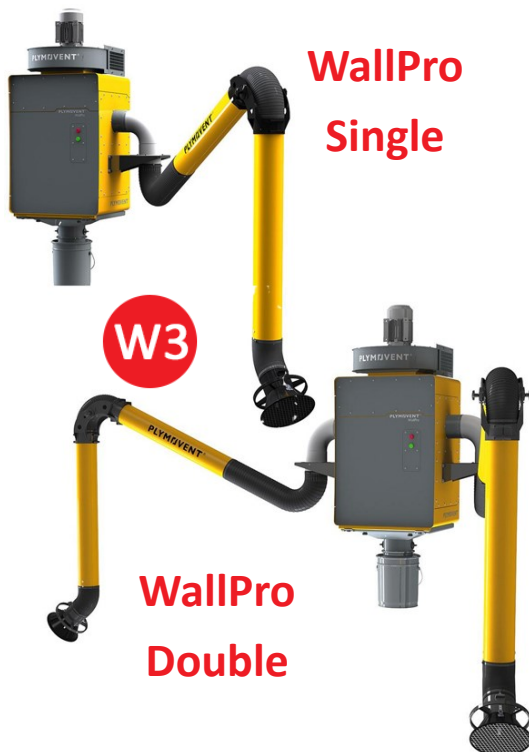
The WallPro is a stationary welding fume filter including extraction arm and fan.

The highly efficient filter cartridge is automatically cleaned by the integrated RamAir™ pulse amplifier, based on external compressed air supply.

The WallPro "PowerPlus" – with extra powerful fan – is particularly suitable for heavy duty applications with large quantities of fume, such as flux-cored arc welding in combination with an automated welding process.

The unit is available with one (WallPro Single) and two (WallPro Double) extraction arms.

- Dust-free filter remover
- Highly effective offline filter cleaning
- Especially for large volumes of welding fume



Technical Specifications:

Stationary Unit	Dimensions (H x W x D)	2059 x 700 x 746 mm (incl. fan)
	Filter surface	20 m ²
	Welding fume class	W3 compliant (EN-ISO 15012-1:2013)
Fan	Connection voltage	400V/3ph/50Hz
	Power consumption	1.1 kW 2.2 kW
	Max. extraction capacity	1000 m ³ /h 1450 m ³ /h 1800 m ³ /h
Extraction Arm	Length	3 m 4 m
	Diameter	Ø 160 mm Ø 200 mm
General	Total weight	approx. 96 kg
	Sound level dB(A)	Single: 75 Single PowerPlus: 76 Double: 76
	With optional silencer	Single: 67 Single PowerPlus: 71 Double: 71

Stationary Filter Unit, Fan and Arm(s)

Main Components:

A - Extraction fan

B - KUA metal tube extraction arm

C - Control box

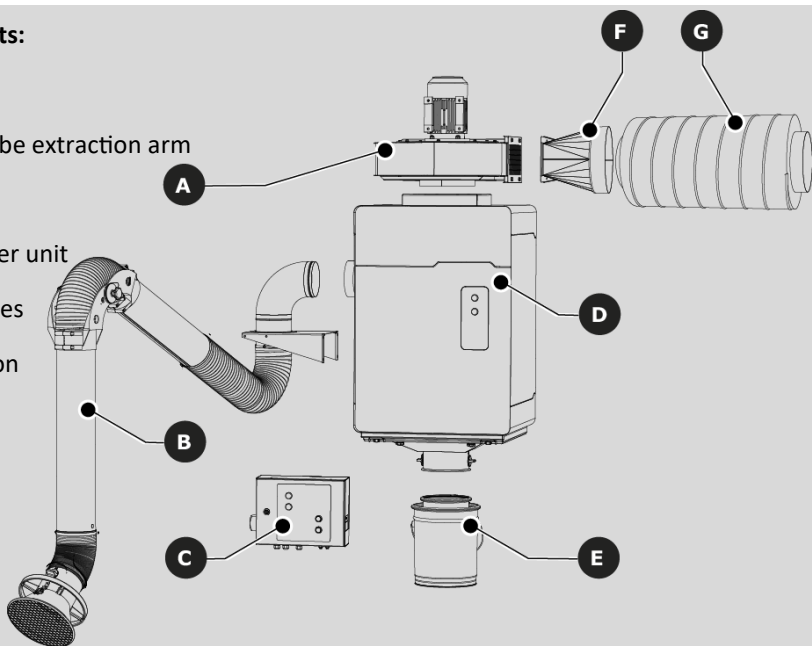
D - Stationary filter unit

E - Dustbin 10 litres

F - Outlet transition

Optional

G - Silencer



Selection Diagram:

	WallPro Single (1 arm) W3		WallPro Double (2 arms) W3	
	Part Number	Price	Part Number	Price
Extraction capacity: Standard (1000 m³/h per arm)				
Arm 3 m Ø 160 mm	0000117352	£5870	0000117360	£7093
Arm 4 m Ø 160 mm	0000117368	£5949	0000117376	£7251
Extraction capacity: Power (1450 m³/h per arm)				
Arm 3 m Ø 200 mm	0000117388	£6347	0000117400	£8048
Arm 4 m Ø 200 mm	0000117413	£6411	0000117425	£8176
Extraction capacity: PowerPlus (1800 m³/h per arm)				
Arm 3 m Ø 200 mm	0000117384	£6623		
Arm 4 m Ø 200 mm	0000117408	£6687		
Optional				
Silencer	0000117554	£342	0000117554	£342

Downdraft Table

The DraftMax is a workbench that provides extraction and filtration for welding and grinding applications. It features a work grid, a three-stage pre filtration system for optimum spark arresting and two main filter cartridges. Both pre and main filters have pull-out dust drawers underneath.

Due to the backdraft kit, the DraftMax is extremely suitable for welding and grinding applications. The moving side panels accommodate large workpieces.

- Workbench and extractor in one
- Large working reach
- Optimum extraction capacity (80% backdraft, 20% downdraft extraction)

The downdraft table is available in two versions:

- **DraftMax Basic** - with disposable filter cartridges
- **DraftMax Ultra** - with self-cleaning filter cartridges for more intensive use



Technical Specifications:

DownDraft Table	Dimensions (L x W x D)	1380 x 1005 x 920 mm
	Workgrid (L x W)	1366 x 750 mm
	Height adjustment	920 - 970 mm
	Weight	approx. 300 kg
	Filter surface	2 x 26 m ² (main filter)
	Dust class	M according to DIN EN 60335-2-69
Fan	Connection voltage	400V/3ph/50Hz
	Power consumption	2.2 kW
	Max. air volume	2500 m ³ /h

Downdraft Table

Main Components:

A - Silencer /outlook duct

B - Backdraft kit

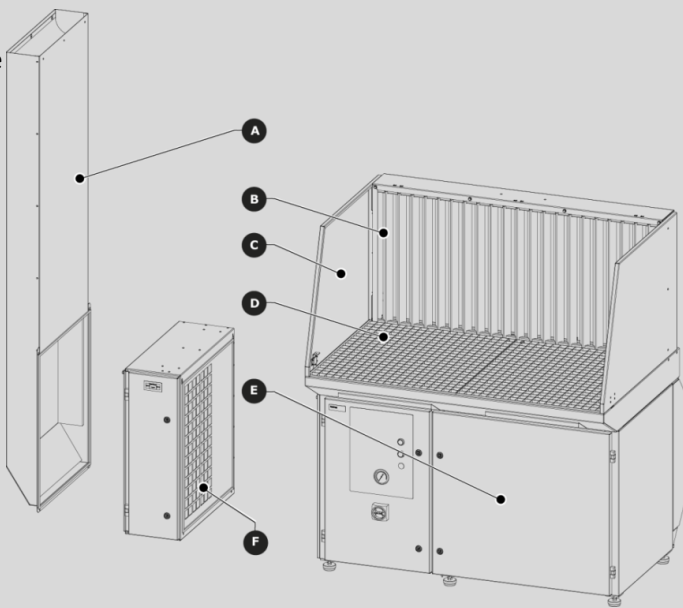
C - Side panels

D - Work grid

E - DraftMax downdraft table

Option:

F - HEPA kit



Selection Diagram:

	DraftMax Basic		DraftMax Ultra	
	Part Number	Price	Part Number	Price
Type of Unit				
Standard Unit	0000111745	£4750	0000111746	£5650
With additional HEPA kit (W3)	0000111747	£5150	0000111748	£6150 W3

Oil Mist Filter and Fan

The MistWizard MW-2 is designed for direct mounting on a machine tool without the need for ducting or use of additional floor space. The space filter effectively collects the coolant mist and smoke from the machine process and returns the recovered coolant back to the machine tool.

The MistWizard features a three-way filter system:

- AquaSpin cyclonic inlet
- Oil coalescing filter wrapper; filter class G3
- CoolantTec hydrophobic filter cartridge

A pressure gauge indicates the degree of saturation of the filter cartridge.



MistWizard + FUA-1800

- Efficient filtration of oil mist and fumes
- Versatile mounting possibilities
- Low operating costs

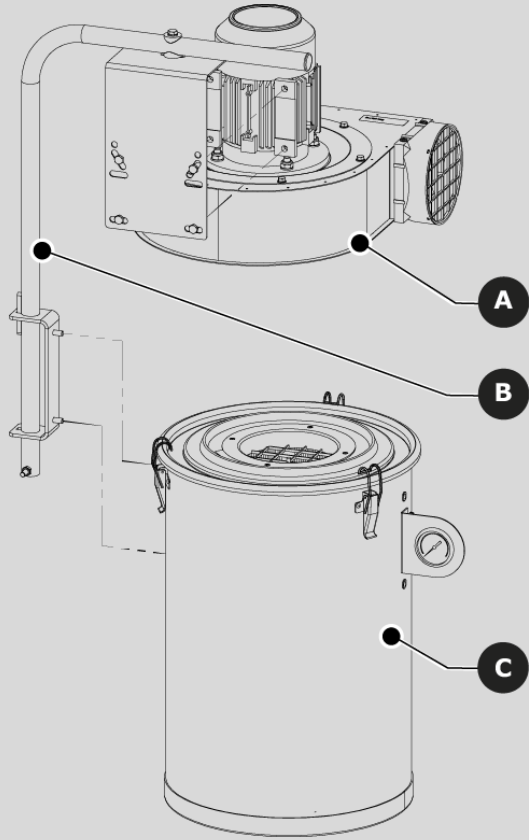
Technical Specifications:

Oil mist filter	Dimensions	H = 600 mm / Ø 420 mm
	Filter surface (CoolantTec)	10 m ²
Extraction Fan	Connection voltage	400V/3ph/50Hz
	Power consumption	0.55 kW
	Max.air volume	1000 m ³ /h
	Control	manually by motor protection switch
General	Total height	1070 mm
	Total weight	approx. 25 kg

Oil Mist Filter and Fan

Main Components:

- A - FUA extraction fan
- B - MW fan mounting kit
- C - MistWizard oil mist filter



Selection Diagram:

	Part Number	Price
Machine mounting	0000110498	£2050
Wall mounting	0000110492	£2155

Optrel Crystal and e3000 PAPR System Package

The new Optrel Crystal sets a new record with an incredibly low Shade 2 light state. Welders have for the first time a practically unclouded and clear view of their working environment. This in combination with the almost perfect colour spectrum of the CLT2.0 for the first time allows welders to see what is really going on in the weld pool, and with a clarity that equates to insights into a new dimension. This is why welders describe this as an enlightenment. Accessories available to adapt for hard hat use.



Helmet Features

- Crystal Lens Technology 2.0 Light Shade
 - See clearly what happens before during and after the welding process.
- Autopilot Shade Level 4 to 12 - Your welding helmet automatically adapts to changing light conditions.
- Twilight Function - You can always remain relaxed even in case of fast lighting changes.
- Sensitivity Control - Adapts the helmet to your environment and requirements.
- Grind Mode - The brightest vision during grinding, ever to be offered by a welding helmet.
- Heat-Reflecting Paint - Helping you keep a cool head at all times.

PAPR System Features

- Highest safety class (TH3)
- Integrated automatic air flow control
- High performance battery
- Simple operating for low operating costs
- Adjustable air flow
- Expandable with mountain breeze odour filter

The Optrel E3000 PAPR system is interchangeable between helmets and can also be used with the Clearmaxx Grinding helmet for more comfort, air and visibility.

Optrel Crystal and e3000 PAPR System Package

Technical Specifications:

Optical class	1 / 1 / 1 / 2
Switching time light to dark	0.100 ms at room temperature at 55°C / 131°F
Switching time dark to light	from 0.1 s to 2.0 s (with dimming function)
Shade levels	Inactive: shade level 2.0 Active, manual: shade level 4-12
Sensors	3
Viewing area	50 x 100 mm
Battery type	Helmet: solar cells, 2 lithium batteries
Weight	Helmet: 460g E3000: 1560g (Including filter, battery, belt and charger)
Standards	CE, ANSI, complies with CSA, TH3

Package includes:

- Optrel Crystal with e3000 airduct and face seal
- Optrel e3000 PAPR respirator with battery (10 or 20 hour) belt, charger, parking buddy and filters
- Spare front cover lens
- Optrel e3000 bag

Selection Diagram:

10hr PAPR battery		20hr PAPR battery	
Part number	Price	Part Number	Price
4530.000.G	£999	4530.000.GL	£1050



Optrel Panoramaxx and e3000 PAPR Package

The Panoramaxx combines the latest Optrel innovations of the most recent product ranges with an unprecedented panoramic view – the most advanced welding helmet of its time. Thanks to the unique glare protection cartridge with a nose cut-out, the display – which is optimal from an ergonomic perspective – is positioned closer to the eye and thus enlarges the field of vision six-fold in comparison to conventional welding masks without adding to the weight.



Helmet Features

- 6-times larger field-of-view compared to standard helmets
- Fully-automated shade level adjustment
- True Colour View
- Shade level 2.5 in inactive mode
- New energy concept with Lithium-polymer battery

PAPR System Features

- Highest safety class (TH3)
- Integrated automatic air flow control
- High performance battery
- Simple operating for low operating costs
- Adjustable air flow
- Expandable with mountain breeze odour filter

The Optrel E3000 PAPR system is interchangeable between helmets and can also be used with the Clearmaxx Grinding helmet for more comfort, air and visibility.

Optrel Panoramaxx and e3000 PAPR Package

Technical Specifications:

Optical class	1 / 1 / 1 / 2
Switching time light to dark	0.090 ms at room temperature 0.070 ms at 55°C
Switching time dark to light	0.1 s to 2.0 s (with twilight function)
Shade Levels	Inactive: shade level 2,5 Active, manual: shade level 7-12 Automatic protection level regulation across a range from 5 -12 with individual calibration option of ± 2
Sensors	5
Viewing area	100 x 50 mm
Battery type	Helmet: Solar cells, lithium-polymer battery, rechargeable by USB-cable
Weight	Helmet: 550g E3000: 1560g (Including filter, battery, belt and charger)
Standards	CE, ANSI Z87.1 (ADF and helmet shell), EAC, complies with CSA Z94.3 , TH3

Package includes:

- Optrel Panoramaxx with e3000 airduct and face seal
- Optrel e3000 PAPR respirator with battery (10 or 20 hour) belt, charger, parking buddy and filters
- Spare front cover lens

Selection Diagram:

10hr PAPR battery		20hr PAPR battery	
Part number	Price	Part Number	Price
4550.500.G	£977	4550.500.GL	£999



Optrel Vegaview and e3000 PAPER Package

The Optrel Vegaview 2.5 lets the welders' most desired wish come true: bright view.

Thanks to a special UV/IR filter, the Vegaview 2.5 offers a real colour experience never seen before and finally brings colour into the world of welding.

Weighing only 482 g (17 oz), the Vegaview 2.5 is one of the lightest auto darkening welding helmets available. Its ergonomic design minimizes strain on the head and neck, ensuring comfort throughout the work day.



The Vegaview 2.5 is perfectly combined with the Optrel e3000 PAPER respiratory system. With its integrated high-performance particle filter (TH3), welders are adequately protected against smoke, aerosols, and dust.

Accessories available to adapt for hard hat use.

PAPER System Features

- Highest safety class (TH3)
- Integrated automatic air flow control
- High performance battery
- Simple operating for low operating costs
- Adjustable air flow
- Expandable with mountain breeze odour filter

The Optrel E3000 PAPER system is interchangeable between helmets and can also be used with the Clearmaxx Grinding helmet for more comfort, air and visibility.

Optrel Vegaview and e3000 PAPR Package

Technical Specifications:

Optical class	1 / 1 / 1 / 2
Switching time light to dark	0.100 ms at room temperature 0.070 ms at 55°C / 131°F
Switching time dark to light	from 0.05 s to 1.0 s adjustable
Shade	Inactive: shade level 2.5 Active, manual: shade level 8 -12
Sensors	3, variable detection angle with movable sensor slider
Viewing area	50 x 100 mm
Battery type	Helmet: 3v exchangeable
Weight	Helmet: 482g E3000: 1560g (Including filter, battery, belt and charger)
Standards	CE, ANSI, complies with CSA, TH3

Package includes:

- Optrel Vegaview 2.5 with e3000 airduct and face seal
- Optrel e3000 PAPR respirator with battery (10 or 20 hour) belt, charger, parking buddy and filters
- Spare front cover lens
- Optrel e3000 bag

Selection Diagram:

10hr PAPR battery		20hr PAPR battery	
Part number	Price	Part Number	Price
4580.001.G	£895	4580.001.GL	£938



Optrel Liteflip and e3000 PAPR System Package

The Optrel Liteflip Autopilot is a lightweight flip-up welding helmet designed to make the process of welding a more comfortable and relaxed experience, thanks to an automatic shade level adjustment carried with a fantastic range.



The Optrel Liteflip Autopilot is also capable to automatically adjust to any changes in lighting in your working environment.

Technical Specifications:

Optical class	1 / 1 / 1 / 2
Switching time light to dark	0.100 ms at room temperature 0.100 ms at 55°C / 131°F
Switching time dark to light	0.3 s or 1.5 s (with twilight function)
Shade	Open / clear view: 1 Closed Inactive: 4 Closed / active: 5-14 Automatic shade level adjustment for range 5-14
Sensors	3
Viewing area	Flip-up open: 82 x 102 mm Flip-up closed: 50 x 100 mm
Battery type	Helmet: photovoltaic cell, 2pcs batteries 3V exchangeable
Weight	Helmet: 730g E3000: 1560g (Including filter, battery, belt and charger)
Standard	EN 379, EN166:BT, EN 166, EN 166, TH3

Package includes:

- Optrel Liteflip autopilot welding helmet
- Optrel e3000 PAPR respirator with battery (10 or 20 hour) belt, charger, parking buddy and filters
- Optrel e3000 bag
- Optrel helmet bag

Selection Diagram:

10hr PAPR battery		20hr PAPR battery	
Part number	Price	Part Number	Price
4540.000.G	£792	4540.000.GL	£832



Optrel Clearmaxx and e3000 PAPR System Package

The Optrel Clearmaxx grinding helmet provides an unlimited clear view of your workspace.

The adjustable air distribution prevents a direct air draft from crossing the eyes to prevent dry eye. This unique face and respiratory protection system provides the highest safety level possible .

The easy-to-change DIN5 front cover lens expands the system to the perfect protector for efficient plasma cutting.

The e3000 PAPR system compliments the Optrel mask to provide respiratory protection, which makes no compromises in matter of safety, health and comfort.



Technical Specifications:

Weight	Helmet: 495g
	E3000: 1560g (Including filter, battery, belt and charger)
Standard	EN 166 / EN 175 / EN 169 / EN 170 / EN 12941:1998 TH3

The Optrel Clearmaxx helmet can be bought separately without the PAPR system as it is interchangeable between helmets.

	Part Number	Price
Clearmaxx PAPR Helmet with Headband, Airduct (for e3000) & Face Seal	4900.020	£189

Package includes:

- Optrel Clearmaxx PAPR helmet with headband, airduct (for e3000) and face seal
- Optrel e3000 PAPR respirator with battery (10 or 20 hour) belt, charger, parking buddy and filters
- Optrel e3000 TH30 particle master filter
- Optrel e3000 bag
- Optrel helmet bag

Selection Diagram:

10hr PAPR battery		20hr PAPR battery	
Part number	Price	Part Number	Price
4900.202.G	£715	4900.202.GL	£747



Kemppi Delta+ 90 XFA and FA Flow Control

Maintain respiratory protection during all work processes.

Delta+ 90 XFA protects the head, face, eyes and the respiratory system in one high strength unit and includes optional ear defenders. The hinged welding shield raises independently from the large impact rated clear visor, offering exceptional work site views. Ideal for pre and post welding processes, Delta+ 90 XFA maintains the face seal protected, clean breathing air environment.



- Heavy duty hard hat, welding and grinding visor
- Certified EN 397, EN 175 B, AS/NZS 1801 and AS/NZS 1337.1
- XA 47 ADF welding filter, shades 5 / 9-13 / 14-15
- Li-ion battery powered filter pack or supplied air packages
- Remain protected behind the large, clear impact rated visor

Efficient, lightweight and compact

FA Flow Control is a battery powered filter unit with adjustable motor fan speeds from 140 lpm to 210 lpm. Powered from a Li-ion battery pack and providing protection against particulate contaminants associated with welding and fabrication operations, FA Flow Control offers excellent freedom of movement and breathing protection.

Kemppi Delta+ 90 XFA and FA Flow Control

Technical Specifications:

Optical class	1/1/1/2
Switching time	0.1ms
Grind Mode	Yes
Shade	4/9-13 (Cutting 5) 14-15
Sensors	2
Viewing area	94 x 47 mm
Battery type	Helmet: 1 x CR2450 Replaceable
Weight	Helmet: 1120g FA flow control: 100g
Standards	EN 397, EN 175 B, AS/NZS 1801 and AS/NZS 1337.1

Package includes:

- Delta+ 90 XFA welding helmet
- Auto-darkening welding filter XA 47
- Air hose
- FA flow control unit
- Li-ion battery and charger
- Flow meter
- Comfort belt

Selection Diagram:

Part number	Price
9873320	£939

Kemppi Gamma GTH3 XFA and PFU 210e

Maximum protection, premium comfort, total control, LED work lights.



Gamma GTH3 XFA offers top class safety and comfort

with total freedom of movement. Even in the toughest working environments, Gamma GTH3 XFA is the ultimate welder's respirator, featuring class leading LiFE+ Colour ADF, integrated LED work lights, fast charge Li-ion battery packs and all Gamma comfort features.

- Respiratory protection class TH3
- XA 74 ADF filter with 75 cm² viewing area
- Integrated LED work lights
- 198 cm² grinding visor with 170° work site view
- GapView welding visor setting
- Axis regulator tunes eye-line perspective
- Air speed selection 160 and 210 lpm
- Heavy duty battery as standard

The best protection for your lungs

PFU 210e means 'Powered Filter Unit with a maximum air speed of 210 litres per minute'. Representing the highest level of filtration performance, PFU 210e is available with both Gamma GTH3 and Beta FA respirator systems, so you can be sure of receiving clean and safe air to breathe. Robust and durable, PFU 210e offers selectable fan speeds of 160 lpm and 210 lpm, battery and filter status indicators, plus a choice of either standard duty or heavy duty batteries. Lithium-Ion battery technology guarantees fast charging times and the power to protect with either particle filter or a combined filter set with the A1B1E1 gas filter.

Kemppi Gamma GTH3 XFA and PFU 210e

Technical Specifications:

Optical class	1/1/1/2
Switching time	0.1 ms
Grind Mode	Yes
Shade	4/5,8/9-13 Cutting 5 14-15
Sensors	2
Viewing area	102 x 74 mm
Battery type	Helmet: 1 x CR2450 Replaceable
Weight	Helmet: 1100g PFU 210e: 2510g (blower unit, filter, battery, hose & belt)
Standards	CE, ANSI, CSA, AS/NZS

Package includes:

- Gamma GTH3 XFA welding helmet
- Auto darkening welding filter XA 74
- Powered air respirator PFU 210e
- Air hose
- Pre-filter
- Particle filter
- Battery 6.4 Ah
- Battery charger
- Flow meter
- Gamma leather belt

Selection Diagram:

Part number	Price
9873130	£1149



For more information on any of these products or to place an order please contact our sales team, sales@rapidwelding.com or on +44(0)23 92 214 214

**Alternatively these products are available to buy online at
www.RapidWelding.com**



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