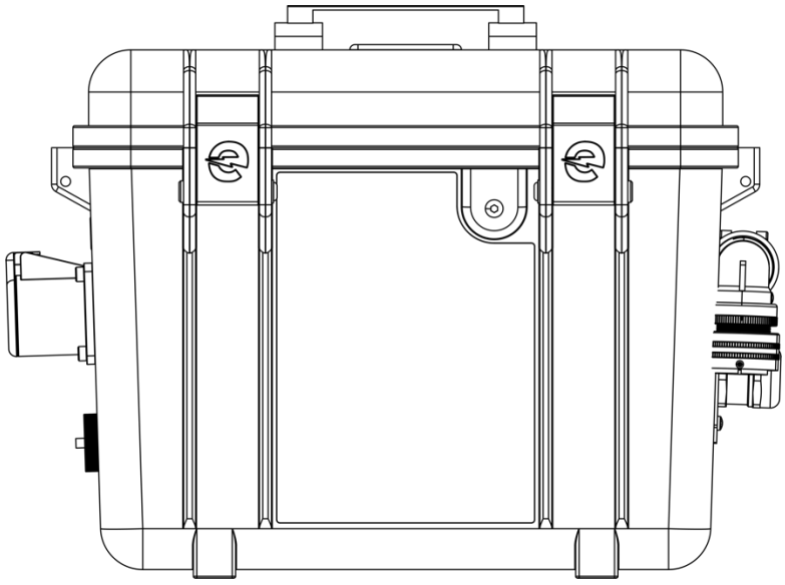
ADVANCE WELDING

flex
BATTERY POWERED INVERTER

Operating Manual

V1 2025.04



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Searching for Keywords

Search for keywords such as “Battery” or Specification” to find topic. If you are using Adobe Acrobat Reader to read this document, press Ctrl+F on Windows or Command+F

Navigating to a Topic

View a complete list of topics in the table of contents. Click on a topic to navigate to that section.

Printing this Document

This document support high resolution printing.

Using This Manual

The Flex inverter is used in conjunction with the Efuze I-ACT. This document will reference operational instructions relating to both the Flex Inverter and Efuze I-ACT.

Legend

Important

Hints and Tips

Read Before Use

Advance Welding provides users with tutorial videos and the following documents. Before using the product for the first time, it is recommended to follow these steps:

1. **Watch All Tutorial Videos**:
    - Ensure you watch all the tutorial videos provided. These videos will offer visual and practical guidance on how to use the product correctly and efficiently.
2. **Read the Safety Guidelines**:
    - Carefully read the safety guidelines. These guidelines are crucial for understanding how to use the product safely and avoid any potential hazards.
3. **Review the Quick Start Guide**:
    - Before you begin, review the quick start guide. This guide will provide you with the essential steps to set up and start using the product quickly and effectively.
4. **Refer to the User Manual for More Information**:
    - For detailed instructions and additional information, refer to the user manual. The manual will offer comprehensive guidance on all aspects of using the product, troubleshooting tips, and maintenance advice.

By following these recommendations, you will ensure a safe and efficient first-time use of the product.

Flex Promotional Video

Index

Introduction

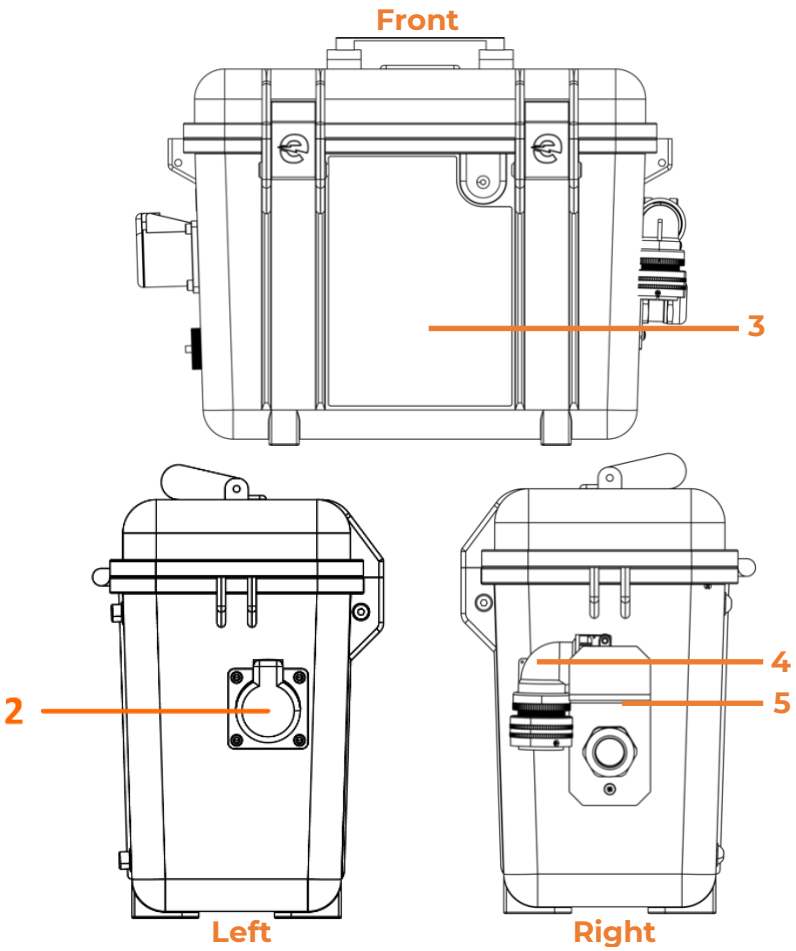
The **FLEX** is a power inverter that works with your Efuze battery-powered electrofusion welder to convert the Efuze welding output voltage into 110v AC to run your on-site tools. The stored energy is taken from the Efuze battery pack, which allows the **FLEX** to be very small and lightweight, coming in at just 6.4 kg.

[1] Tested at room temperature of 25° (77° F) in a well-ventilated environment, and is for reference only

Product Profile

Flex Inverter

1. E Locks
2. AC Output
3. Instruction Label - Front
4. 1.4 Metre Fly Lead
5. Cable Tidy



[1] The illustrations in the user manual may differ from the actual product, depending on the country or region. Please refer to the actual product.

Delivered Items

Carefully remove the welding unit from its packaging and check that you have the following items:

- Flex Inverter

Intended Use

The **FLEX** has a surge power of 3,000w and a continuous power of 1,500w. It has a 110v pure sine wave output.

A fully charged Efuze battery will run a submersible pump for 45 minutes, pumping out 9,000 litres of water, which is 112 bathtubs full.

A fully charged Efuze battery will run a 10 bar 10-litre air compressor for 30 minutes, giving 2,600 litres of air. This will pump up 42 car tyres from empty.

Using the **FLEX** to pump water out of a trench for 5 minutes, 1,000 litres, takes the same energy from the Efuze battery as welding one 125mm coupler.

Product Specification

Operating Mode:	110v Inverter Pure Sine Wave
Operating Languages:	Via Efuze - English, French, Spanish, Portuguese (others on request)
Operating Temperature:	-20°C to +45°C
Storage Temperature:	-30°C to +45°C
Input Voltage:	Efuze Inverter Mode (48v)
Output Voltage:	110v AC 50Hz
Output Current Maximum:	14A Continuous (27A Surge)
Output Power:	1,500W Continuous (3,000W Surge)

Operating Times:

Based on Full Efuze Battery Charge

Compatible: Pump, Air Compressor, Site Light, Power Drill, Welding Machine, Kitchen Appliances, etc.

Submersible Pump	45 Minutes
Air Compressor	30 Minutes
Site Light	12 Hours

[1] This is given as a guide only, and the exact capacity will depend on a range of factors.

Protection Level:	IP54
Weight:	6.4 kg
Size:	43 cm x 34cm x 22 cm
Supply voltage:	Via Efuze - Lithium-Ion rechargeable batteries.

[2] Advance Welding has a policy of continuously improving product design, and as such, reserves the right to change the specification of its products without prior notice and with impunity

Safety Precautions

Warning! Please read the safety instructions carefully when installing and using an inverter.

To reduce risks, please do not expose the inverter to harsh environments such as rain, snow, frost, fog, grease and a lot of dust during installation.

The inverter should avoid places with fire, electric shocks, and wires that do not meet the standard specification.

Because the inverter contains components that are prone to arcing, it cannot be installed in a flammable and explosive Hazardous environment.

When connecting the Efuze battery to the Flex, please do not put metal tools near or within the area, as this may lead to sparks or short circuits.

It is forbidden to put small metal objects such as iron needles and iron pins into the product. Keep it away from water.

Connect the Efuze output cable to the DC input side (CONNECT ON CORRECT POLARITY BROWN TO BROWN and BLUE TO BLUE).

Place the unit on flat /stable ground when in operation.

Efuze output terminals have a secure connection to DC input terminals.

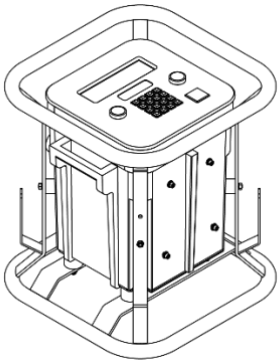
Ensure terminals are clean before attaching terminals to them.

Do not exceed the inverter’s maximum load capacity (1500w) to prevent overloading.

Distribute the load evenly and avoid connecting high-power appliances that exceed the inverter's capacity.

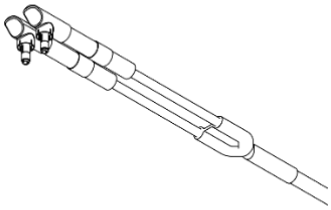
Operational Instructions

Equipment Required:



Efuze I-ACT

Flex Battery Powered Inverter



Output Cable

It is important to remember to connect the Efuze to the inverter via the Efuze Output Cable, before activating inverter mode on the Efuze I-ACT.

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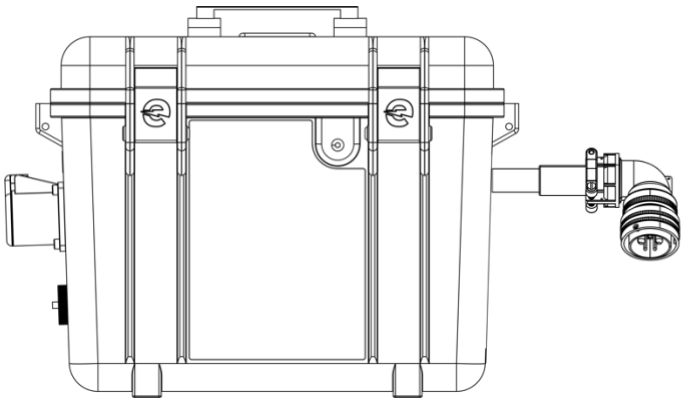
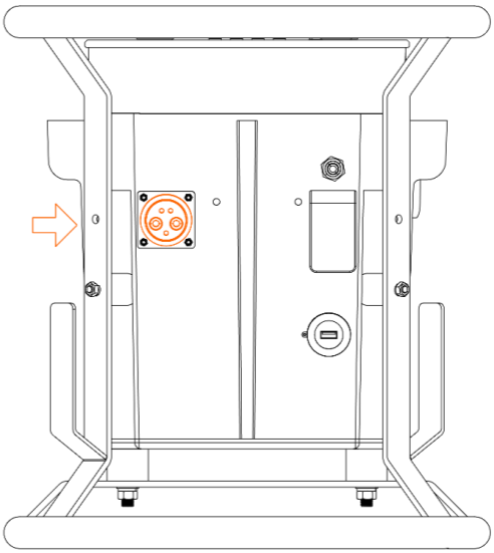
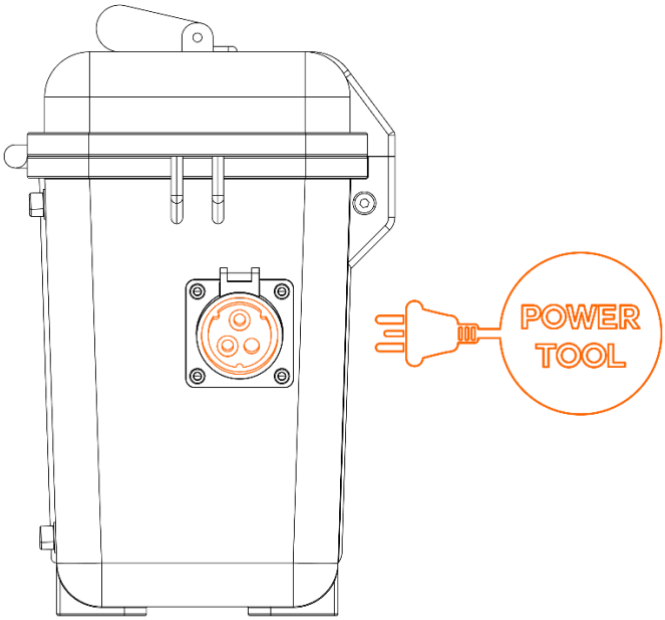
1. Connect the 1.4 metre fly leads from the Flex to the Efuze I-ACT.



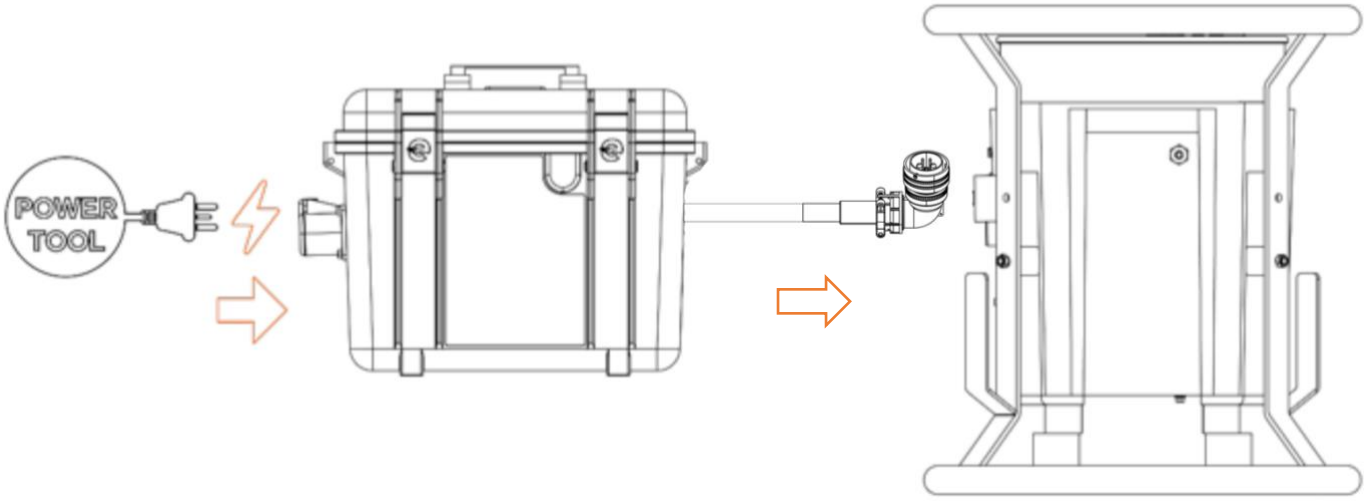


2. Connect your power tool to the 110v socket on the Flex Inverter's opposing side.

Ensure the load is not connected if the Flex Inverter has been activated via Efuze. Complete all connections before activating the Flex Inverter. The load must be within the specified limits; the maximum power capacity of the inverter is 1500w.



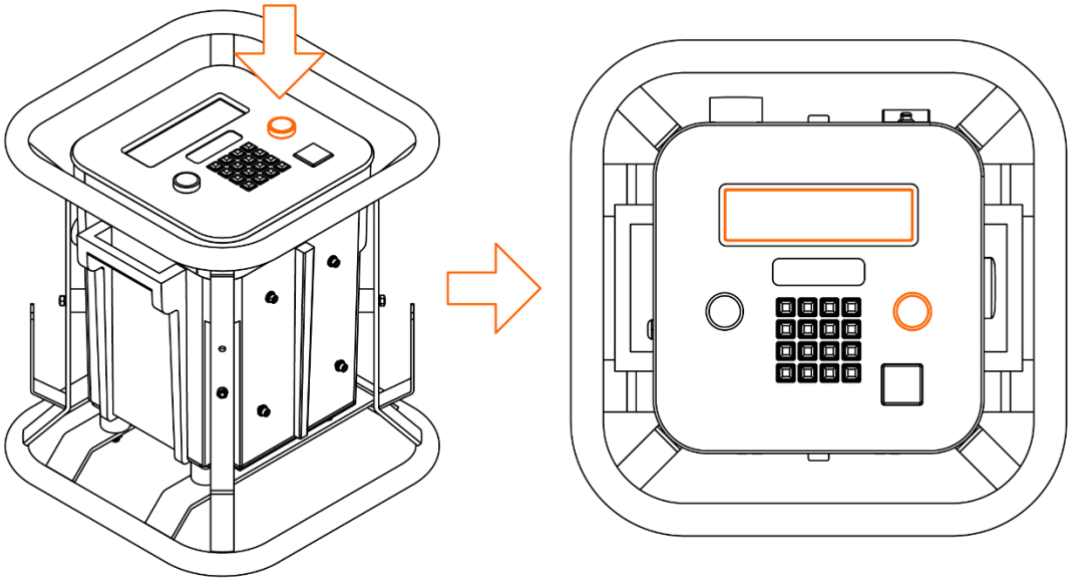
3. Before activating the I-ACT, ensure the connection is secure between your Efuze I-ACT and Inverter. Also, ensure your connection is secure between your power tool and the inverter output socket.



Initial Setup

Once all connections are completed, you can now turn on your Efuze to activate the inverter mode safely.

1. Turn on your Efuze by holding down the green button (Right Hand Button) until the screen is activated.



Turning The Machine ON

To turn the machine on, press and hold the green START button for three seconds. The display will show:

The product logo.

The manufacturer logo.

The product name.

The owner details.

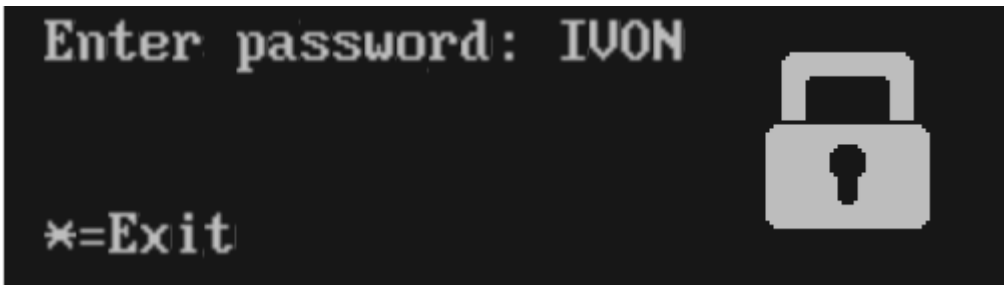
The main screen.

Turning the machine OFF.

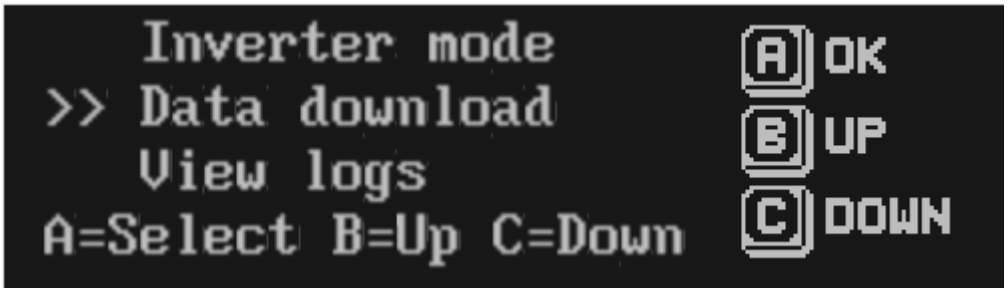
To turn the machine on, press and hold in the red STOP button for three seconds. The display will turn off.

The machine will auto power off after five minutes of inactivity.

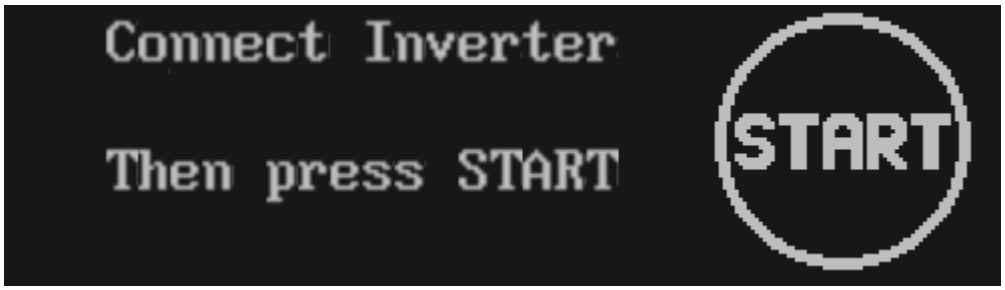
2. To enter the password, type "IVON" on the password screen. Then press "A" to initiate.



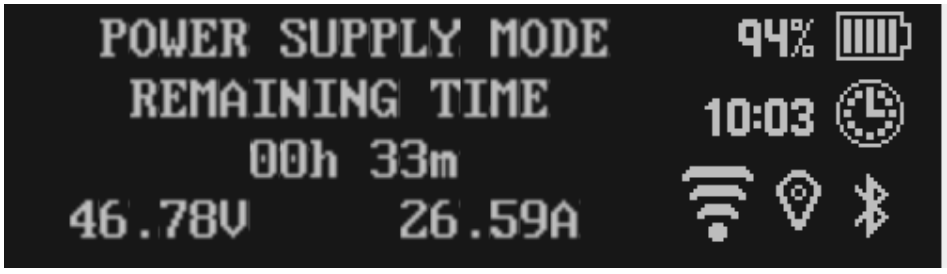
3. Inverter mode should now be accessible on the main menu screen



4. **Ensure that all connections are secure before proceeding. Once verified,** press "Start" when it is safe to do so.



5. Once activated, the E-fuse will display the voltage and current output, as well as the remaining time in inverter mode before the battery depletes to 0%.



6. To exit Inverter mode, press the red "STOP" button. This will return you to the connect fitting screen.

Electrical Safety

UK law requires equipment to be properly maintained if a lack of (or poor) maintenance would result in danger. As part of this maintenance, inspections are necessary, and testing may be required. There are various relevant legislations, including The Electricity at Work Regulations 1989 and The Electrical Equipment (Safety) Regulations 2016, that detail what inspections are required.

The Flex is a Battery battery-powered inverter, so there is no requirement to carry out in-service testing (P.A.T.); however, batteries in equipment can potentially fail and cause fires, so the equipment must be visually inspected for damage to the enclosure to make sure this does not happen.

The operator should carry out a visual inspection on the Flex Battery Powered Inverter every time it is used. If the case is split or broken, or any connectors are damaged, then the equipment must not be used, and it should be returned to your distributor for immediate repair.

The mains-powered charger requires additional testing and is subject to both a visual inspection and an in-service test (P.A.T.).

The operator should carry out a visual inspection of the charger every time it is used.

Following the Electricity at Work Regulations, a risk assessment should be carried out to determine the frequency of in-service testing (P.A.T.), based on how it is being used.

Transport of Dangerous Goods

The equipment has passed all relevant tests to allow it to be transported. This information can be viewed at **www.advancewelding.co.uk**

If you do not have the original packaging, then please visit **www.advancewelding.co.uk/batteries** for information on how to ship the Efuze machine.

Maintenance

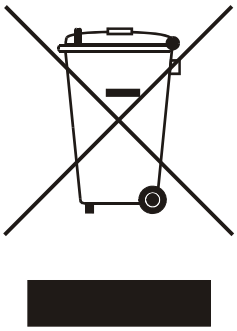
It is very important that the machine case is not damaged, regularly check for defects such as cracks, broken connectors, or damage that would allow water to enter the machine. If damage is found, then stop using the equipment immediately and contact your distributor for repair.

There are no user-serviceable parts inside the machine. It should be returned to an approved service agent for repair and calibration.

After use, clean the outside of the machine with a soft brush or cloth.

Disposal – End of Life

The equipment and packaging should be sorted for environmentally friendly recycling.



DO NOT DISPOSE OF THIS EQUIPMENT INTO HOUSEHOLD WASTE!

According to the European Directive 2012/19/EU Waste Electrical and Electronic Equipment (WEEE), when no longer suitable for use, this equipment must be separately collected and sent for recycling.

According to the European Directive 2011/65/EU Restriction of Hazardous Substances (RoHS), this equipment does not contain more than the agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

www.advancewelding.co.uk/batteries for more information.

Calibration and Warranty

IMPORTANT: WARRANTY WILL BE VOIDED IF THE "WARRANTY VOID" STICKERS HAVE BEEN TAMPERED WITH.

This welding unit has been manufactured, inspected and tested in accordance with the quality control systems in place at Advance Welding.

This welding unit has been calibrated using equipment that is traceable to national and international standards through a NAMAS-accredited laboratory. NAMAS (National Accreditation of Measurement and Sampling) is a service of UKAS (United Kingdom Accreditation Service).

This welding unit has a Twelve-month warranty period, active from the first use of the unit by the end-user customer.

Conditions of Warranty:

This warranty covers only those defects to the product which arise from normal use of the product, and will become invalid if any of the following apply:

- The warranty void stickers have been tampered with.
- Failure to follow the operating instructions.
- Improper or inadequate maintenance.
- Unauthorised modification.
- Misuse or any use not following the operating manual or good industry practice.
- Physical abuse of the product.
- Operation outside the product specifications.
- Improper site preparation or site maintenance.
- Faulty pipe or fitting.

Extent of Warranty:

Subject to the conditions and limitations of the warranty, Advance Welding warrants that its electrical products will be free from defects in materials and workmanship for twelve months, and its mechanical products for six months, from the date of purchase by the end-user customer. If during this period, notice of a defect which is covered by this warranty is received, then Advance Welding will either repair or replace the product at its option. Any replacement product will have functionality at least equal to that of the product being replaced, and will, in our opinion, perform consistently with its age and usage.

Unless otherwise agreed, all warranty work will be carried out by Advance Welding or an authorised and approved service facility.

Customers will prepay all shipping charges for products returned under warranty, and Advance Welding will charge for the return of the products back to the customer.

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Limitations of Warranty:

Advance Welding does not warrant the operation of any product to be uninterrupted or error-free.

Advance Welding specifically disclaims the implied warranties of satisfactory quality and fitness for a particular purpose.

Advance Welding makes no other warranty of any kind, whether expressed or implied, concerning its products.

To the extent that this warranty statement is inconsistent with the law of the locality where the customer uses the product, this warranty statement shall be deemed modified by the minimum necessary to be consistent with such local law.

To the extent allowed by local law, the remedies provided in this warranty statement are the customer's sole and exclusive remedies.

This equipment has been designed for use with the range of fittings and pipes available at the time of its design and development. Advance Welding can accept NO liability for the equipment's ability or otherwise to be used with new or different fittings or pipe that subsequently appear in the marketplace.

This equipment is not intrinsically safe and must not be used in a gaseous or explosive atmosphere. Advance Welding can accept NO liability if the equipment is used in these circumstances.

Declaration of Conformity

CE

In compliance with the 'New Approach Standardisation in the Internal Market', the products manufactured by Advance Welding meet the following relevant directives:

2014/30/EU	Electromagnetic compatibility (EMC)
2014/35/EU	Low Voltage (LVD)
2006/42/EC	Machinery (MD)
94/62/EC	Packaging and packaging waste
2011/65/EU	Restriction of the use of certain hazardous substances (RoHS)
2006/66/EC	Battery directive

The products do not fall within a predefined scope, so CE compliance is self-certified.

UK CA

The United Kingdom Conformity Assessed mark came into force in the UK on 1st January 2021.

More detailed information is available on our website at **www.advancewelding.co.uk**

On behalf of

Advance Welding: K. Wilkinson.

Service and Repair

For all service and repair of this machine, please return it to the manufacturer:

Manufactured in the UK by:

ADVANCE WELDING

Units 1 & 2
Taylor Street
Cleckheaton
West Yorkshire
BD19 5DZ
United Kingdom

Tel: 0844 880 7748
Fax: 0870 752 6139

Email: sales@advancewelding.co.uk
Web: www.advancewelding.co.uk