parweld
WELDING THE FUTURE



PAR-PROMOB

Mobile Welding Fume Extraction Unit

OPERATOR MANUAL

ISSUE 1

Welcome

Thank you for choosing Parweld. This Owner's Manual is designed to help you get the most out of your Parweld products. Please take the time to read the Safety Precautions. They will help you protect yourself against potential hazards in the workplace. With proper maintenance, this equipment should provide years of reliable service. All our systems conform to ISO 9001: 2015 and are independently audited by NQA.

The product range is constructed in accordance with European and UK directives and the product specific standards where they apply.

Further Information

Parweld is the UK's leading manufacturer of MIG, TIG and Plasma torches and consumables.

For more information about Parweld's complete range, visit www.parweld.com

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1.0 Document Information

This document is the operating manual and technical data sheet for the Parweld **PAR-PROMOB** mobile welding fume extraction unit. It is an integral part of the product and must be kept available to operating and maintenance personnel at all times.

Item	Detail
Manufacturer	Parweld Ltd.
Address	Parweld House, Bewdley Business Park, Long Bank, Bewdley, Worcestershire, DY12 2TZ, United Kingdom
Product	PAR-PROMOB — Mobile Welding Fume Extraction Unit
Product Codes	PAR-PROMOB-230
Document/Revision	PW-PAR-PROMOB-OM-EN · Rev. 1 · 2026
Standards Basis	EN ISO 20607 (instruction handbook) · ISO 21904-1 (welding fume capture) · EN ISO 12100 (risk assessment)

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2.0 Product Overview

The Parweld PAR-PROMOB is a mobile welding fume extraction and filtration unit with an internal-mechanism 3 metre suction arm. It captures and filters fume at the point where it is produced, during manual and semi-automatic arc welding (MMA/stick, MIG/MAG and TIG) of metallic materials and during light, spark-free deburring.

The PAR-PROMOB uses a **mechanical cartridge filter system:** a metal mesh spark pre-filter, an E12 ePTFE membrane cartridge main filter (10.1 m^2) and an optional activated-carbon odour filter. The cartridge is cleaned automatically by an integrated jet-pulse compressed-air system during operation. **Cleaning is performed automatically by the integrated jet-pulse system.**



Figure 1 — Machine Components

Item	Component
1	2 × Fixed Wheel
2	Dust Bucket
3	Mesh Filter Drawer
4	Extraction Arm
5	Emergency Stop
6	Control Panel

Item	Component
7	Jet-Pulse Section
8	Fan + Motor Section
9	2 × Swivel Castor (with brake)
10	2 × Handle
11	Filter Section Cover (rear)
12	Electrical Panel Section

NOTE

Certification.
The PAR-PROMOB is CE marked and its use-information conforms to ISO 21904-1.

3.0 Technical Data

Parameter	Value	Notes/Standard
Motor Power	1.5kW	230V AC / 50Hz, single phase
Max. Fan Airflow (free)	3500m³/h	Radial aluminium fan
Fan Speed	2810rpm	—
Airflow at Hood	≈ 1300m³/h	Meets ISO 21904-1 min. 650m³/h per arm
Sound Pressure Level	68 dB(A)	Measured per EN ISO 3746
Protection Class	IP 54	—
Dimensions (W × D × H)	650×1260×115mm	Compact mobile housing
Weight	138kg	—
Housing/Finish	Galvanised steel	RAL 7016 textured powder coat
Pre-filter	Metal mesh (class G2)	Washable, galvanised/stainless mesh
Main Filter	E12 ePTFE membrane cartridge (E12, EN 1822)	ePTFE membrane, 10.1m², 1 cartridge (Ø325×600mm), jet-pulse self-cleaning
Odour Filter (Optional)	Activated carbon (optional)	Pellet type
Compressed Air Supply Pressure	5 – 6 bar	For jet-pulse cleaning
Air Quality	Filtered, dry, oil-free	In accordance with ISO 8573-1
Air Consumption Per Pulse	≈ 32 N.L	DN 25 valve, 6 bar
Compressed Air Connection	G 1"	Valve body connection
Valve Opening Time	60ms	Per valve manufacturer data
Valve Closing Time	100ms	Per valve manufacturer data
Pulse Duration	120ms	Timer setting
Post-cleaning After Shutdown	Yes	Automatic pulse when the unit is stopped
Cleaning Trigger	Differential pressure (ΔP)	Not a fixed timer
Average Air Consumption	max. ≈ 3.8 Nm³/h	At 30s pulse interval
Compressor (Continuous)	≥ 64 N.L/min	To refill the tank within 30s

4.0 Control Panel

The operating controls and the emergency-stop button are on the front of the unit.

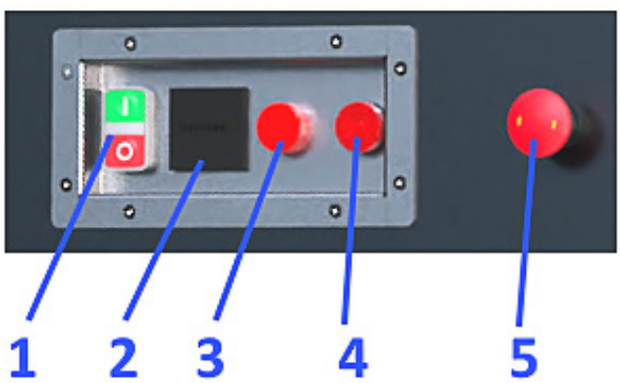


Figure 2 — Control Panel

Item	Element	Function
1	On / Off Button	Switches the unit on and off; integrated power indicator
2	Working-hour Counter	Shows accumulated operating hours for service planning
3	Fault Indicator	Signals a fault; stop and consult troubleshooting or service
4	Filter Indicator	Lights when filter resistance is high and airflow drops; a filter change is due
5	Emergency Stop	Stops the unit immediately; release by turning the button to reset

Main Components

The unit comprises the filter housing on a mobile frame with two fixed rear wheels and two swivel castors with brakes, the extraction arm and hood, the fan and motor compartment, the control panel, and the dust collection drawer beneath the filter module.

5.0 Safety

Signal Words Used in This Manual

Safety information is marked with one of the following signal words. The word and its colour show how severe the consequence is if the instruction is not followed.

Word	Meaning
DANGER	Indicates an imminent hazard that, if not avoided, will result in death or serious injury.
WARNING	Indicates a possible hazard that, if not avoided, could result in death or serious injury.
CAUTION	Indicates a possible hazard that, if not avoided, could result in minor or moderate injury, or in damage to property.
NOTE	Additional information for correct and efficient use; does not warn of personal injury.

General Safety Information

The product is built to the state of the art and to the recognised safety rules. Even so, hazards to the operator or damage to the product can arise if it is operated by untrained personnel, used improperly, or inadequately maintained. Everyone who works with the product must read and understand this manual before use, and it must be kept available with the product at all times.

Intended Use

The Intended Use of This Product is The Extraction and Filtration of Welding Fumes.

It is a mobile, dry-filter welding fume extractor, intended to capture and filter the fume produced by manual and semi-automatic arc welding (MMA/stick, MIG/MAG and TIG) and comparable thermal joining of metallic materials, at the point where the fume is created, in enclosed industrial workplaces. Light, spark-free deburring is also within the intended use.

Intended use also includes operating the product within the limits in the technical data (minimum air flow, ambient conditions), keeping the extraction hood correctly positioned at all times, following this manual, and using only original filter elements and spare parts.

Any other use, or use beyond these limits, is regarded as improper use. The operating company alone is responsible for damage or injury resulting from improper use or from unauthorised modification of the product.

Reasonably Foreseeable Misuse

The following uses are foreseeable but strictly prohibited. Each can cause fire, explosion, or the release of substances the filter does not remove. These prohibitions apply even though the product has an internal spark baffle and a metal mesh pre-filter — these reduce, but do not eliminate, the risk.

DANGER

Combustible light-metal dust — aluminium, magnesium, titanium and their alloys.

Never extract dust or fume from grinding, cutting or machining these metals. Such dust is combustible and can form an explosive atmosphere inside the collector. A dry filter unit must not be used; a purpose-built wet separator is required.

DANGER

Welding on surfaces cleaned with chlorinated solvents (e.g. trichloroethylene, perchloroethylene).

Ultraviolet radiation from the arc converts chlorinated solvent vapour into phosgene, a toxic gas. This extractor does not remove phosgene. Do not weld on such surfaces until they are fully dry and free of vapour.

WARNING

Heavy grinding and continuous-spark processes (plasma cutting, carbon-arc gouging).

A continuous shower of sparks or large glowing particles can ignite the collected dust in the filter. Do not use the product for heavy grinding, plasma cutting or gouging. Only occasional sparks carried in a welding fume stream, and light spark-free deburring, are within the intended use.

WARNING

Other combustible or explosive dusts.

Do not extract wood, plastic, coal or any other organic or combustible dust, or any dust that can form an explosive atmosphere with air. Fine combustible dust suspended in air can cause a dust explosion.

WARNING

Liquids, Oil Mist and Greasy or Wet Fume.

Do not extract oil mist, paint overspray, solvent vapour, or fume containing aerosols or liquids. These soak and clog the filter medium and, with some dusts, increase the risk of fire.

CAUTION

Coated, Painted, Galvanised or Primed Materials.

Welding such materials can release additional hazardous decomposition products that may need dedicated ventilation and respiratory protection beyond the design basis of this product. Welding galvanised (zinc-coated) steel releases zinc oxide fume, which can cause metal fume fever. Ensure effective capture at source and adequate general ventilation, and assess the risk before welding.

WARNING

Explosive Atmospheres and Outdoor Exposure.

The product is not ATEX rated and must not be operated where an explosive atmosphere may be present (zones 0/1/2 or 20/21/22). Unless an outdoor-rated variant has been supplied, install and operate the product only inside closed buildings.

Material/Process	Status	Correct Solution
Aluminium, magnesium, titanium dust	PROHIBITED	Wet separator/purpose-built system
Heavy grinding/plasma/gouging sparks	PROHIBITED	Dedicated spark-safe extraction
Chlorinated-solvent-cleaned surfaces	PROHIBITED	Do not weld until dry and vapour-free
Wood, plastic, coal, organic dust	PROHIBITED	Dust extractor rated for that dust
Oil mist, liquids, aerosols	PROHIBITED	Oil-mist / aerosol separator
Explosive atmosphere (ATEX zone)	PROHIBITED	ATEX-rated equipment

Residual Risks

Smouldering Fire in the Filter. Individual sparks may occasionally reach the filter despite the baffle and mesh and can start a smouldering fire in the dust deposit. Empty the dust drawer regularly and do not mix dust from different processes. If a smouldering fire is suspected, follow the emergency measures below.

Escape of Hazardous Fume. If the hood is positioned incorrectly or the air flow falls below the minimum value, fume is not captured reliably and can reach the operator's breathing zone. Welding fume is hazardous to health; where the base or filler material contains more than 5 % chromium or nickel, the fume is carcinogenic (CMR).

Dust Exposure During Maintenance. Removing a loaded filter or emptying the dust drawer can release hazardous dust. Wear at least FFP3 respiratory protection, gloves and eye protection, and seal used filters and dust in labelled bags without dispersing dust.

Noise. The product produces noise; the declared value is in the technical data. Combined with other machinery, hearing protection may be required.

Qualification of Personnel

The product may only be operated, maintained and repaired by trained or instructed personnel who know this manual and the relevant accident-prevention rules. Work on the electrical equipment may be carried out only by a qualified electrician. The operating company must enforce the wearing of personal protective equipment, in particular safety shoes, eye protection and gloves.

Specific Hazards

DANGER

Electric Shock.

Work on the electrical equipment may be carried out only by a qualified electrician. Before opening the product, switch it off, disconnect it from the mains and secure it against being switched on again. Do not open the product if the housing or supply cable is visibly damaged; check the cable regularly.

WARNING

Fire and Smouldering in the Filter.

Keep flammable materials away from the work area and have a suitable extinguisher near the product during operation. If embers or a smouldering smell are noticed, switch the product off, do not open the housing, and let it cool in a controlled manner.

WARNING

Toxic and Carcinogenic Dust.

Welding fume is hazardous if inhaled and can cause serious injury to the lungs and airways; fume from chromium- or nickel-alloyed material is carcinogenic. Operate the product only with the filter elements fitted. Maintenance and emptying may be done only by qualified personnel wearing personal protective equipment.

WARNING

Tipping Over During Movement.

The product can tip over when moved. Move it only on flat, smooth floors using the push handle; do not use the handle to lift it; do not sit or climb on it; and fold in the arm or secure the hose before moving.

WARNING

Unexpected Start-up of the Fan.

The fan can start on its own when a start/stop sensor is connected. Keep hands away from the fan and moving parts, and disconnect the product from the mains before any work inside the housing.

Emergency Measures in the Event of Fire

DANGER

Do not open the maintenance door or filter housing during or after a fire.

Opening the housing lets air reach a smouldering filter and can cause a sudden flash flame. Do not touch the housing without protective gloves — risk of burns.

If the product or its collected dust catches fire, take the following steps as far as it is safe to do so:

1. Switch the product off and disconnect it from the mains: pull the plug or set the main switch to 0 and remove the supply fuses.
2. If a compressed-air supply is connected, disconnect it.
3. Extinguish the fire with a **dry-powder (ABC) extinguisher**. Do not use water on an electrical fire.
4. If aluminium, magnesium or titanium dust is, or may be, involved, use a **Class D (metal-fire) extinguisher only**. Water, CO_2 and standard ABC powder can make a burning metal-dust fire far worse.
5. Evacuate the area and call the fire brigade if the fire is not immediately and safely controlled.

Markings and Signs on the Product

Various markings and signs are fixed to the product. If they are damaged or removed, replace them immediately in the same place. The operating company must post any further markings required at the place of use, for example the requirement to wear personal protective equipment.

6.0 Handling and Installation

Transport

The unit is shipped on a pallet. After unpacking, move it with a fork-lift truck or approved lifting equipment; when slinging, keep the sling angle within 60°. On site, move the unit only on flat, load-bearing floors using the push handle.

Extraction Arm fitting

1. Remove the plastic flange from the top of the cart by releasing the 8 set screws around the flange using a 10mm spanner.

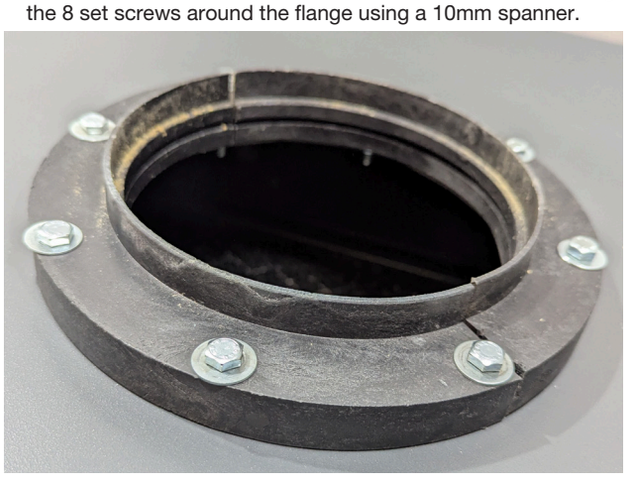


Figure 3 — Flange

2. Fit the plastic flange onto the end of the extraction arm ensure the flat face, faces down and the two halves interlock.

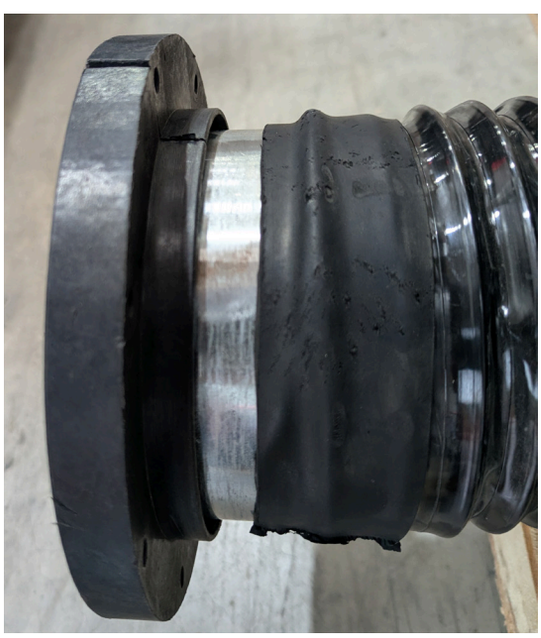


Figure 4 — Flange Aligned

3. Raise the arm up onto the top of the cart (two-person task) and align the flange with the holes in the top of the cart and refit all the sets screws and washers before tightening them down.

Electrical Connection

The electrical connection may be made only by a qualified electrician. Connect the supply cable to a 230V AC / 50Hz supply with the earth (protective conductor) verified. Protect and size the supply cable for the motor power draw, and provide protection in accordance with national regulations.

Storage

If the unit will not be used for a long time, store it in a dry room within the limits below.

Parameter	Parameter Value
Storage Temperature	–10°C to +50°C
Relative Humidity	30% to 70%, Non-condensing

NOTE

Fan Bearings During Storage. To prevent the bearings in the fan motor from sticking, rotate the fan impeller by hand about every two weeks while the unit is in storage.

7.0 Maintenance and Filter Replacement

WARNING

Toxic and Carcinogenic Dust.

During filter changes and when emptying the dust drawer, wearing an FFP3 respirator, protective gloves and eye protection is mandatory. Carry out the work in a well-ventilated area.

Interval	Task
Each shift	Check hood, arm and hoses for leaks or damage. Check the indicator panel.
Weekly	Check the dust drawer; empty it before it exceeds about 25% full.
Monthly	Check the metal mesh pre-filter (wash and dry, or replace, as needed). Adjust arm-joint friction.
Every 6 months	Check housing and door gaskets. Check the electrical cable and terminals.
Annually	Earth-continuity test, differential-pressure check, and general service by qualified personnel.

Filter Replacement

The PAR-PROMOB cleans its cartridge automatically with an integrated jet-pulse system during operation. Replace the cartridge only when jet-pulse cleaning no longer restores the airflow.

Jet-pulse /compressed-air safety — before opening the PAR-PROMOB: wait for the automatic cleaning cycle to finish; disconnect the compressed-air supply; disconnect from the mains and wait at least 5 minutes before opening.



1. Switch off at the main switch and pull the plug from the mains.
2. Put on personal protective equipment (FFP3 mask, gloves, eye protection).
3. Open the front cover (Figure 1 Item 8).
4. Fit the supplied blue pipe to the drain valve on the pulse cylinder.

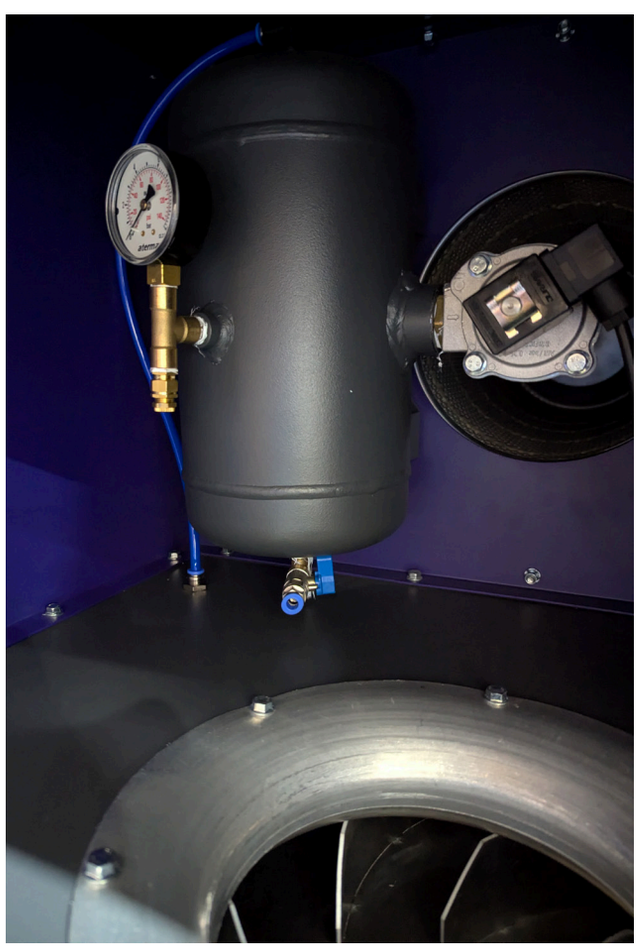


Figure 5 — Pulse Cylinder

5. Slowly open the pulse cylinder drain valve to safely vent any pressure and water.
6. Close the drain valve and remove the blue pipe.by depressing the blue locking collar.
7. Close the front cover and lock.

8. Open the rear cover to reveal the main filter, (Figure1 Item 1)
9. Using a 15mm spanner and socket loosen the two nuts A, B and remove the outer nut C.

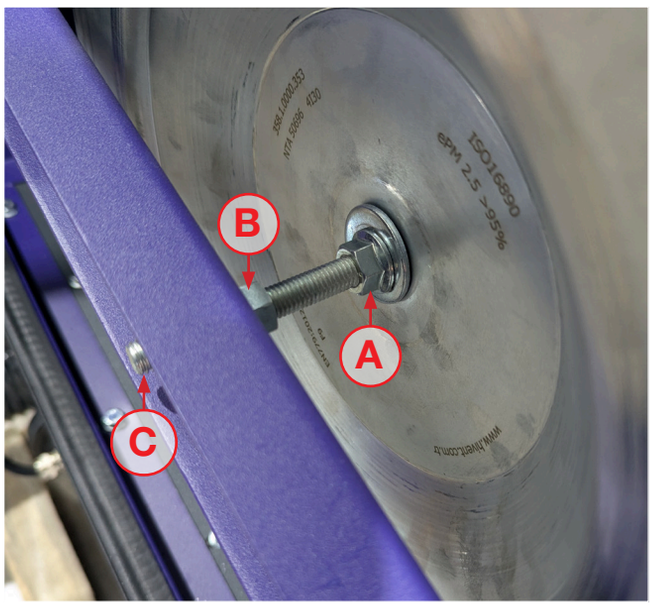


Figure 6 — Loosen Nuts

10. With the nuts loosened you should be able to lift out the cross bar and lower the filter into a plastic bag, remove the bolt and seals completely from the old filter, Seal the old filter in a plastic bag for disposal.
11. Remove the new filter from its packaging and fit loosely the bolt assembly.
12. Offer up the filter to unit seal end first so that the rear end of the filter is located inside the three tabs at the bottom of the unit as indicated.

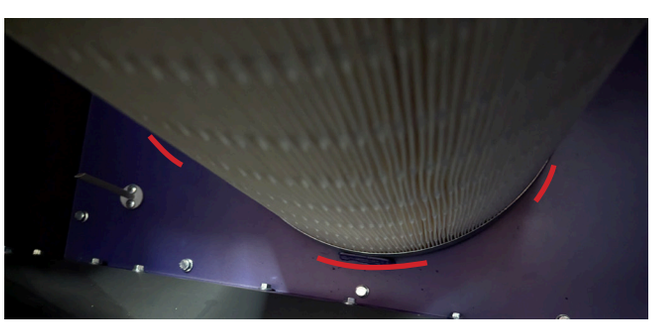


Figure 7 — Three Tabs

13. Refit the cross bar ensuring the bolt passes through the centre holes and the filter remains seated on the rear tabs.
14. Tighten the nuts in the following sequence A, B, C refer Figure 5
15. Close the rear door refit the air line and power up the unit.
16. It is now ready for use.

Metal Mesh Pre-filter Cleaning

When the metal mesh pre-filter becomes clogged, rinse it with normal tap water. Do not refit it or run the unit until it is completely dry. Do not use pressurised water.



Figure 8 — Metal Mesh Pre-filter

8.0 Troubleshooting

Extraction and Filter Faults

Fault	Possible Cause	Solution
Fume is not fully captured	Extraction hood too far from the weld	Move the hood closer (about 25cm above the weld)
	Clean-air outlet obstructed	Keep the clean-air outlet clear
	Hood, arm or hose damaged	Repair or replace the damaged part
Low suction power	Main filter saturated	Replace the filter panel; dispose of it in accordance with regulations
	Dust drawer or door not closed correctly	Close it fully so that the seal engages correctly
	Blockage in the arm or hose	Remove the blockage
The unit does not start	No mains voltage or blown fuse	Have the supply and distribution board checked by a qualified electrician
	Emergency stop is pressed	Release the emergency stop by turning the button

Extraction and Filter Faults

Fault	Possible Cause	Solution
Unusual noise	Fan is rubbing against something	Notify Parweld service
Airflow below the required value	Filters are blocked	Clean or replace the filters
Smoke or loud noise from the fan	Fan imbalance	Switch off immediately; have it checked by Parweld service
Excessive vibration	Fan mounting problem	Have the fan checked by Parweld service
Power draw too high	Wrong direction of rotation	Check the direction of rotation
Fan runs roughly	Fan out of balance from dust build-up	Switch off immediately and clean the impeller thoroughly
Supply fuse blown	Mains supply problem	Check the fuse, wiring and supply voltage

NOTE

If a fault cannot be corrected by the operating company, contact Parweld service.

9.0 Spare Parts

Use only original Parweld spare parts, which maintain the specified filtration performance.

Part	Code	Description
Metal Pre-filter	PAR-MOBPROMF	Class G2, washable (standard)
Main Filter E12	PAR-MOBPROE12	E12 ePTFE membrane cartridge
Activated-carbon Filter (optional)	PAR-MOBPROF9	Pellet type
Suction Arm, 2m, 3m, 4m	PAR-EX2, PAR-EX3, PAR-EX4	

10.0 EU Declaration of Conformity

Item	Detail
Product	Mobile Welding Fume Extraction Unit
Model/Code	PAR-PROMOB - 230
Serial Number	See the type plate on the product
Manufacturer	Parweld Ltd.
Address	Parweld House, Bewdley Business Park, Long Bank, Bewdley, Worcestershire, DY12 2TZ, United Kingdom

Parweld Ltd. declares, under its sole responsibility, that the product described above is designed and manufactured in conformity with the following Directives:

Directive 2006/42/EC — Machinery Directive
Directive 2014/30/EU — Electromagnetic Compatibility (EMC)
Directive 2011/65/EU — Restriction of Hazardous Substances (RoHS)

The following harmonised standards have been applied:

- **EN ISO 12100:2010** Safety of machinery — General principles for design, risk assessment and risk reduction
- **EN ISO 20607:2019** Safety of machinery — Instruction handbook
- **EN ISO 21904-1:2020** Health and safety in welding and allied processes — Equipment for capture and separation of welding fume
- **EN ISO 13857:2019** Safety of machinery — Safety distances
- **EN 60204-1:2018** Safety of machinery — Electrical equipment of machines
- **EN ISO 13849-1:2023** Safety of machinery — Safety-related parts of control systems
- **EN IEC 61000-6-2:2019** EMC — Immunity for industrial environments
- **EN IEC 61000-6-4:2019** EMC — Emission standard for industrial environments
- **EN IEC 63000:2018** Technical documentation for the assessment of RoHS

The person authorised to compile the technical file is established at the manufacturer's address above.

Bewdley, 2026	**Jonathan Websdell**	
Place, date	Authorised Signatory	Signature



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