CIGWELD

AN ESAB BRAND

100+ YEARS OF WELDING INNOVATION

BLUEVENOM

FEEDX4

OPERATING MANUAL

CIGWELD
AN ESAB BRAND

WE APPRECIATE YOUR BUSINESS!

Congratulations on your new CIGWELD product. We are proud to have you as our customer and will strive to provide you with the best service and reliability in the industry. This product is backed by our extensive warranty and world-wide service network.

This Operating Manual has been designed to instruct you on the correct use and operation of your CIGWELD product. Your satisfaction with this product and its safe operation is our ultimate concern. Therefore please take the time to read the entire manual, especially the Safety Precautions. They will help you to avoid potential hazards that may exist when working with this product.

We have made every effort to provide you with accurate instructions, drawings, and photographs of the product(s) while writing this manual. However errors do occur and we apologise if there are any contained in this manual.

Due to our constant effort to bring you the best products, we may make an improvement that does not get reflected in the manual. If you are ever in doubt about what you see or read in this manual with the product you received, then check for a newer version of the manual on our website or contact our customer support for assistance.

YOU ARE IN GOOD COMPANY!

The Brand of Choice for Contractors and Fabricators Worldwide.

CIGWELD is a Market Leading Brand of Arc Welding Products for ESAB. We are a mainline supplier to major welding industry sectors in the Asia Pacific and emerging global markets including; Manufacturing, Construction, Mining, Automotive, Engineering, Rural and DIY.

We distinguish ourselves from our competition through market-leading, dependable products that have stood the test of time. We pride ourselves on technical innovation, competitive prices, excellent delivery, superior customer service and technical support, together with excellence in sales and marketing expertise.

Above all, we are committed to develop technologically advanced products to achieve a safer working environment for industry operators.

WARNING

Read and understand this entire Manual and your employer's safety practices before installing, operating, or servicing the equipment. While the information contained in this Manual represents the Manufacturer's best judgement, the Manufacturer assumes no liability for its use. Disclaimer: The images and values depicted in this manual are for illustration purposes only and may vary to actual values.

CIGWELD BLUEVENOM FEEDX4
OPERATING MANUAL NUMBER: 742054
FOR:
P/N W3000250

Published by:

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Publication Date: 01-06-2026

Revision Date:

RECORD THE FOLLOWING INFORMATION FOR WARRANTY PURPOSES:

Where Purchased:

Purchase Date:

Equipment Serial #:

BE SURE THIS INFORMATION REACHES THE OPERATOR. YOU CAN GET EXTRA COPIES FOR FREE BY DOWNLOADING FROM THE CIGWELD WEBSITE.

CAUTION

These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for arc welding and cutting equipment, we urge you to read our booklet, “Precautions and Safe Practices for Arc Welding, Cutting, and Gouging,” Booklet 0-5407. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information. Be sure to read the Safety Precautions before installing or operating this equipment.

USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Malfunctioning or poorly maintained equipment should not be used. Parts that are broken, missing, worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, the manufacturer recommends that a telephone or written request for service advice be made to the Authorised Distributor from whom it was purchased.

This equipment or any of its parts should not be altered without the prior written approval of the manufacturer. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than the manufacturer or a service facility designated by the manufacturer.

READ AND UNDERSTAND THE OPERATING MANUAL BEFORE INSTALLING OR OPERATING. PROTECT YOURSELF AND OTHERS!

CIGWELD
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DECLARATION OF CONFORMITY

According to AS/NZS 3820:2020, Essential Safety Requirements for Electrical Equipment Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2017

TYPE OF EQUIPMENT

Arc welding wire feeder

TYPE DESIGNATION

BlueVenom FeedX4 with serial number from: ZC620YYWW####

BRAND NAME OR TRADEMARK

CIGWELD

MANUFACTURER OR HIS AUTHORISED REPRESENTATIVE ESTABLISHED WITHIN THE EEA NAME, ADDRESS, AND TELEPHONE NO:

CIGWELD Pty Ltd 71 Gower Street
Preston, Victoria, Australia, 3072
Phone: +61 3 9474 7400;
cigweld.com.au

THE FOLLOWING HAS BEEN USED IN THE DESIGN:

AS 1674.2:2025	Safety in welding and allied processes, Part 2: Electrical
AS/NZS 3760:2022	In-service safety inspection and testing of electrical equipment and RCDs
EN IEC 60974-10: 2021	Arc Welding Equipment, Part 10: EMC requirements
EN IEC 60974-5: 2019	Arc Welding Equipment, Part 5: Wire feeders

ADDITIONAL INFORMATION:

Restrictive use, Class A equipment, intended for use in location other than residential. This equipment is also in compliance with the essential requirements of EU Directives 2014/30/EU and 2014/35/EU.

BY SIGNING THIS DOCUMENT, THE UNDERSIGNED DECLARES AS MANUFACTURER,OR THE MANUFACTURER'S AUTHORISED REPRESENTATIVE, THAT THE EQUIPMENT IN QUESTION COMPLIES WITH THE SAFETY REQUIREMENTS STATED ABOVE.

PLACE/DATE

Preston
01-06-2026

SIGNATURE

Jarrod Brennan
General Manager

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SECTION 1:
ARC WELDING SAFETY INSTRUCTIONS AND WARNINGS

WARNING

PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. PACEMAKER WEARERS KEEP AWAY UNTIL CONSULTING YOUR DOCTOR. DO NOT LOSE THESE INSTRUCTIONS. READ OPERATING/INSTRUCTION MANUAL BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT.

Welding products and welding processes can cause serious injury or death, or damage to other equipment or property, if the operator does not strictly observe all safety rules and take precautionary actions.

Safe practices have developed from past experience in the use of welding and cutting machinery/equipment. These practices must be learned through study and training before using this equipment. Some of these practices apply to equipment connected to power lines; other practices apply to engine driven equipment. Anyone not having extensive training in welding and cutting practices should not attempt to weld.

Safe practices are outlined in the Australian Standard AS 1674.2:2025 entitled: Safety in welding and allied processes Part 2: Electrical. This publication and other guides as to what you should learn before operating this equipment are listed at the end of these safety precautions.

HAVE ALL INSTALLATION, OPERATION, MAINTENANCE, AND REPAIR WORK PERFORMED ONLY BY QUALIFIED PEOPLE.

1.01 ARC WELDING HAZARDS

WARNING

ARC RAYS can burn eyes and skin; NOISE can damage hearing.

Arc rays from the welding process produce intense heat and strong ultraviolet rays that can burn eyes and skin. Noise from some processes can damage hearing.

ARC RAYS AND NOISE

1. Use a Welding Helmet or Welding Faceshield fitted with a proper shade of filter (see ANSI Z49.1 and AS 1674 listed in Safety Standards) to protect your face and eyes when welding or watching the welding operation.
2. Wear approved safety glasses. Side shields recommended.
3. Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
4. Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.
5. Use approved ear plugs or ear muffs if noise level is high.
6. Never wear contact lenses while welding.

WARNING

ELECTRIC SHOCK can kill.

Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when power is on.

In semiautomatic or automatic wire welding, the wire, wire reel, drive roll housing, and all metal parts touching the welding wire are electrically live. Incorrectly installed or improperly grounded equipment is a hazard.

ELECTRIC SHOCK

1. Do not touch live electrical parts.
2. Wear dry, hole-free insulating gloves and body protection.
3. Insulate yourself from work and ground using dry insulating mats or covers.
4. Disconnect input power or stop engine before installing or servicing this equipment. Lock input power disconnect switch open, or remove line fuses so power cannot be turned on accidentally.
5. Properly install and ground this equipment according to its Operating Manual and national, state, and local codes.
6. Turn off all equipment when not in use. Disconnect power to equipment if it will be left unattended or out of service.
7. Use fully insulated electrode holders. Never dip holder in water to cool it or lay it down on the ground or the work surface. Do not touch holders connected to two welding machines at the same time or touch other people with the holder or electrode.
8. Do not use worn, damaged, undersized, or poorly spliced cables.
9. Do not wrap cables around your body.
10. Ground the workpiece to a good electrical (earth) ground.
11. Do not touch electrode while in contact with the work (ground) circuit.
12. Use only well-maintained equipment. Repair or replace damaged parts at once.
13. In confined spaces or damp locations, do not use a welder with AC output unless it is equipped with a voltage reducer. Use equipment with DC output.
14. Wear a safety harness to prevent falling if working above floor level.
15. Keep all panels and covers securely in place.

RECOMMENDED PROTECTIVE FILTERS FOR ELECTRIC WELDING		
Description of process	**Approximate range of welding current in amps**	**Minimum shade number of filter(s)**
Manual Metal Arc Welding - covered electrodes (MMAW)	Less than or equal to 100 100 to 200 200 to 300 300 to 400 Greater than 400	8 10 11 12 13
Gas Metal Arc Welding (GWAW) (MIG) other than Aluminium and Stainless Steel	Less than or equal to 150 150 to 250 250 to 300 300 to 400 Greater than 400	10 11 12 13 14
Gas Metal Arc Welding (GMAW) (MIG) Aluminium and Stainless Steel	Less than or equal to 250 250 to 350	12 13
Gas Tungsten Arc Welding (GTAW) (TIG)	Less than or equal to 100 100 to 200 200 to 250 250 to 350 Greater than 350	10 11 12 13 14
Flux-cored Arc Welding (FCAW) - with or without shielding gas	Less than or equal to 300 300 to 400 400 to 500 Greater than 500	11 12 13 14
Air - Arc Gouging	Less than or equal to 400	12
Plasma - Arc Cutting	50 to 100 100 to 400 400 to 800	10 12 14
Plasma - Arc Spraying	—	15
Plasma - Arc Welding	Less than or equal to 20 20 to 100 100 to 400 400 to 800	8 10 12 14
Submerged - Arc Welding	—	2(5)
Resistance Welding	—	Safety Spectacles or eye shield

Refer to standard AS/NZS 1338.1:2012 for comprehensive information regarding the above table.

FUMES AND GASES

WARNING

FUMES & GASES CAN BE HAZARDOUS TO YOUR HEALTH.

Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

1. Keep your head out of the fumes. Do not breathe the fumes.
2. If inside, ventilate the area and/or use exhaust at the arc to remove welding fumes and gases.
3. If ventilation is poor, use an approved air-supplied respirator.
4. Read the Material Safety Data Sheets (MSDSs) and the manufacturer's instruction for metals, consumables, coatings, and cleaners.
5. Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Shielding gases used for welding can displace air causing injury or death. Be sure the breathing air is safe.
6. Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapours to form highly toxic and irritating gases.
7. Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and if necessary, while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.

WELDING

WARNING

WELDING CAN CAUSE FIRE OR EXPLOSION.

Sparks and spatter fly off from the welding arc. The flying sparks and hot metal, weld spatter, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode or welding wire to metal objects can cause sparks, overheating, or fire.

1. Protect yourself and others from flying sparks and hot metal.
2. Do not weld where flying sparks can strike flammable material.
3. Remove all flammables within 35ft (10.7m) of the welding arc. If this is not possible, tightly cover them with approved covers.
4. Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
5. Watch for fire, and keep a fire extinguisher nearby.
6. Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
7. Do not weld on closed containers such as tanks or drums.
8. Connect work cable to the work as close to the welding area as practical to prevent welding current from travelling long, possibly unknown paths and causing electric shock and fire hazards.
9. Do not use welder to thaw frozen pipes.
10. Remove stick electrode from holder or cut off welding wire at contact tip when not in use.

FLYING SPARKS AND HOT METAL

WARNING

FLYING SPARKS & HOT METAL CAN CAUSE INJURY.

Sparks and spatter fly off from the welding arc. The flying sparks and hot metal, weld spatter, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode or welding wire to metal objects can cause sparks, overheating, or fire.

1. Wear approved face shield or safety goggles. Side shields recommended.
2. Wear proper body protection to protect skin.

CYLINDERS

WARNING

CYLINDERS CAN EXPLODE IF DAMAGED.

Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process, be sure to treat them carefully.

1. Protect compressed gas cylinders from excessive heat, mechanical shocks, and arcs.
2. Install and secure cylinders in an upright position by chaining them to a stationary support or equipment cylinder rack to prevent falling or tipping.
3. Keep cylinders away from any welding or other electrical circuits.
4. Never allow a welding electrode to touch any cylinder.
5. Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
6. Turn face away from valve outlet when opening cylinder valve.
7. Keep protective cap in place over valve except when cylinder is in use or connected for use.
8. Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.

MOVING PARTS

WARNING

Moving parts can cause injury.

Moving parts, such as fans, rotors, and belts can cut fingers and hands and catch loose clothing.

1. Keep all doors, panels, covers, and guards closed and securely in place.
2. Stop engine before installing or connecting unit.
3. Have only qualified people remove guards or covers for maintenance and troubleshooting as necessary.
4. To prevent accidental starting during servicing, disconnect negative (-) battery cable from battery.
5. Keep hands, hair, loose clothing, and tools away from moving parts.
6. Reinstall panels or guards and close doors when servicing is finished and before starting engine.

WARNING

This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety code Sec. 25249.5 et seq.)

NOTE

Considerations About Welding and The Effects of Low Frequency Electric and Magnetic Fields.

WARNING

The procedures below are among those also normally recommended for pacemaker wearers. Consult your doctor for complete information.

The following is a quotation from the General Conclusions Section of the U.S. Congress, Office of Technology Assessment, Biological Effects of Power Frequency Electric & Magnetic Fields - Background Paper, OTA-BP-E-63 (Washington, DC: U.S. Government Printing Office, May 1989): "...there is now a very large volume of scientific findings based on experiments at the cellular level and from studies with animals and people which clearly establish that low frequency magnetic fields and interact with, and produce changes in, biological systems. While most of this work is of very high quality, the results are complex. Current scientific understanding does not yet allow us to interpret the evidence in a single coherent framework. Even more frustrating, it does not yet allow us to draw definite conclusions about questions of possible risk or to offer clear science-based advice on strategies to minimize or avoid potential risks."

To reduce magnetic fields in the workplace, use the following procedures:

1. Keep cables close together by twisting or taping them.
2. Arrange cables to one side and away from the operator.
3. Do not coil or drape cable around the body.
4. Keep welding power source and cables as far away from body as practical.

1.02 PRINCIPAL SAFETY STANDARDS

Safety in welding and allied processes Part 1: Fire Precautions, AS 1674.1:2025 from SAI Global Limited, www.saiglobal.com.

Safety in welding and allied processes Part 2: Electrical, AS 1674.2:2025 from SAI Global Limited, www. saiglobal.com.

Filters for eye protectors - Filters for protection against radiation generated in welding and allied operations AS/NZS 1338.1:2012 from SAI Global Limited, www.saiglobal.com.

Welding Processes, Code of Practice, JULY 2020 - Safe Work Australia. This document provides "Practical guidance on how to manage health and safety risks associated with welding". **The latest version is available free of charge at: https://www.safeworkaustralia.gov.au/doc/model-code-practice-welding-processes.**

Other International Standards and Codes of Practice

Safety in Welding and Cutting, ANSI Standard Z49.1, from American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33126.

Safety and Health Standards, OSHA 29 CFR 1910, from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Recommended Safe Practices for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances, American Welding Society Standard AWS F4.1,
from American Welding Society, 550 N.W. LeJeune Rd.,
Miami, FL 33126.

National Electrical Code, NFPA Standard 70, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202.

Code for Safety in Welding and Cutting, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3.

Safe Practices for Occupation and Educational Eye and Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 1430 Broadway, New York, NY 10018.

Cutting and Welding Processes, NFPA Standard 51B, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

SECTION 2: INTRODUCTION

2.01 HOW TO USE THIS MANUAL

This Operating Manual only applies to the Part Numbers listed on page 3. To ensure safe operation, read the entire manual, including the chapter on safety instructions and warnings.

Throughout this manual, the words WARNING, CAUTION, and NOTE may appear. Pay particular attention to the information provided under these headings. These special annotations are easily recognized as follows:

NOTE

An operation, procedure, or background information which requires additional emphasis or is helpful in efficient operation of the system.

CAUTION

A procedure which, if not properly followed, may cause damage to the equipment.

WARNING

An operation, procedure, or background information which requires additional emphasis or is helpful in efficient operation of the system.

ELECTRICAL WARNING

Gives information regarding possible electrical shock injury. Warnings will be enclosed in a box such as this.

DANGER

Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.

Additional copies of this manual may be purchased by contacting CIGWELD at the address and phone number for your location listed in the inside back cover of this manual. Include the Operating Manual number and equipment identification numbers.

Electronic copies of this manual can also be downloaded at no charge in Acrobat PDF format by going to the CIGWELD web site listed below and clicking on the Literature Library link:
cigweld.com.au

2.02 EQUIPMENT IDENTIFICATION

The units identification number (specification or part number), model, and serial number are located on the Data Plate which is fixed to the bottom of the welding machine. In some cases, the Data Plate may be attached to the rear panel. Equipment which does not have a control panel such as cable assemblies are identified only by the specification or part number printed on the shipping container. Record these numbers on the bottom of page 3 for future reference.

2.03 RECEIPT OF EQUIPMENT

When you receive the equipment, check it against the invoice to confirm it is complete and inspect the equipment for possible damage due to shipping. If there is any damage, notify the carrier immediately to file a claim. Furnish complete information concerning damage claims or shipping errors to the location listed on the back cover of this manual. Include all equipment identification numbers, as described above, along with a full description of the parts in error.

Move the equipment to the installation site before unboxing the unit. Use care to avoid damaging the equipment when using knives, breaker bars, hammers, etc, to unbox the machine and its accessories.

2.04 SYMBOL CHART

Note that only some of these symbols will appear on your model.

	ON
	OFF
	DANGEROUS VOLTAGE
	INCREASE/ DECREASE
	CIRCUIT BREAKER
	AC AUXILIARY POWER
	FUSE
A	AMPERAGE
V	VOLTAGE
Hz	HERTZ (CYCLES/SEC)
f	FREQUENCY
—	NEGATIVE
+	POSITIVE
	DIRECT CURRENT (DC)
	PROTECTIVE EARTH (GROUND)
	LINE
	LINE CONNECTION
	AUXILIARY POWER
115V 15A	RECEPTACLE RATING- AUXILIARY POWER
1 ~	SINGLE PHASE
3 ~	THREE PHASE
	THREE PHASE STATIC FREQUENCY CONVERTER-TRANSFORMER-RECTIFIER
	REMOTE
X	DUTY CYCLE
%	PERCENTAGE
	SHIELDED METAL ARC WELDING (SMAW)
	GAS METAL ARC WELDING (GMAW)
	GAS TUNGSTEN ARC WELDING (GTAW)
	AIR CARBON ARC CUTTING (CAC-A)
	CONSTANT CURRENT
	CONSTANT VOLTAGE OR CONSTANT POTENTIAL
	HIGH TEMPERATURE
	FAULT INDICATION
	ARC FORCE
	TOUCH START (GTAW)
	VARIABLE INDUCTANCE
V	VOLTAGE INPUT
	WIRE FEED FUNCTION
	WIRE FEED TOWARDS WORKPIECE WITH OUTPUT VOLTAGE OFF
	WELDING GUN
	PURGING OF GAS
	CONTINUOUS WELD MODE
	SPOT WELD MODE
t	SPOT TIME
t1	PREFLOW TIME
t2	POSTFLOW TIME
	PLATE THICKNESS
200A DC	OUTPUT CURRENT
2 YEARS*	2-YEAR WARRANTY
t	BURNBACK TIME
	DISTURBANCE IN GROUND SYSTEM
IP M	INCHES PER MINUTE
MPM	METRES PER MINUTE
	SPOOL GUN
	PUSH PULL GUN
	SINGLE PULSE
	DOUBLE PULSE
	PULSE FREQ. (PULSE SPEED)
A	PULSE BASE CURRENT
W	PULSE WIDTH

Table 2-1: Symbol chart

2.05 DESCRIPTION

The **BlueVenom FeedX4** – a heavy-duty wire feeder designed for the **BlueVenom XF250⁶ SiC**. Boasting a massive **15m interconnection cable**, the FeedX4 is perfect for welding over long distances. Mount the wire feeder to the power source with the swivel mount for 360 degrees of rotation or hang it on a gantry for complete freedom of movement; the choice is yours.

The BlueVenom FeedX4 is engineered to handle the same high intensity tasks as its welding power source, supporting **MIG, MIG Single Pulse, MIG Double Pulse, and Stick (with Pulse)** welding modes. Don't compromise on performance, the FeedX4 features pre-set **Synergic** lines and comes **Spool Gun** and **Push Pull Gun** ready.

Navigate with ease directly from the intuitive **5" Full Colour Touchscreen**, accessing all your parameters through one neat layout at any moment. Save your parameters for the next weld with up to **100 memory slots** available. Pair it with the **CoolVenom 7LTR** water cooler for those lengthy welding runs and to extend the life of your favourite water-cooled TIG torches and MIG guns. The BlueVenom FeedX4 includes all the bells and whistles to seamlessly extend the reach of your welds.

2.06 USER RESPONSIBILITY

This equipment will perform safely and reliably when installed, operated and maintained in accordance with the instructions herewith. Periodic checks are recommended as defective or poorly maintained equipment should not be used. Broken, missing, severely worn, distorted or contaminated parts should be replaced immediately.

Should a repair or replacement become necessary, it is recommended that the Authorised Distributor from whom the equipment was purchased, be contacted for service advice. The owner or user of this equipment shall have the responsibility for any malfunction which results from improper use, damage, faulty maintenance or repair/alteration by other than CIGWELD or an accredited service provider.

NOTE

Refer to the complete Warranty Schedule at the back of the manual.

2.07 WHAT'S IN THE BOX

BlueVenom FeedX4 (Part No. W3000250)

- BlueVenom FeedX4 Wire Feeder
- 15m Water-cooled Interconnection Cable
- Fitted Feed Rolls 0.9/1.2mm V-Groove
- Power Source Swivel Mount
- Strain Relief Bracket
- Operating Manual

2.08 TRANSPORTING METHODS

This unit is equipped with a handle for carrying purposes.

WARNING

FALLING EQUIPMENT can cause serious personal injury and equipment damage.

- Lift unit with handle on top of case.
- Use handcart or similar device of adequate capacity.
- If using a forklift vehicle, place and secure unit on a proper skid before transporting.

2.09 DUTY CYCLE

The rated duty cycle of a Welding Power Source or Wire Feeder, is a statement of the time it may be operated at its rated welding current output without exceeding the temperature limits of the insulation of the component parts. To explain the 10 minute duty cycle period the following example is used. Suppose a Welding Power Source is designed to operate at a 15% duty cycle, 90 amperes at 23.6 volts. This means that it has been designed and built to provide the rated amperage (90A) for 1.5 minutes, i.e. arc welding time, out of every 10 minute period (15% of 10 minutes is 1.5 minutes). During the other 8.5 minutes of the 10 minute period the Welding Power Source must idle and allowed to cool.

2.10 SPECIFICATIONS

DESCRIPTION	BlueVenom FeedX4
Packaged Part Number	W3000250
Wire Feeder Dimensions (Wheels Detached)	(L) 650mm x (W) 240mm x (H) 360mm
Wire Feeder Weight	13.6kg
Standards	AS 60974.1:2020 EN IEC 60974-10:2021 EN IEC 60974-5:2019
Welding Current Range (MIG mode)	30-250A
Nominal Input Voltage	24VDC
Maximum Input Current (I1max)	3.5 Amps
Wire Feed Speed Range	1.5-22m/min
MIG (GMAW) Welding Output, 40°C, 10 min	250A @ 100%, 26.5V
Stick (MMAW) Welding Output, 40°C, 10 min	250A @ 100%, 30.0V
Protection Class	IP23S

Table 2-2: Specifications

NOTE 1: Due to variations that can occur in manufactured products, claimed performance, voltages, ratings, all capacities, measurements, dimensions and weights quoted are approximate only. Achievable capacities and ratings in use and operation will depend upon correct installation, use, applications, maintenance and service.

NOTE 2: CIGWELD reserves the right to change product performance and specifications without notice.

NOTE 3: If an extension lead is required to be used it is recommended to use a minimum size of 2.5mm^2 Heavy Duty Extension Lead. Longer extension leads may impact welding performance and operation.

2.11 OPTIONAL ACCESSORIES

We recommend genuine CIGWELD products. The biggest range and best quality with guaranteed performance.

PART NUMBER	DESCRIPTION
W1400254	BlueVenom XF250^6 SiC
W4018270	CoolVenom 7LTR, 7L MIG/TIG Water Cooler
W7007750	CoolVenom Interconnection Lead
W3000250	BlueVenom FeedX4 Wire Feeder
W4000200	FeedX4interconnection Lead, 5m Water Cooled
W4000201	FeedX4interconnection Lead, 10m Water Cooled
W4000202	FeedX4interconnection Lead, 15m Water Cooled
W4000203	FeedX4interconnection Lead, 5m
W4000204	FeedX4interconnection Lead, 10m
W4000205	FeedX4interconnection Lead, 15m
W4020015	NEXARC DGX 36, 3m BZ36 MIG Gun with 4 Button Digital Control
W4020016	NEXARC DGX 36, 4m BZ36 MIG Gun with 4 Button Digital Control
W4020017	NEXARC DGX 36, 5m BZ36 MIG Gun with 4 Button Digital Control

PART NUMBER	DESCRIPTION
W4020003	NEXARC DGX 36 OLED, 3m BZ36 MIG Gun with 3 Button Digital Control and OLED Display
W4020004	NEXARC DGX 36 OLED, 3m BZ36 MIG Gun with 3 Button Digital Control and OLED Display
W4020005	NEXARC DGX 36 OLED, 3m BZ36 MIG Gun with 3 Button Digital Control and OLED Display
W52TL4E30	MIG Gun TW4 Flame 3m Water Cooled
W52TL4E50	MIG Gun TW4 Flame 5m Water Cooled
CML50609	MultiLiner Steel 0.6-0.9mm, 5.1m (No collet), Pack of 1
CML50912	MultiLiner Steel 0.9-1.2mm, 5.1m (No collet), Pack of 1
CML50916A	MultiLiner Aluminium 0.9-1.6mm, 4.5m (No collet), Pack of 1
CMLCBZ	MultiLiner Collet suit Binzel, Pack of 1
CMLCBZA	MultiLiner Alloy Collet suit Binzel, Pack of 1
FR302210V0608	Feed Roll 0.6/0.8mm V Groove (Solid Wires)
FR302210V0809	Feed Roll 0.8/0.9mm V Groove (Solid Wires)
FR302210V1012	Feed Roll 1.0/1.2mm V Groove (Solid Wires)
FR302210U0809	Feed Roll 0.8/0.9mm U Groove (Soft Wires)
FR302210U1012	Feed Roll 1.0/1.2mm U Groove (Soft Wires)
FR302210K0809	Feed Roll 0.8/0.9mm K Knurled (Flux Cored)
W7007751	200mm Spool Adaptor
W7007437	Spring Steel Inlet Guide (Steel and Stainless Steel Wires)
W7007384	Nylon Inlet Guide (Soft Wires)
0465720002	MIG/TIG Torch Coolant 10L
W4021001	SGX250 Spool gun, 6m
W4021000	PPX300 Push-Pull Gun, 8m
W7004913	BlueJet Argon Regulator/Flowmeter, 45LPM, 2 Gauge
201031	CutSkill Argon Regulator/Flowmeter, 30LPM
CWPLIER	CIGWELD MIG Plier, 8 Functions Welding Plier
646808	FLX Leadset 4m, 25mm2 cable, 50mm2 DINSE, 250A Twistlock Electrode Holder
646810	FLX Leadset 4m, 35mm2 cable, 50mm2 DINSE, 400A Twistlock Electrode Holder

Table 2-3: Accessories

2.12 RELATED PRODUCTS

PART NUMBER	DESCRIPTION
456488M	CTX 700F TIG Welding Gloves - M
456488L	CTX 700F TIG Welding Gloves - L
456488XL	CTX 700F TIG Welding Gloves - XL
456483M	CMX 700PRO MIG Welding Gloves - M
456483L	CMX 700PRO MIG Welding Gloves - L
456483XL	CMX 700PRO MIG Welding Gloves - XL
456157M	JTX 700 Premium Welding Jacket, Grey/Black - M
456157L	JTX 700 Premium Welding Jacket FR, Grey/Black - L
456157XL	JTX 700 Premium Welding Jacket FR, Grey/Black - XL
4561572XL	JTX 700 Premium Welding Jacket FR, Grey/Black - XXL
WHAMXC170	Arcmaster XC70 Auto Darkening Welding Helmet Variable Shade 4-8 / 9-14 - Mayhem
WHAMXC180	Arcmaster XC80 Auto Darkening Welding Helmet Variable Shade 4-8 / 4-14 - Fallout
WHAMXC090F	Arcmaster XC90F Auto Darkening Welding Helmet Variable Shade 4-8 / 9-14 - Blax
646770	ARC UP Welding Curtain - Dark Green, 1.8m x 1.8m
646777	ARC UP Welding Curtain - Red, 1.8m x 1.8m
646776	ARC UP Welding Curtain Frame, 1.8m x 1.8m
646801	ARC UP BTX 1800 Premium Welding Blanket, 1.8m x 1.8m
646802	ARC UP BTX 2000 Premium Welding Blanket, 2m x 2m
646803	ARC UP BTX 3000 Premium Welding Blanket, 3m x 3m
456170	ARC UP APX 100 Leather Welding Apron
457570	CX 100 Leather Welding Cushion
457571	CX 200 Aluminised Welding Cushion

Table 2-4: Related products

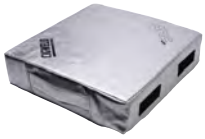
ARC UP CTX 700F Premium TIG Welding Gloves
P/N: 456488L (Large)

ARC UP CMX 700PRO Premium MIG Welding Gloves
P/N: 456483L (Large)

ARC UP JTX 700 Premium Welding Jacket, Grey/Black
P/N: 456157L (Large)

Arcmaster XC70 Welding Helmet (Mayhem)
P/N: WHAMXC170

ARC UP APX 100 Leather Welding Apron
P/N: 456170



ARC UP APX 100 Leather Welding Apron
P/N: 456170

SECTION 3: INSTALLATION

3.01 ENVIRONMENT

These units are designed for use in environments with increased hazard of electric shock.

A. Examples of environments with increased hazard of electric shock are:

1. In locations in which freedom of movement is restricted, so that the operator is forced to perform the work in a cramped (kneeling, sitting or lying) position with physical contact with conductive parts.
2. In locations which are fully or partially limited by conductive elements, and in which there is a high risk of unavoidable or accidental contact by the operator.

B. Environments with increased hazard of electric shock do not include places where electrically conductive parts in the near vicinity of the operator, which can cause increased hazard, have been insulated.

3.02 LOCATION

Be sure to locate the welder according to the following guidelines:

A. In areas, free from moisture and dust.

B. Ambient temperature between -10°C to 40°C.

C. In areas, free from oil, steam and corrosive gases.

D. In areas, not subjected to abnormal vibration or shock.

E. In areas, not exposed to direct sunlight or rain.

F. Place at a distance of 300mm or more from walls or similar that could restrict natural air flow for cooling.

3.03 VENTILATION

Since the inhalation of welding fumes can be harmful, ensure that the welding area is effectively ventilated.

3.04 EXTENSION LEADS

If an extension lead is required to be used it is recommended to use a minimum size of 2.5mm² Heavy Duty Extension Lead. Longer extension leads may impact welding performance and operation.

3.05 ELECTROMAGNETIC COMPATIBILITY

WARNING

Extra precautions for Electromagnetic Compatibility may be required when this Welding Power Source is used in a domestic situation.

A. INSTALLATION AND USE - USERS RESPONSIBILITY

The user is responsible for installing and using the welding equipment according to the manufacturer's instructions. If electromagnetic disturbances are detected then it shall be the responsibility of the user of the welding equipment to resolve the situation with the technical assistance of the manufacturer. In some cases this remedial action may be as simple as earthing the welding circuit. In other cases it could involve constructing an electromagnetic screen enclosing the Welding Power Source and the work, complete with associated input filters. In all cases, electromagnetic disturbances shall be reduced to the point where they are no longer troublesome.

B. ASSESSMENT OF AREA

Before installing welding equipment, the user shall make an assessment of potential electromagnetic problems in the surrounding area. The following shall be taken into account

1. Other supply cables, control cables, signalling and telephone cables; above, below and adjacent to the welding equipment.
2. Radio and television transmitters and receivers.
3. Computer and other control equipment.
4. Safety critical equipment, e.g. guarding of industrial equipment.
5. The health of people around, e.g. the use of pacemakers and hearing aids.
6. Equipment used for calibration and measurement.
7. The time of day that welding or other activities are to be carried out.
8. The immunity of other equipment in the environment: the user shall ensure that other equipment being used in the environment is compatible: this may require additional protection measures.

   The size of the surrounding area to be considered will depend on the structure of the building and other activities that are taking place. The surrounding area may extend beyond the boundaries of the premises.

C. METHODS OF REDUCING ELECTROMAGNETIC EMISSIONS

1. **Mains Supply**
   Welding equipment should be connected to the mains supply according to the manufacturer's recommendations. If interference occurs, it may be necessary to take additional precautions such as filtering of the mains supply. Consideration should be given to shielding the supply cable of permanently installed welding equipment in metallic conduit or equivalent. Shielding should be electrically continuous throughout it's length. The shielding should be connected to the Welding Power Source so that good electrical contact is maintained between the conduit and the Welding Power Source enclosure.
2. **Maintenance of Welding Equipment**
   The welding equipment should be routinely maintained according to the manufacturer's recommendations.
   All access and service doors and covers should be closed and properly fastened when the welding equipment is in operation. The welding equipment should not be modified in any way except for those changes and adjustments covered in the manufacturer's instructions. In particular, the spark gaps of arc striking and stabilising devices should be adjusted and maintained according to the manufacturer's recommendations.
3. **Welding Cables**
   The welding cables should be kept as short as possible and should be positioned close together, running at or close to the floor level.
4. **Equipotential Bonding**
   Bonding of all metallic components in the welding installation and adjacent to it should be considered. However Metallic components bonded to the work piece will increase the risk that the operator could receive a shock by touching the metallic components and the electrode at the same time. The operator should be insulated from all such bonded metallic components.

5. **Earthing of the Workpiece**
   Where the workpiece is not bonded to earth for electrical safety, nor connected to earth because of it's size and position, e.g. ship's hull or building steelwork, a connection bonding the workpiece to earth may reduce emissions in some, but not all instances. Care should be taken to prevent the earthing of the workpiece increasing the risk of injury to users, or damage to other electrical equipment. Where necessary, the connection of the workpiece to earth should be made by direct connection to the workpiece, but in some countries where direct connection is not permitted, the bonding should be achieved by suitable capacitance, selected according to national regulations.

6. **Screening and Shielding**
   Selective screening and shielding of other cables and equipment in the surrounding area may alleviate problems of interference. Screening the entire welding installation may be considered for special applications.

3.06 INSTALLATION TO POWER SOURCE

To mount the Wire Feeder to the Welding Power Source, begin by clamping the top and bottom brackets to the carry handle. Ensuring the prongs face the front and rear of the machine, insert the brackets into the handle and screw the clamped pieces together (Figure 3-1).

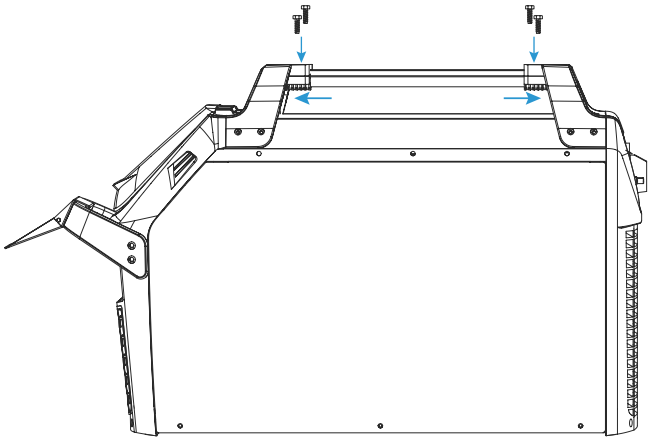


Figure 3-1: Swivel Mount Bracket Installation

Place the swivel mount on top of the carry handle, align the holes with the brackets and screw into place (Figure 3-1).

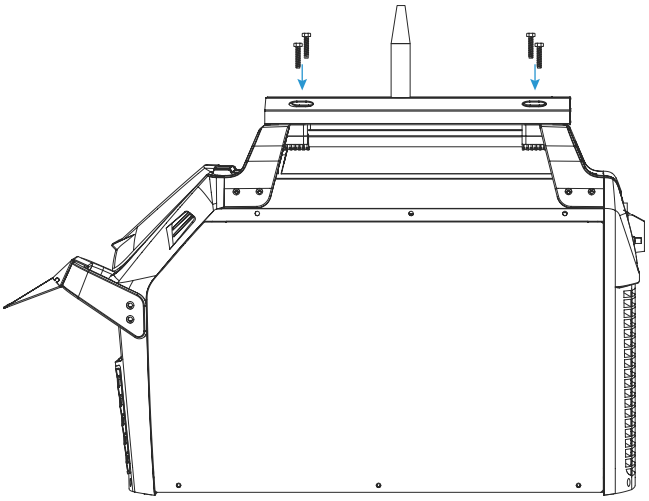


Figure 3-2: Swivel Mount Installation

Finally, place the Wire Feeder onto the swivel mount, inserting the pole into the hole on the underside of the Wire Feeder. Additionally, a strain relief bracket may be clipped onto the front handle of the Power Source. This reduces the tension applied to the interconnection lead plugs, caused by the weight of the cable pulling down. Insert the leads through the bracket and press the end of the sleeve into the bracket. Add the metal pin and screw tighten the ring clamp to hold the sleeve in place. Repeat this process at the other end, feeding the leads through the rear opening of the wire feeder.

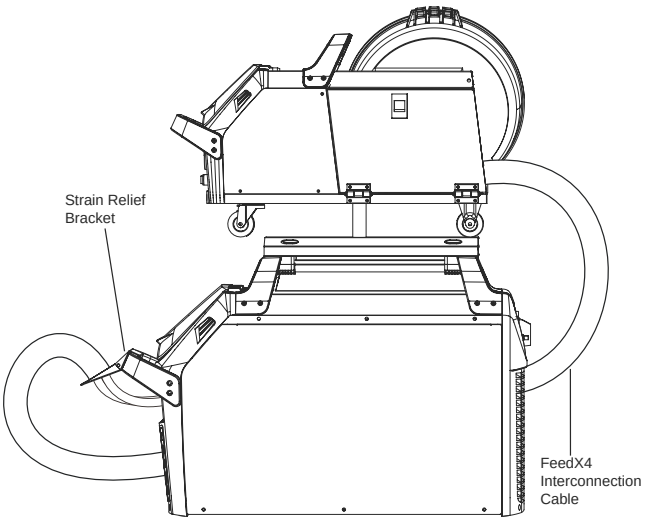


Figure 3-3: Strain Relief Installation

SECTION 4: OPERATION

4.01 OVERVIEW

Standard operating procedures apply when using these Welding Power Sources and Wire Feeders,, i.e. connect work lead directly to workpiece with the spring loaded clamp. The MIG wire is fed from the spool through the feed roller system and into the MIG Gun (consult CIGWELD or the electrode wire manufacturers information for the correct polarity).

The synergic welding amperage range and plate thickness values should be used as a guide only. Current delivered to the arc is dependent on the Wire Feed Speed and welding arc voltage, and as welding arc voltage varies between different classes of MIG wire, welding current at given settings could vary accordingly to the type of MIG wire in use. The operator should use the plate thickness and welding current values as a guide, then finally adjust the current setting to suit the application, by fine tuning the WFS / Amps and Volts / Trim settings.

4.02 FEEDER CONTROLS, INDICATORS AND FEATURES

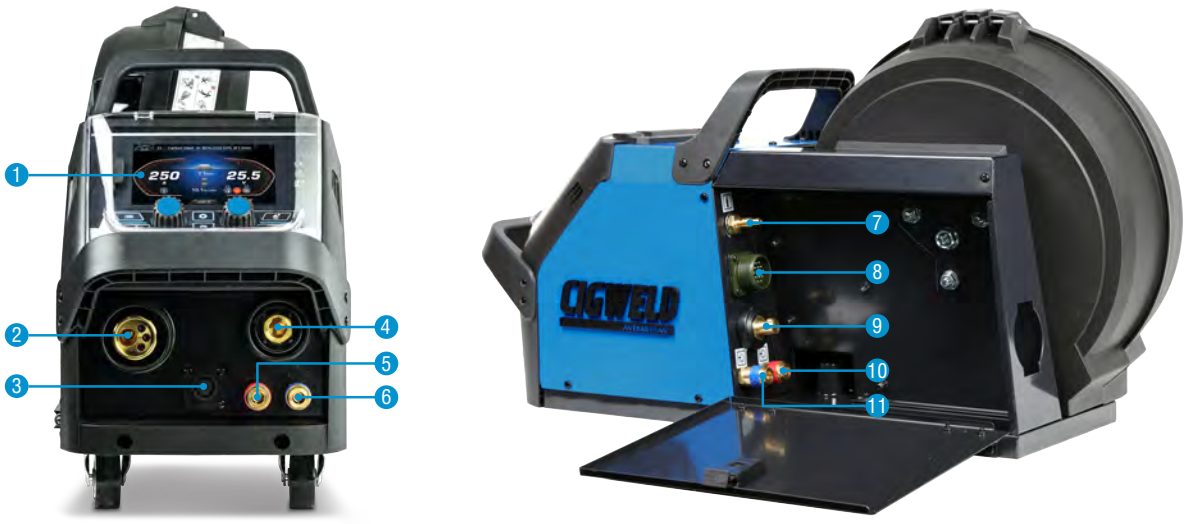


Figure 4-1: Feeder Controls, Indicators and Features

1. Control Panel.
2. MIG Gun Adaptor Euro Style.
3. Remote Control Socket 8 Pin.
4. Welding Output Terminal.
5. MIG Gun Return Inlet (RED).
6. MIG Gun Supply Outlet (BLUE).
7. MIG Shielding Gas Inlet.
8. Wire Feeder Socket 14 Pin.
9. Welding Input Terminal.
10. Water Cooler Return Outlet (RED).
11. Water Cooler Supply Inlet (BLUE)

1 CONTROL PANEL

Figure 4-2: Control Panel

A. Display

The BlueVenom FeedX4 is equipped with a 5” full colour LCD touch-screen display, enabling you to toggle through the many features and advanced settings with ease!

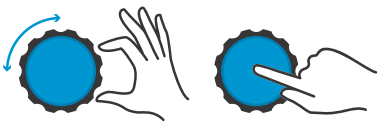
B. USB Port – Software Update

This USB Port is used to update the Wire Feeder's software. Refer to the corresponding service manual on how to update the software.

C. Menu Button

The Menu Button is used to cycle though the welding Mode Parameters. Press the Menu Button to display a drop down list of the available welding Mode Parameters. Rotate the Left Control Knob to scroll through the available options, press to confirm and move to the next parameter. Optionally, press the Menu Button to move to the next parameter without confirming a selection. After a short period, if no input is made to the Menu Button or Left Control Knob, the drop down list will disappear without confirming the highlighted option.

D. Left Control Knob

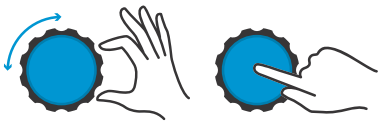


The Left Control Knob is used to perform several different types of functions. In MIG Dual Pulse, MIG Pulse and MIG Synergic modes it can be rotated to adjust the Welding Current, while in MIG Manual mode it is rotated to adjust the Wire Feed Speed.

In MMA modes, or when in MIG mode's Weld Control interface; rotate to scroll through the available welding parameters and press to confirm the highlighted selection.

If the Menu button is used to expand the available Mode Parameters, it can be rotated to scroll through the selection and pressed to confirm.

E. Right Control Knob



The Right Control Knob is used to perform several different types of functions. In MIG modes it can be rotated to adjust the highlighted parameter on the right side of the display, such as Welding Voltage, Arc Length, Pulse Frequency, Inductance and Voltage Trim. The knob can also be pressed to cycle through the available parameters.

In TIG and MMA modes, or when in MIG mode's Weld Control interface; rotate to adjust the highlighted parameter.

F. Gas Purge

Press to manually purge the Shielding Gas through the MIG Gun or TIG Torch, depending on the welding mode selected.

G. Settings Button

The Settings button performs two different types of functions. In MIG modes, press the button to display the Weld Control interface and press again to exit and return to the previous screen.

In all welding modes, press and hold the button to enter the System Settings screen, press again to exit and return to the previous screen. Refer to Section 4.03 for more information on System Settings.

H. Save Button

The Save Button is used to save and load weld settings from memory. Press to enter the Save Settings screen and press again to exit. Hold the Save Button for 3 seconds to save the current settings to memory. Refer to Section 4.04 for more information on Save Settings.

I. Wire Feed

Press to manually feed wire through the Wire Feed Mechanism.

J. Water Cooling Button

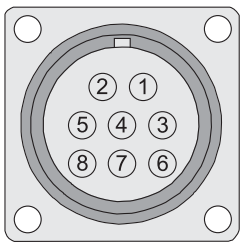
Press to enable an attached Water Cooler. Refer to Section 4.05 for more information

2 MIG GUN ADAPTOR EURO STYLE

The MIG Gun adaptor is the connection point for the MIG welding gun. Connect the gun by aligning and pushing the connector into the brass gun adaptor firmly and screwing the plastic nut clockwise to secure in position. To remove the MIG Gun simply reverse these directions. Refer to Section 5.03.

3 REMOTE CONTROL SOCKET 8 PIN

The 8 pin Remote Control Socket is used to connect remote control devices (i.e. Spool Gun or Push Pull Gun) to the welding power source. To make connections, align keyway, insert plug, and rotate threaded collar fully clockwise.



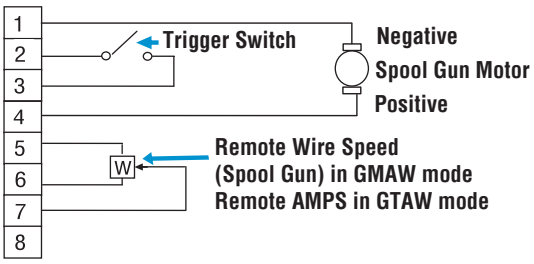


Figure 4-3: Remote Control Socket 8 Pin

Socket Pin	Description
1	Spool gun motor negative
2	Trigger Switch Input
3	Trigger Switch Input
4	Spool gun motor positive
5	Remote Control Potentiometer - Maximum
6	Remote Control Potentiometer - Minimum
7	Remote Control Potentiometer - Wiper - Wire Speed control
8	Not connected

4 WELDING OUTPUT TERMINAL

The Welding Output Terminal is used to connect the welding output of the power source to the Electrode Holder in Stick welding mode. Consult the electrode manufacturer's information for the correct polarity. Welding current flows from the power source, then through the Welding Input Terminal via this twist & lock terminal, known as a DINSE Connector. It is essential, that the male DINSE type plug is inserted and turned securely to achieve a sound electrical connection. Do not over Tighten.

5 MIG GUN RETURN INLET (RED)

The RED inlet connects to the RED outlet from a compatible MIG Gun. This returns heated water from the MIG Gun, through the FeedX4 Wire Feeder to the attached Water Cooler. Refer to Section 4.05 for more details.

6 MIG GUN SUPPLY OUTLET (BLUE)

The BLUE outlet connects to the BLUE inlet on a compatible MIG Gun. This passes cooled water from the attached Water Cooler, through the FeedX4 Wire Feeder to the MIG Gun. Refer to Section 4.05 for more details.

7 MIG SHIELDING GAS INLET

The MIG Shielding Gas Inlet is a Quick Connect inlet fitting, located inside the left compartment of the Wire Feeder which is used to supply the appropriate MIG welding gas to the unit. Refer to sections 5.02.

8 WIRE FEEDER SOCKET 14 PIN

The 14 pin receptacle is used to connect the compatible BlueVenom FeedX4 external digital wire feeder to the Welding Power Source. To make the connection, align the keyway, insert the plug, and rotate the threaded collar fully clockwise.

9 WELDING INPUT TERMINAL

The Welding Input Terminal is used to connect the welding output of the power source to the FeedX4 Wire Feeder. Consult the electrode manufacturer's information for the correct polarity. Welding current flows from the power source via this twist & lock terminal, known as a DINSE Connector to the Wire Feeder's Welding Input Terminal. It is essential, that the female DINSE type plug is inserted and turned securely to achieve a sound electrical connection. Do not over Tighten.

10 WATER COOLER RETURN OUTLET (RED)

The RED outlet connects to the RED inlet on an attached Water Cooler. This returns heated water from the MIG Gun, through the FeedX4 Wire Feeder to the attached Water Cooler. Refer to Section 4.05 for more details.

11 WATER COOLER SUPPLY INLET (BLUE)

The BLUE inlet connects to the BLUE outlet on an attached Water Cooler. This passes cooled water to a compatible MIG Gun, through the FeedX4 Wire Feeder. Refer to Section 4.05 for more details.

4.03 SYSTEM SETTINGS

While in any welding mode, press and hold the Setting Button for 3 seconds to enter the System Settings screen.

Rotate the Left Control Knob to highlight the desired setting, then rotate the Right Control Knob to adjust the setting.

To exit the System Settings screen, press the Settings Button.

Language

The languages available are English, French, German, Italian and Spanish. The default factory setting for Language is English.

Unit

Rotate the Right Control Knob anticlockwise to select Metric units and clockwise for imperial units. This setting updates the displayed Wire Feed Speed, Plate Thickness, Wire Diameter and Electrode Diameter accordingly. The default factory setting for Unit is Metric.

Factory Reset

A Factory Reset will restore the machines system language and units to the default settings, and will remove any saved jobs from memory.

With the Factory Setting highlighted press the Right Control Knob and a screen will then appear asking to confirm. Press the Right Control Knob to restore the machine to factory settings, or press the Left Control Knob to cancel. Note that this will also reset the system language, units and remove any jobs saved to memory.

Software Version

Below the adjustable settings the welding machine's software version is displayed.

4.04 SAVE SETTINGS

The BlueVenom FeedX4 can save a whopping 100 jobs to memory. Reduce setup time and never forget your favourite weld settings again.

To enter the Save Settings screen, press the Save Button while in any welding mode. This screen displays jobs saved to memory along with the job's parameters. For jobs saved in MIG mode, an extra interface with the Weld Parameters is displayed. Rotate the Left Control Knob to scroll through each page to see all available parameter values.

To exit the Save Settings screen, press the Save Button.

Note that saved jobs are not shared between the Wire Feeder and Power Source.

Save Job

To save the current weld settings to memory, press and hold the Save Button until the Save Settings screen appears. The job will save to the next free memory slot. For example, if memory slots 1 and 3 are filled, the next job saved will fill memory slot 2.

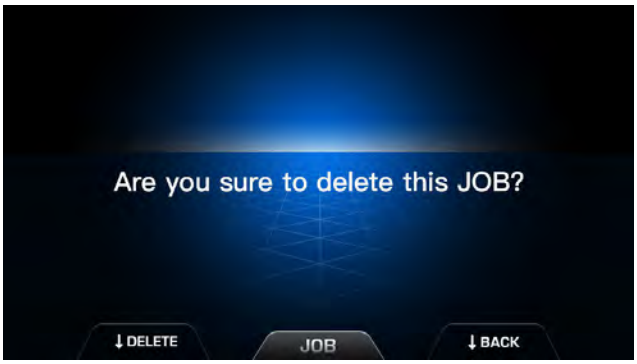
If all 100 memory slots are full a screen will appear stating the memory is full and the job cannot be saved to memory.

Load Job

To load a saved job from memory, enter the Saved Settings screen. Next rotate the Right Control Knob to scroll through the available jobs. With the desired job highlighted, press the Right Control Knob to load the job.

Delete Job

To delete a saved job from memory, enter the Save Settings screen. Next rotate the Right Control Knob to scroll through the available jobs. With the desired job highlighted, press the Left Control Knob and a screen to confirm the job deletion will be displayed. Press the Left Control Knob to delete or the Right Control Knob to cancel.



4.05 COOLVENOM 7LTR WATER COOLER

The CoolVenom 7LTR water cooler (sold separately) is a TIG Torch and MIG Gun water cooler, compatible with the BlueVenom XF250⁶ SiC.

The CoolVenom water cooler is designed to regulate the temperature of water cooled TIG Torches and MIG Guns during high-amperage or extended-duty welding applications. It continuously circulates coolant through the torch to dissipate heat, preventing overheating and ensuring stable welding performance.

Refer to the CoolVenom 7LTR operation manual for installation and operation processes.

SECTION 5:
MIG (GMAW/FCAW) WELDING

5.01 MIG MODE SETUP

The Welding Power Source shares its MIG welding modes and parameters with the Wire Feeder. Refer to the BlueVenom XF250[6] operation manual for a detailed list of the available MIG modes and parameters.

Figure 5-1: Double Pulse MIG

When the Welding Power Source is first powered on the Wire Feeder will display a screen (Figure 5-1) indicating the Power Source is in control of the welding output.

Figure 5-2: Power Source in Control

Before MIG welding can begin, the operator must first switch control from the Welding Power Source to the Wire Feeder. On the Power Source, hold the Setting Button until the System Settings screen is displayed. Using the Left Control Knob, navigate to the Wire Feeder option and rotate the Right Control Knob clockwise to select External. This will pass control to the Wire Feeder.

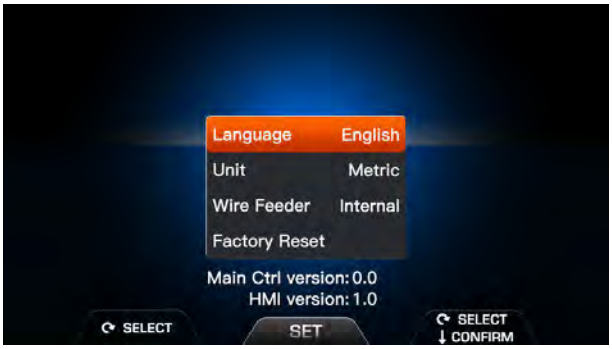


Figure 5-3: Power Source System Settings

Press the Settings Button again to exit and a screen (Figure 5-4) will be displayed, indicating that the Wire Feeder has control.

Figure 5-4: Wire Feeder in Control

To change control back to the Power Source, enter the settings screen on the Power Source, highlight the Wire Feed option and rotate the Right Control Knob anticlockwise to select Internal. This will pass control to the Power Source's internal wire feeder.

5.02 SHIELDING GAS REGULATOR/ FLOWMETER OPERATING INSTRUCTIONS

SHIELDING GAS CONNECTION

WARNING

This equipment is designed for use with welding grade (Inert) shielding gases only.

A Preset Argon Regulator/Flowmeter and Gas Hose Kit comes with the machine plant. Connect the gas regulator onto the gas cylinder/bottle by hand, keeping the round sight gauge in the vertical position. Then tighten the nut with a spanner, but do-not over tighten. Connect the gas hose to the threaded outlet on the regulator (Figure 5-6) and tighten with a spanner. Connect the other end of the gas hose to gas inlet fitting inside the left compartment of the Wire Feeder using the supplied Quick Connect fittings (Figure 5-5). Check for any leaks with soapy water in a squeeze bottle, and look for bubbles (when the gas is on), this will highlight any gas leaks.

The gas flow (in Litres Per Minute) for shielding the molten weld metal from the atmosphere is adjustable and depends on the job and atmospheric conditions you encounter when welding. As a general rule for MIG Welding, always use a minimum of 12 LPM when welding with an amperage range of under 100Amps, a minimum of 15 LPM when the amperage is under 180Amps and a minimum of 18 LPM for welding amperages over 200Amps. A lower gas flow will affect the welding quality and cause a porous weld while high gas flow results in bigger consumption of gas.

The flow rate is measured at the middle of the float ball.

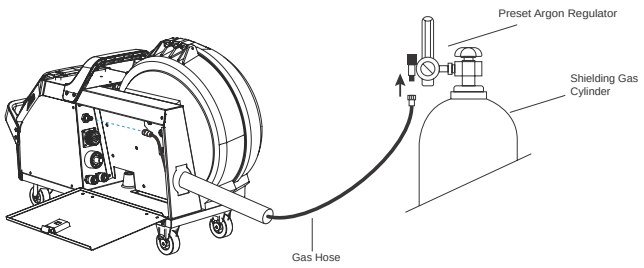


Figure 5-5: Shielding Gas Connection

SHIELDING GAS REGULATOR/ FLOWMETER SAFETY

An Argon Regulator/Flowmeter comes with the Welding Power Source, and a Gas Hose comes with the Wire Feeder interconnection cable.

This Regulator/Flowmeter is designed to reduce and control high pressure gas from a cylinder to the working pressure required for the equipment using it.

If the equipment is improperly used, hazardous conditions are created that may cause accidents. It is the users responsibility to prevent such conditions. Before handing or using the equipment, understand and comply at all times with the safe practices prescribed in this instruction.

SPECIFIC PROCEDURES for the use of regulators/ flowmeters are listed below.

1. **NEVER** subject the Regulator/Flowmeter to an inlet pressure greater than its rated inlet pressure.
2. **NEVER** pressurize a Regulator/Flowmeter that has loose or damaged parts or is in a questionable condition. NEVER loosen a connection or attempt to remove any part of a Regulator/Flowmeter until the gas pressure has been relieved. Under pressure, gas can dangerously propel a loose part.
3. **DO NOT** remove the Regulator/Flowmeter from a cylinder without first closing the cylinder valve and releasing gas in the Regulator/Flowmeter high and low pressure chambers.
4. **TURN OFF** When equipment is not in use for extended periods of time, shut off the gas at the cylinder valve and release the gas from the equipment.
5. **OPEN** the cylinder valve SLOWLY. Close after use.

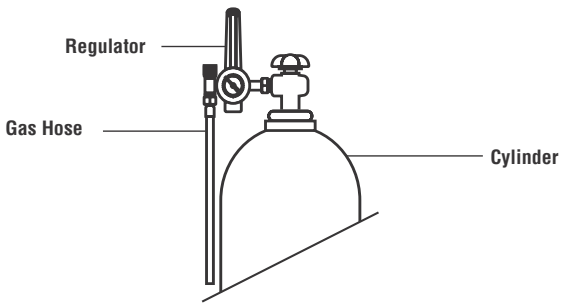


Figure 5-6: Fit Regulator/Flowmeter to Cylinder

INSTALLATION

1. Remove cylinder valve plastic dust seal. Clean the cylinder valve outlet of impurities that may clog orifices and damage seats before connecting the Regulator/Flowmeter.
   Crack the valve (open then close) momentarily, pointing the outlet away from people and sources of ignition. Wipe with a clean lint free cloth.
2. Match Regulator/Flowmeter to cylinder. Before connecting, check that the Regulator/Flowmeter label and cylinder marking agree and that the Regulator/Flowmeter inlet and cylinder outlet match. NEVER CONNECT a Regulator/Flowmeter designed for a particular gas or gases to a cylinder containing any other gas.
3. Connect the Regulator/Flowmeter inlet connection to cylinder or pipeline and tighten it firmly but not excessively, with a suitable spanner.
4. Connect and tighten the outlet hose firmly and attach the hose to the welding machine with the Quick Connect fitting. Ensure no gas leakage. The flowmeter must be in the vertical position to read accurately.

OPERATION

With the Regulator/Flowmeter connected to cylinder or pipeline:

1. Stand to one side of Regulator/Flowmeter and slowly open the cylinder valve. If opened quickly, a sudden pressure surge may damage internal Regulator/Flowmeter parts.
2. Since the regulator is a preset type, no adjustments to the regulator are necessary. Before opening the cylinder valve, be sure that the flow adjusting valve is in a finger-tight “OFF” position (clockwise).
3. Slowly and carefully, open the cylinder valve until the maximum pressure registers on the high pressure gauge.

CAUTION

DO NOT purge oxidising or flammable gases in the presence of flame, lit cigarettes, or other sources of ignition or in a confined space.

Close equipment valve(s) after purging, and test all connections for leaks with a suitable leak detection solution or soapy water. Never use a flame when testing for leaks.

CAUTION

Match Regulator/Flowmeter to cylinder. NEVER CONNECT a Regulator/Flowmeter designed for a particular gas or gases to a cylinder containing any other gas.

ADJUSTING FLOW RATE

With the Regulator/Flowmeter ready for operation, adjust working flow rate as follows:

1. Slowly turn adjusting valve in anti-clockwise direction to open and increase until the bobbin in the flow tube indicates the required flow rate.

NOTE

It may be necessary to re-check the shielding Gas Regulator/Flowmeter flow rate following the first weld sequence due to back pressure present within shielding gas hose assembly.

2. To reduce flow rate, allow the welding grade shielding gas to discharge from Regulator/Flowmeter by pressing the Gas Purge button on the inside of the machine, or by pressing the trigger on the MIG gun or TIG Torch. Bleed welding grade shielding gas into a well ventilated area. Turn adjusting screw clockwise, until the required flow rate is indicated on the gauge.
3. The correct flow rate will depend on the place and conditions you are working in. For indoors work shielding gas flow rate can be from 12L/min for welding thin metals (0.6-1.0mm) when using 0.6mm MIG wire, up to 15L/min when using thicker metals and using 0.8mm MIG wire. When welding near draughty doorways then the gas flow rate can go up to 18-20L/min. The tell tale sign is to ensure your finished welds do-not have porosity holes in the surface.

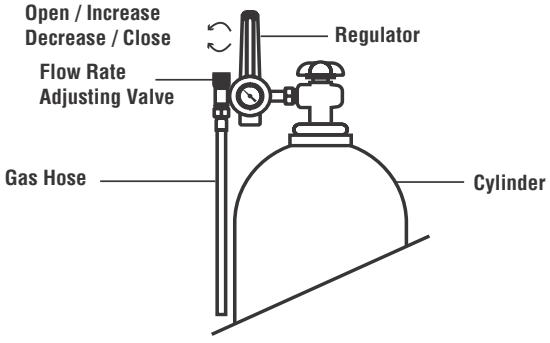


Figure 5-7: Adjust Flow Rate

SHUTDOWN

Close cylinder valve whenever the Regulator/ Flowmeter is not in use. To shut down for extended periods (more than 30 minutes).

1. Close cylinder valve tightly.
2. Remove the gas from the machine and hose by pressing the Gas Purge button on the front of the machine, or by pressing the trigger on the MIG Gun. Bleed gas into a well ventilated area.
3. After gas is drained completely turn off the machine.
4. Before transporting cylinders that are not secured on a cart designed for such purposes, remove regulators/flowmeters.

WARNING

Moving Parts can cause injury!

5.03 ATTACHING THE DIGITAL CONTROL MIG GUN

The BlueVenom XF250⁶ SiC comes with an OLED BZ36 3 Button Digital Control MIG Gun. The Digital Controls allows the user to make small adjustments to the welding parameters from the MIG gun without needing to return to the machine to adjust. Please note: adjustments can not be made whilst welding, they must be done prior to the commencement of the weld.

Fit the MIG Gun to the Wire Feeder by pushing the MIG Gun connector into the MIG Gun adaptor and screwing the plastic nut clockwise to secure the MIG Gun to the MIG Gun adaptor.

1. Decrease value.
2. Change parameter. Available parameters depend on the MIG welding mode selected.
3. Increase value.

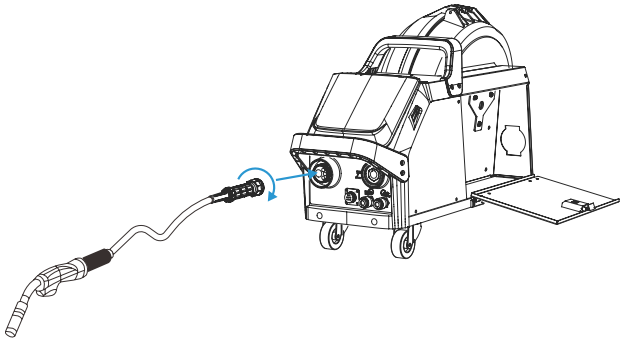


Figure 5-8: Attaching the Euro MIG Gun

5.04 INSTALLING MIG WIRE SPOOLS

As delivered from the factory, the unit is fitted with a Wire Spool Hub which accepts 300mm Spool diameter.

In order to fit a 200mm spool, assemble parts in the sequence shown below in Figure 5-5.

Adjustment of the Spool Hub Retaining Nut will control the MIG Wire Spool Brake. Clockwise rotation of this nut tightens the brake. The Brake is correctly adjusted when the spool stops within 10 to 20mm (measured at the outer edge of the spool) after MIG Gun trigger is released. Wire should be slack without becoming dislodged from the spool.

NOTE

This spool hub nut can be removed by unscrewing in an anticlockwise direction and locating in the appropriate position.

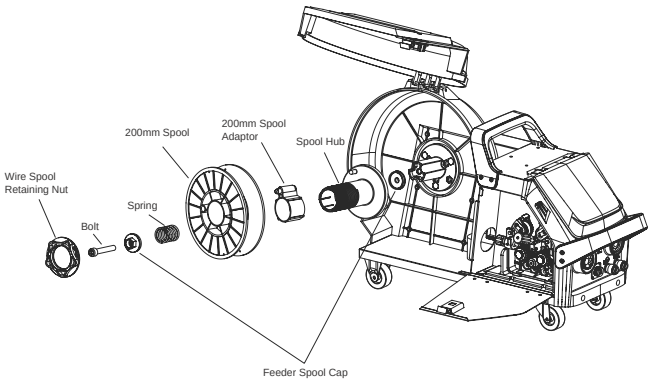


Figure 5-9: 200mm Spool Installation

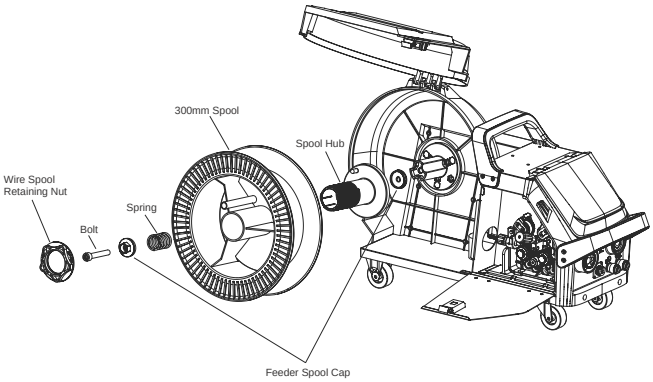


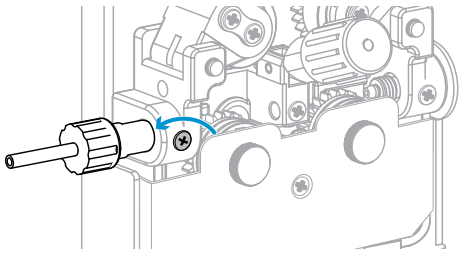
Figure 5-10: 300mm Spool Installation

5.05 CHANGING INLET GUIDE FOR ALUMINIUM AND SOFT WIRES

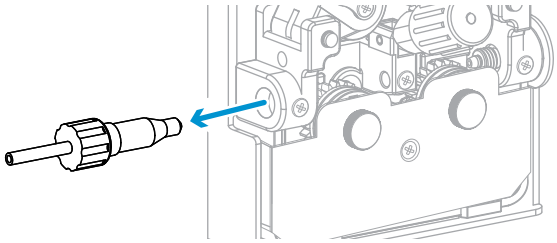
A spare Nylon Inlet Guide is supplied with the Welding Power Source.. It is recommended to use this with Aluminium and Other Soft Wires.

Before changing the Inlet Guide ensure wire is removed from the MIG Gun and Wire Drive system and Wire Spool is removed from the Spool Hub.

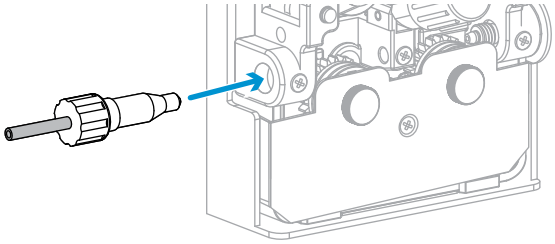
A. Loosen Inlet Guide retaining screw as shown.



B. Remove the Steel Inlet Guide as fitted to the machine from factory from the Wire Drive Assembly.



C. Fit the Aluminium Inlet Guide into the Wire Drive Assembly as shown and tighten the retaining screw.



D. Fit the appropriate feed roll to suit Aluminium wire being used. Refer to sections 5.09 Changing Feed Roll and section 2.11 Optional Accessories.

E. Install the wire spool and carefully feed the Aluminium wire into the feed mechanism. Refer to sections 5.04, 5.06 and 5.07 for further information. A replacement Inlet Guide is available. Refer to section 2.11 Optional Accessories.

5.06 SPOOL HUB BRAKE

When fitting the Wire Spool, the adjustment of the nut will control the MIG Wire Spool Brake. Rotating the nut clockwise increases the brake and rotating the nut counterclockwise reduces the brake. To access the nut remove the Spool Hub Wire Spool retaining Cap. Brake is correctly adjusted when the spool stops within 10 to 20mm (measured at the outer edge of the spool) after MIG Gun trigger is released. Wire should be slack without becoming dislodged from the spool.

WARNING

Moving Parts can cause injury!

WARNING

Overtension of brake will cause rapid wear of mechanical WIREFEED parts, overheating of electrical componentry and possibly an increased incidence of electrode wire Burnback into contact tip.

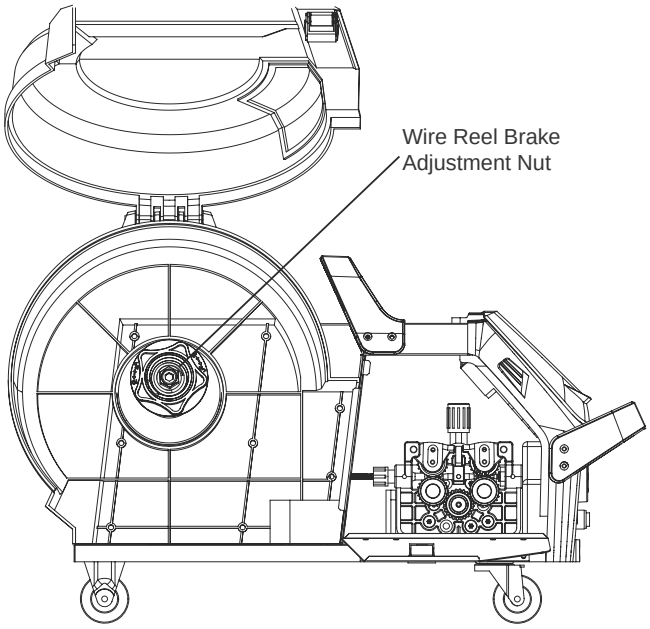


Figure 5-11: Wire Reel Brake

5.07 INSERTING WIRE INTO THE WIRE FEED MECHANISM

Release the tension from the pressure roller by turning the adjustable wire drive tension screw in an anticlockwise direction (Refer to Section 5.08). Then to release the pressure roller arm, pull the wire drive tension screw outward to release the pressure roller arm (Figure 5-8). With the MIG welding wire feeding from the bottom of the spool (Figure 5-9) pass the wire through the inlet guide, between the rollers, through the outlet guide and into the MIG Gun. Do not release the MIG wire until the Pressure Arm is secured back into place. Adjust the wire drive tension screw accordingly. Remove the contact tip from the MIG Gun. With the MIG Gun lead reasonably straight, feed the wire through the Gun by pressing the Wire Inch button on the control panel, or by depressing the trigger switch. Fit the appropriate contact tip.

WARNING

Keep hands clear of the contact tip holder while feeding wire through to the gun. The wire can easily pierce you skin resulting in injury.

Keep MIG Gun away from eyes and face.

NOTE

A spare Nylon Inlet Guide is supplied with the machine. Use this with Aluminium and other Soft Wires.

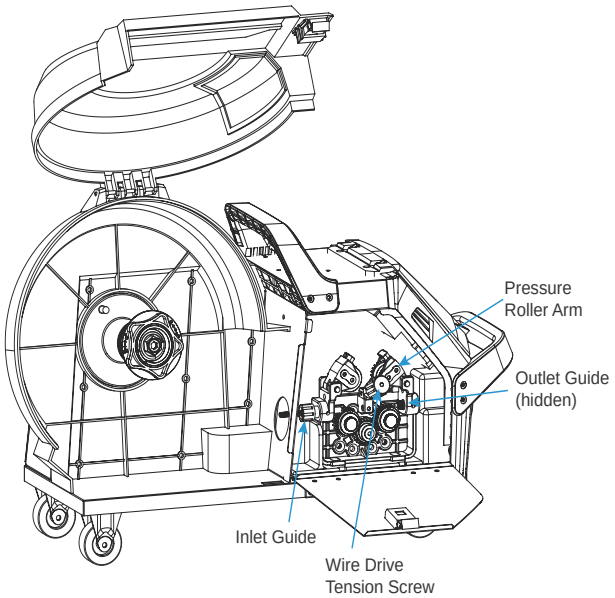


Figure 5-12: Wire Drive Assembly Components

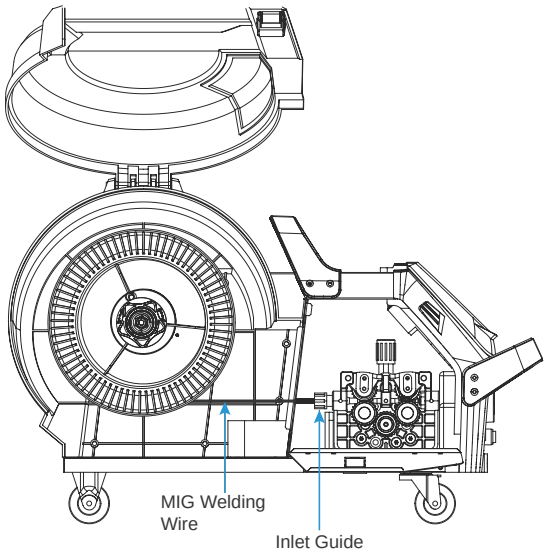


Figure 5-13: Feed Roll Insertion

5.08 FEED ROLL PRESSURE ADJUSTMENT

The pressure (top) rollers apply pressure to the grooved feed roll via an adjustable pressure screw. These devices should be adjusted to a minimum pressure that will provide satisfactory Wire feeding without slippage. If slipping occurs, and inspection of the wire contact tip reveals no wear, distortion or burn back jam, the conduit liner should be checked for kinks and clogging by metal flakes and swarf. If it is not the cause of slipping, the feed roll pressure can be increased by rotating the pressure screw clockwise.

A simple check for the correct drive tension is to bend the end over of the wire (once out the end of the MIG Gun) and hold it about 50mm from a piece of wood (an insulated object) and let it run into the wood. The wire should coil up without stopping and slipping at the drive rollers, tighten the pressure/tension adjustment screw if it slips.

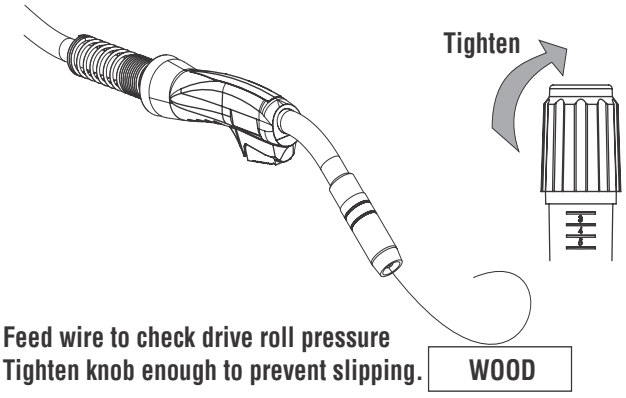


Figure 5-14: Feed Roll Pressure Adjustment

WARNING

Keep hands clear of the contact tip holder while feeding wire through to the gun. The wire can easily pierce you skin resulting in injury.

Keep MIG Gun away from eyes and face.

WARNING

Before changing the feed roll ensure that the mains supply to the power source is switched off.

CAUTION

The use of excessive pressure may cause rapid wear of the feed rolls, shafts and bearing.

5.09 CHANGING THE FEED ROLLS

To change the feed rolls, release the Wire Drive Tension Screw and lift the Pressure Roller Arm (top roller) up and out of the way. Remove the the thumb screws by turning in an anticlockwise direction, then remove the guard plate and spacers to remove the feed rolls.

When replacing the feed rolls, ensure you have the correct groove size matching the wire size you are using in the the welder. Ensure the wire size required is the number facing outward on the feed roll when feed roll is installed. Reinstall by following these instructions in reverse.

A dual K groove feed roll is fitted as standard. It can accommodate 0.8/0.9mm (Gasless Flux Cored Wires). Markings are indicated on the side edge of the feed roll, for example 0.8V, 0.9V.

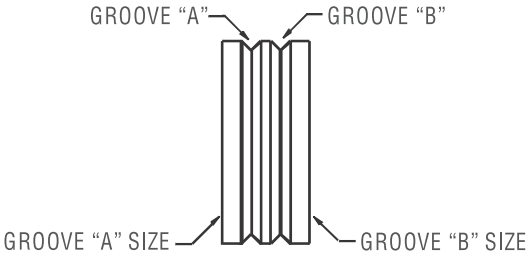


Figure 5-15: Dual Groove Feed Roll

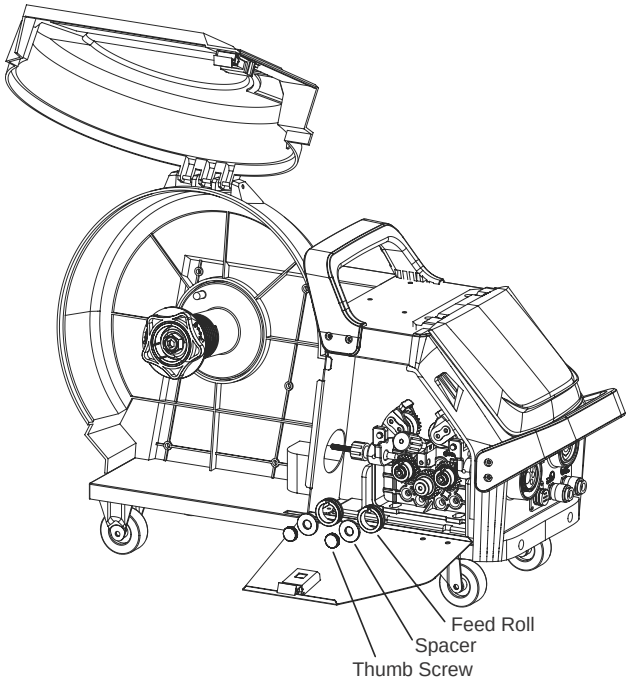


Figure 5-16: Changing the Feed Rolls

WARNING

Moving Parts can cause injury!

5.10 MIG GUN POLARITY

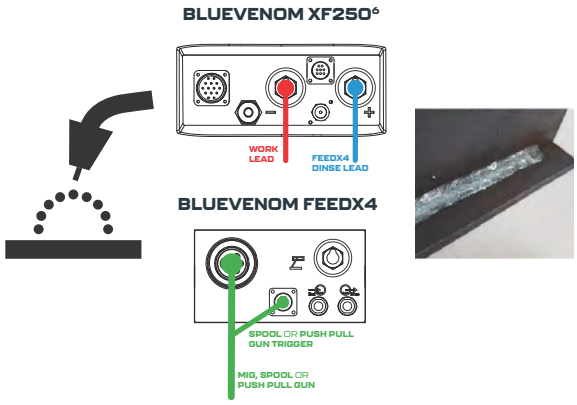
Changing MIG Gun Polarity in MIG Mode.

MIG Gun polarity can be chosen via the DINSE connector within the FeedX4 Interconnection Lead. The male DINSE connector can be connected to either of the Positive (+) or Negative (-) Output Terminals on the Welding Power Source. Disconnect the Polarity Lead on the Welding Power Source, then insert the twist connector into the appropriate socket, tightening it clockwise.

These terminals determine the polarity of the MIG Gun and the Work Lead connection.

MIG Gun Polarity Connection for Solid MIG Wire with Shielding Gas.

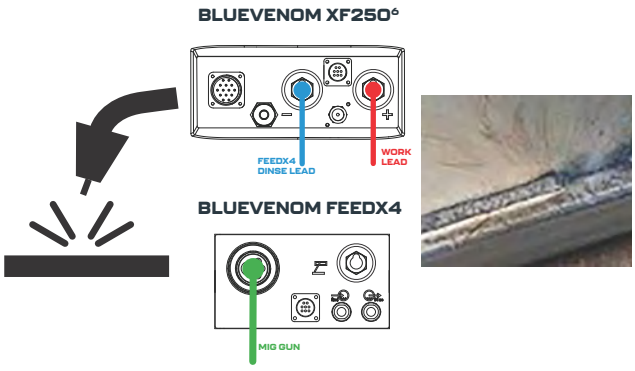
1. The FeedX4 Interconnection Lead's DINSE connector must be connected to the Positive (+) Terminal on the front of the power source. This makes the MIG Gun electrode positive, which supplies 2/3 heat to the welding wire and weld deposit. Polarity electrode/wire Positive (+)



2. The Work Return cable and clamp must be connected to the negative (-) terminal of the Power Source by inserting the twist connector into the front panel socket and then tighten it clockwise. Connect the clamp to the work piece.

MIG Gun Polarity Connection for Gasless Flux Cored MIG Wire.

1. The FeedX4 Interconnection Lead's DINSE connector must be connected to the Negative (-) Terminal on the front of the Power Source as shown. This makes the MIG Gun electrode negative, which supplies 1/3 heat to the welding wire and weld deposit. Polarity electrode/wire Negative (-)



2. The Work Return cable and clamp must be connected to the positive (+) terminal of the Power Source by inserting the twist connector into the front panel socket and then tighten it clockwise. Connect the clamp to the work piece.

5.11 GAS MIG (GMAW) SOLID WIRE SETUP

A. Ensure that the Power Source On/Off switch located on the rear of the Power Source is in the Off position.

B. Fit the MIG Gun to the Wire Feeder. (Refer to section 5.03 Attaching the digital control MIG Gun).

C. Connect the Interconnection Lead DINSE connector to the positive welding terminal (+). If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male DINSE plug is inserted and turned securely to achieve a sound electrical connection.

D. Fit the correct Feed Roll for the Gas Shielded MIG wire being used. Refer to section 2.11 Options and Accessories for Feed Roll types and Part Numbers.

E. Place the MIG wire spool onto the spool holder. Refer to sections 5.04 for 100/200mm diameter spools.

F. Switch the Power Source On/Off switch located on the rear of the Power Source to the On position and ensure the Front Display is illuminated.

G. Switch control from the Power Source to the Wire Feeder. Refer to the System Settings in Section 5.01 for details.

H. Select a MIG mode and set the corresponding Mode Parameter settings. Refer to the Power Source manual for details.

I. Feed wire through the wire drive mechanism. Refer to section 5.07.

J. Connect the work lead to the negative welding terminal (-) on the Power Source.If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.

K. Fit the welding grade shielding Gas Regulator/ Flowmeter to the shielding gas cylinder. Ensure that the shielding gas hose connection is sufficiently tight at the regulator connection. Refer to section 5.05 for the connection and instruction of shielding Gas Regulator/Flowmeter.

WARNING

Before connecting the work clamp to the work piece make sure the mains power supply is switched off.

CAUTION

Loose welding terminal connections can cause overheating and result in the male plug being fused in the terminal. Remove any packaging material prior to use. Do not block the air vents at the front or rear of the Welding Power Source.

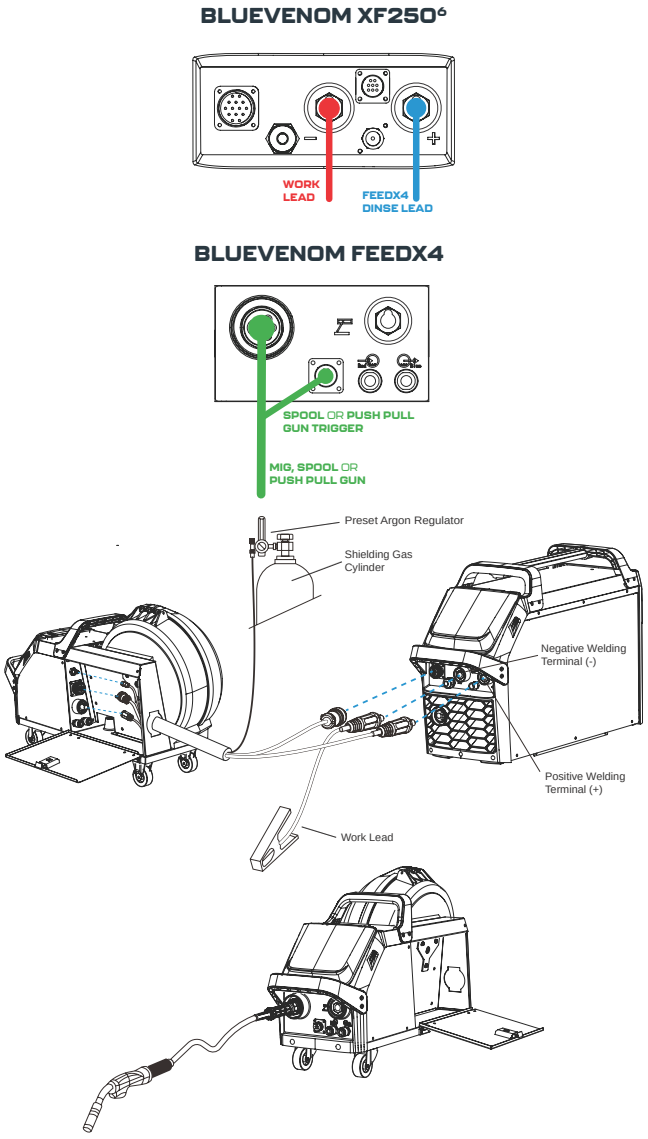


Figure 5-17: Setup for MIG Welding with Gas Shielded MIG Wire

5.12 GASLESS MIG (FCAW) WELDING WITH FLUXCORED WIRE

A. Ensure that the Power Source On/Off switch located on the rear of the Power Source is in the Off position.

B. Fit the MIG Gun to the Wire Feeder. (Refer to section 5.03 Attaching the digital control MIG Gun).

C. Connect the Interconnection Lead DINSE connectory to the negative welding terminal (-). If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male DINSE plug is inserted and turned securely to achieve a sound electrical connection.

D. Fit the correct Feed Roll for the Gasless MIG wire being used. Refer to section 2.11 Options and Accessories for Feed Roll types and Part Numbers.

E. Place the MIG wire spool onto the spool holder. Refer to sections 5.04 for 100/200mm diameter spools.

F. Switch the Power Source On/Off switch located on the rear of the Power Source to the On position and ensure the Front Panel Display is illuminated.

G. Select a MIG mode and set the corresponding Mode Parameter settings. Refer to the Power Source manual for details.

H. Switch control from the Power Source to the Wire Feeder. Refer to the System Settings in Section 5.01 for details.

I. Feed wire through the wire drive mechanism. Refer to section 5.07.

J. Connect the work lead to the positive welding terminal (+) on the Power Source.. If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.

WARNING

Moving Parts can cause injury!

WARNING

Before connecting the work clamp to the work piece make sure the mains power supply is switched off.

CAUTION

Loose welding terminal connections can cause overheating and result in the male plug being fused in the terminal.

Remove any packaging material prior to use. Do not block the air vents at the front or rear of the Welding Power Source.

NOTE

Synergic wire sizes for MIG GASLESS (Flux Cored Wire) are 0.8mm, 0.9mm and 1.2mm diameter.

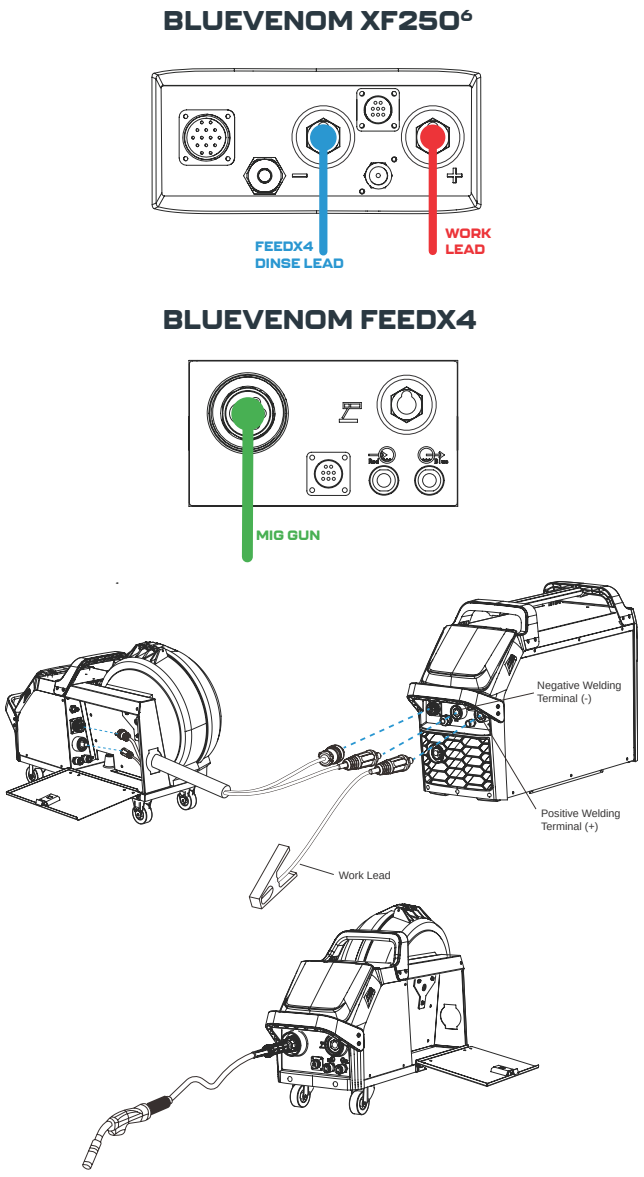


Figure 5-18: Setup for MIG Welding with Gasless MIG Wire

5.13 SPOOL GUN SETUP

Spool Gun Mode Setup

The BlueVenom Sic range can run a Spool Gun in MIG Manual, Synergic and Pulse welding modes.

Using a Spool Gun not only allows you to have a longer distance between the power source and the job you are welding, with the shorter distance between the MIG wire spool and contact tip, there will be smoother wire feed speeds leading to less feedability issues. A Spool Gun is perfect for those occasions when you need the 6m long power cable to get to those hard-to-reach places and jobs that require softer wires such as 4043 aluminium.

Once MIG Manual or MIG Synergic mode is selected, another drop down menu will appear allowing the operator to select the use of a Spool Gun.

Figure 5-19: MIG Spool Gun Setup

Spool Gun Setup

- Ensure that the Power Source On/Off switch located on the rear of the Power Source is in the Off position.
- Fit the Euro Spool Gun to the Wire Feeder using the front panel EURO torch adaptor (refer also to section 5.06 Attaching the digital control MIG Gun). Connect the 8 pin Remote Control Plug to the 8 pin Remote Control Socket on the Wire Feeder. Ensure 8 pin plug is correctly fitted to the 8 pin socket on front panel and collar on plug is tightened firmly.
- Connect the Interconnection Lead DINSE connector to the positive welding terminal (+). If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male DINSE plug is inserted and turned securely to achieve a sound electrical connection.
- Fit the correct Feed Roll in Spool Gun for the Gas Shielded MIG wire being used.
- Switch the Power Source On/Off switch located on the rear of the Power Source to the On position and ensure Front Panel is illuminated.

- Switch control from the Power Source to the Wire Feeder. Refer to Section 5.01 for details.
- Select the desired MIG mode, then select Spool Gun.
- Feed wire through the wire drive mechanism in the Spool Gun.
- Connect the work lead to the negative welding terminal (-) on the Power Source. If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.
- Fit the welding grade shielding Gas Regulator/ Flowmeter to the shielding gas cylinder. Ensure that the shielding gas hose connection is sufficiently tight at the regulator connection. Refer to section 5.02 for the connection and instruction of shielding Gas Regulator/Flowmeter.

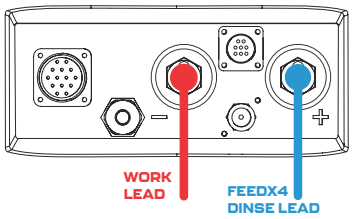
WARNING

Before connecting the work clamp to the workpiece make sure the mains power supply is switched off.

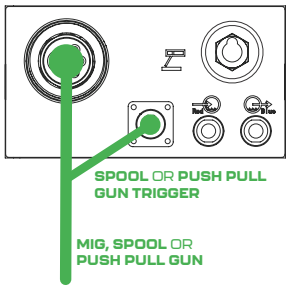
CAUTION

Loose welding terminal connections can cause overheating and result in the male plug being fused in the terminal. Remove any packaging material prior to use. Do not block the air vents at the front or rear of the Welding Power Source.

BLUEVENOM XF250⁶



BLUEVENOM FEEDX4



NOTE

If Spool gun is required to Weld using Gasless MIG Wire, the appropriate feed Roll is required, and polarity reversal. Refer to section 5.10 for setup.

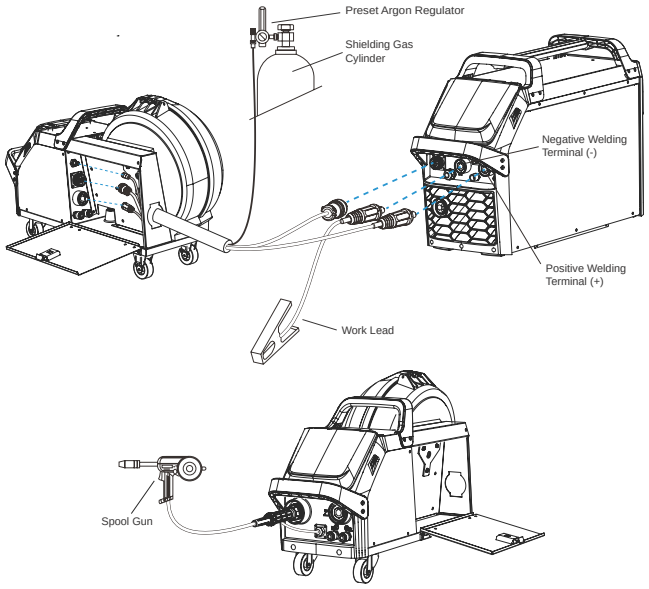


Figure 5-20: Setup with Spool Gun for Gas Shielded MIG Wire

5.14 PUSH PULL GUN SETUP

Push Pull Gun Setup

The BlueVenom SiC range can run a Push Pull Gun in in all MIG welding modes.

Using a Push Pull Gun, much like a Spool Gun, allows for longer distances from the power source to the weld site and improves feedability when using soft wires like 4043 aluminium. A Push Pull Gun improves upon a Spool Gun with its light weight portability, since the spool isn't attached to the gun and allows for full sized spools, great for long welds in heavy duty fabrication.

Once a MIG welding mode is selected, another drop down menu will appear allowing the operator to select the use of a Push Pull Gun.

Figure 5-21: MIG Push Pull Gun Mode

Push Pull Gun Setup

- Ensure that the Power Source On/Off switch located on the rear of the Power Source is in the Off position.
- Fit the Euro Push Pull Gun to the Wire Feeder using the front panel EURO torch adaptor (refer also to section 5.06 Attaching the digital control MIG Gun). Connect the 8 pin Remote Control Plug to the 8 pin Remote Control Socket on the Wire Feeder. Ensure 8 pin plug is correctly fitted to the 8 pin socket on front panel and collar on plug is tightened firmly.
- Connect the Interconnection Lead DINSE connector to the positive welding terminal (+). If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male DINSE plug is inserted and turned securely to achieve a sound electrical connection.
- Switch the Power Source On/Off switch located on the rear of the Power Source to the On position and ensure Front Panel is illuminated.
- Switch control from the Power Source to the Wire Feeder. Refer to Section 5.01 for details.
- Select the desired MIG mode, then select Push Pull Gun.
- Feed wire through the wire drive mechanism of the welder though to the wire drive mechanism of the Push Pool Gun.
- Connect the work lead to the negative welding terminal (-) on the Power Source. If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.
- Fit the welding grade shielding Gas Regulator/ Flowmeter to the shielding gas cylinder. Ensure that the shielding gas hose connection is sufficiently tight at the regulator connection. Refer to section 5.05 for the connection and instruction of shielding Gas Regulator/Flowmeter.

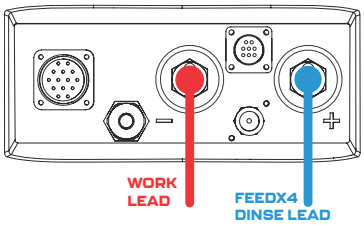
WARNING

Before connecting the work clamp to the workpiece make sure the mains power supply is switched off.

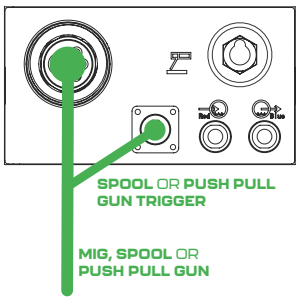
CAUTION

Loose welding terminal connections can cause overheating and result in the male plug being fused in the terminal. Remove any packaging material prior to use. Do not block the air vents at the front or rear of the Welding Power Source.

BLUEVENOM XF250⁶



BLUEVENOM FEEDX4



NOTE

If Push Pull gun is required to Weld using Gasless MIG Wire, the appropriate feed Roll is required, and polarity reversal. Refer to section 5.13 for setup.

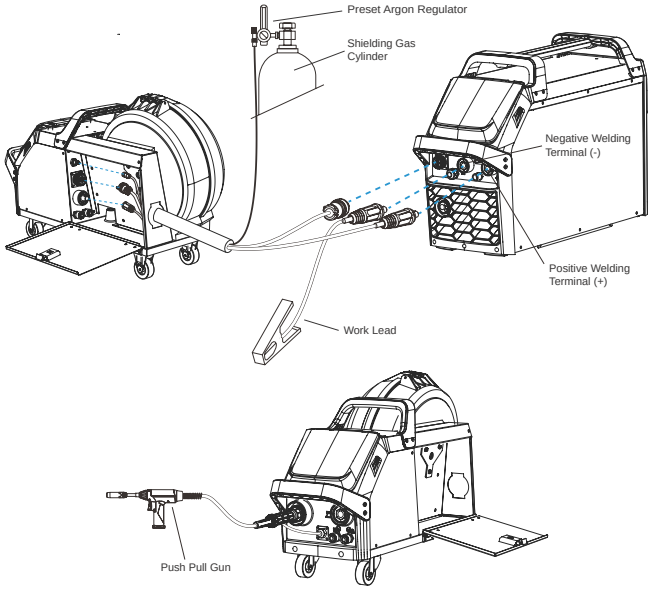


Figure 5-22: Setup with Push Pull Gun for Gas Shielded MIG Wire

SECTION 6:
STICK (MMA) WELDING

6.01 STICK (MMA) MODE SETUP

The Welding Power Source shares its Stick welding modes and parameters with the Wire Feeder. Refer to the BlueVenom XF250[6] operation manual for a detailed list of the available Stick modes and parameters.

Figure 6-1: Stick Synergic Mode

When the Welding Power Source is first powered on the Wire Feeder will display a screen (Figure 6-1) indicating the Power Source is in control of the welding output.

Figure 6-2: Power Source in Control

Before Stick welding can begin, the operator must first switch control from the Welding Power Source to the Wire Feeder. On the Power Source, hold the Setting Button until the System Settings screen is displayed. Using the Left Control Knob, navigate to the Wire Feeder option and rotate the Right Control Knob clockwise to select External. This will pass control to the Wire Feeder.

Figure 6-3: Power Source System Settings

Press the Settings Button again to exit and a screen (Figure 6-4) will be displayed, indicating that the Wire Feeder has control.

Figure 6-4: Wire Feeder in Control

To change control back to the Power Source, enter the settings screen on the Power Source, highlight the Wire Feed option and rotate the Right Control Knob anticlockwise to select Internal. This will pass control to the Power Source's internal wire feeder.

6.02 STICK WELDING

A. Ensure that the Power Source On/Off switch located on the rear of the Power Source is in the Off position.

B. Connect the Interconnection Lead DINSE connector to the positive welding terminal (+). If in doubt, consult the electrode manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male DINSE plug is inserted and turned securely to achieve a sound electrical connection.

C. Connect the Electrode Holder lead to the Output Welding Terminal located on the Wire Feeder and insert the electrode into the electrode holder.

D. Connect the work lead to the negative welding terminal (-) on the Power Source. If in doubt, consult the electrode manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.

E. Switch the Power Source On/Off switch located on the rear of the Power Source to the On position and ensure the Front Display is illuminated.

F. Switch control from the Power Source to the Wire Feeder. Refer to Section 6.01 for details.

G. Select a Stick mode and set the corresponding Mode Parameter settings.

WARNING

Before connecting the work clamp to the work and inserting the electrode in the electrode holder make sure the Mains power supply is switched off.

CAUTION

Remove any packaging material prior to use. Do not block the air vents at the front or rear of the Welding Power Source.

NOTE

Consult the electrode manufacturer's information for the correct polarity.

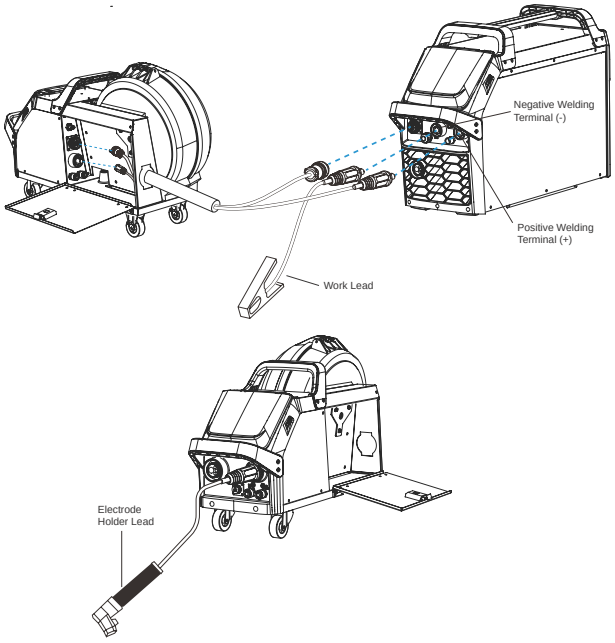


Figure 6-5: Setup For STICK (MMAW) Welding

Storage of Stick Electrodes

Always store electrodes in a dry place and in their original containers.

Stick Electrode Size

The electrode size is determined by the thickness of metals being joined and can also be governed by the type of welding machine available. Small welding machines will only provide sufficient current (amperage) to run the smaller size electrodes.

For most work, a 2.5mm electrode will be quite sufficient. A 2.5mm electrode will give just as strong a joint but may require a few more weld runs to be put down to fill the joint.

For thin sections, it is necessary to use smaller electrodes otherwise the arc may burn holes through the job. A little practice will soon establish the most suitable electrode for a given application.

Electrode Polarity

Electrodes are connected to the Electrode Holder, and the Work Lead is connected to the work piece.

Consult the Electrode manufacturer's information for the correct polarity.

STICK Welding Practice

Techniques used for arc welding are almost identical regardless of what types of metals are being joined.

Naturally enough,different types of electrodes would be used for different metals as described in the next section.

STICK Welding Different Metals

A. High tensile and alloy steels

The two most prominent effects of welding these steels are the formation of a hardened zone in the weld area, and, if suitable precautions are not taken, the occurrence in this zone of under-bead cracks may result. Hardened zone and under-bead cracks in the weld area may be reduced by using the correct electrodes, preheating, using higher current settings, using larger electrodes sizes, short runs for larger electrode deposits or tempering in a furnace.

B. Austenitic manganese steels

The effect on manganese steel of slow cooling from high temperatures is to embrittle it. For this reason it is absolutely essential to keep manganese steel cool during welding by quenching after each weld or skip welding to distribute the heat.

C. Cast Iron

Most types of cast iron, except white iron, are weldable. White iron, because of its extreme brittleness, generally cracks when attempts are made to weld it. Trouble may also be experienced when welding white-heart malleable, due to the porosity caused by gas held in this type of iron.

D. Copper and alloys

The most important factor is the high rate of heat conductivity of copper, making preheating of heavy sections necessary to give proper fusion of weld and base metal.

Welding Position

The electrodes dealt with in this publication can be used in most positions, i.e. they are suitable for welding in flat, horizontal, vertical and overhead positions. Numerous applications call for welds to be made in positions intermediate between these. Some of the common types of welds are shown in Figures 7-3 through 7-10.

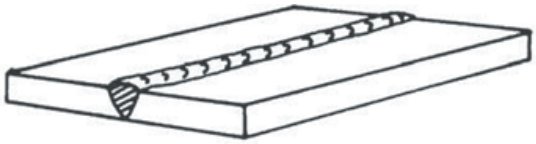


Figure 6-6: Flat position, down hand butt weld

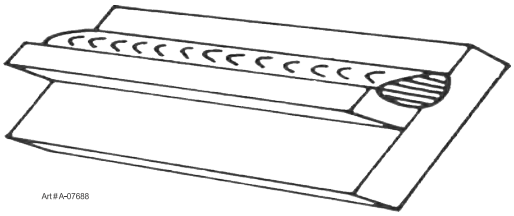


Figure 6-7: Flat position, gravity fillet weld

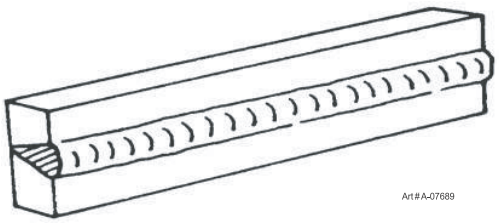


Figure 6-8: Horizontal position, butt weld

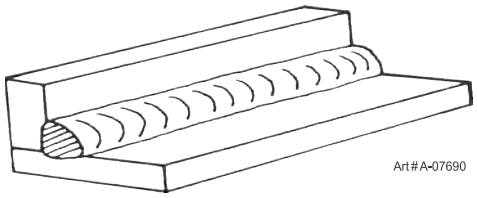


Figure 6-9: Flat position, down hand fillet weld

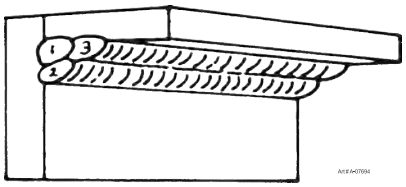


Figure 6-10: Overhead position fillet, weld

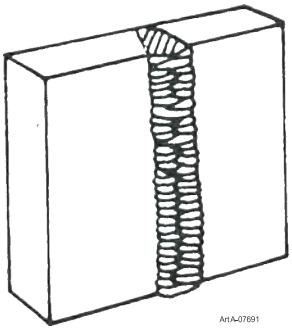


Figure 6-11: Vertical position, butt weld

Figure 6-12: Overhead position, butt weld

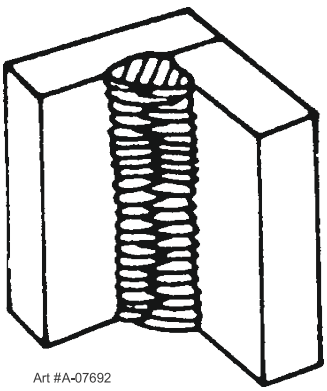


Figure 6-13: Vertical position, fillet weld

SECTION 7: ROUTINE SERVICE REQUIREMENTS AND FEEDER PROBLEMS

7.01 ROUTINE MAINTENANCE & INSPECTION

ELECTRICAL WARNING

There are extremely dangerous voltage and power levels present inside this product. Do not attempt to open or repair unless you are a qualified electrical tradesperson. Disconnect the Wire Feeder from the Welding Power Source before disassembling.

Welding equipment should be regularly checked by a qualified electrical tradesperson to ensure that:

- The main earth wire of the electrical installation is intact.
- The power point for the Welding Power Source and Wire Feeder are effectively earthed and of adequate current rating.
- Plugs and cord extension sockets are correctly wired.
- Flexible cord is of the 3-core tough rubber or plastic sheathed type of adequate rating, correctly connected and in good condition.
- Welding terminals are shrouded to prevent inadvertent contact or short circuit.
- The frame of the Wire Feeder is effectively earthed.
- Welding leads and electrode holder are in good condition.
- The Wire Feeder is clean internally, especially from metal filing, slag, and loose material. If any parts are damaged for any reason, replacement is recommended.

7.02 CLEANING THE WIRE FEEDER

To clean the Wire Feeder, open the enclosure and use a vacuum cleaner to remove any accumulated dirt, metal filings, slag and loose material. Keep surfaces clean as accumulated foreign material may reduce the welders output welding current.

CAUTION

Do not use compressed air to clean the Wire Feeder. Compressed air can force metal particles to lodge between live electrical parts and earthed metal parts within the Wire Feeder. This may result in arcing between this parts and their eventual failure.

7.03 CLEANING THE FEED ROLLS

Clean the grooves in the feed rolls frequently. This can be done by using a small wire brush. Also wipe off or clean the grooves on the upper feed roll. After cleaning, tighten the feed roll retaining knobs.

7.04 BASIC TROUBLESHOOTING

ELECTRICAL WARNING

There are extremely dangerous voltage and power levels present inside this product. Do not attempt to open or repair unless you are a qualified electrical tradesperson and you have had training in power measurements and troubleshooting techniques.

If major complex subassemblies are faulty, then the Wire Feeder must be returned to an Accredited CIGWELD Service Agent for repair.

The basic level of troubleshooting is that which can be performed without special equipment or knowledge.

Refer to the Welding Power Source operation manual for common welding issues and remedies.

7.05 POWER SOURCE AND WIRE FEEDER ERROR CODES

Figure 7.1: Warning Screen Example

ERROR CODE	CAUSE	REMEDY
E01 **E02** **E03** **E04** **E09**	Over-heating	Duty cycle of the Power Source has been exceeded. Leave the power source switched ON with the fan running and allow it to cool. Check front and rear Panel Air Louvres are clean and not blocked by any dirt or obstacles. If damaged, they should be replaced by an accredited CIGWELD Service Provider. Check that the fan is running normally during welding. If the fan is not running during welding it may be faulty and need replacing. Contact an accredited CIGWELD Service Provider. Note this unit has Fan on Demand fitted. Refer to Section 4 for further details.
E10	Phase loss	Input Power Supply is outside the parameters of the machine. Contact a Qualified Electrician to check the input Power Supply.
E34	Output terminal short circuit	The positive and negative output terminals have short circuited while in Stick welding mode. Turn off the welder and wait for it to power down. Move the electrodes or remove any material causing the short circuit.
E40	Internal communication error	A communication error occurred between the LCD Panel and the Control Board. Turn off the machine and wait at least 15 seconds before powering on. If the issue persists after powering on, the LCD touchscreen may be faulty and need replacing. Contact an accredited CIGWELD Service Provider.
E41	Wire feeder communication error	A communication error occurred between the welding machine and external wire feeder. Turn off both machines and wait at least 15 seconds before powering on. Check the interconnection cable for any damage and ensure the 14-pin connector is clean of any dirt and debris. If the issue persists, contact an accredited CIGWELD Service Provider.

Tabel 7-1: Error Codes

SECTION 8: WARRANTY

CIGWELD
AN ESAB BRAND

LIMITED WARRANTY TERMS

LIMITED WARRANTY: CIGWELD Pty Ltd, An ESAB Brand, hereafter, "CIGWELD" warrants to customers of its Authorised distributors hereafter "Purchaser" that its products will be free of defects in workmanship or material. Should any failure to conform to this warranty appear within the time period applicable to the CIGWELD products as stated below, CIGWELD shall, upon notification thereof and substantiation that the product has been stored, installed, operated, and maintained in accordance with CIGWELD's specifications, instructions, recommendations and recognized standard industry practice, and not subject to misuse, repair, neglect, alteration, or accident, correct such defects by suitable repair or replacement, at CIGWELD's sole option, of any components or parts of the product determined by CIGWELD to be defective.

CIGWELD MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHERS, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

LIMITATION OF LIABILITY: CIGWELD SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, SUCH AS, BUT NOT LIMITED TO, LOST PROFITS AND BUSINESS INTERRUPTION.

The remedies of the Purchaser set forth herein are exclusive and the liability of CIGWELD with respect to any contract, or anything done in connection therewith such as the performance or breach thereof, or from the manufacture, sale, delivery, resale, or use of any goods covered by or furnished by CIGWELD whether arising out of contract, negligence, strict tort, or under any warranty, or otherwise, shall not, except as expressly provided herein, exceed the price of the goods upon which such liability is based. No employee, agent, or representative of CIGWELD is Authorised to change this warranty in any way or grant any other warranty.

PURCHASER'S RIGHTS UNDER THIS WARRANTY ARE VOID IF REPLACEMENT PARTS OR ACCESSORIES ARE USED WHICH IN CIGWELD'S SOLE JUDGEMENT MAY IMPAIR THE SAFETY OR PERFORMANCE OF ANY CIGWELD PRODUCT. PURCHASER'S RIGHTS UNDER THIS WARRANTY ARE VOID IF THE PRODUCT IS SOLD TO PURCHASER BY NON-Authorised PERSONS.

The warranty is effective for the time stated below beginning on the date that the Authorised distributor delivers the products to the Purchaser. Not with standing the foregoing, in no event shall the warranty period extend more than the time stated plus one year from the date CIGWELD delivered the product to the Authorised distributor.

Any claim under this warranty must be made within the warranty period which commences on the date of purchase of the product. To make a claim under the warranty, take the product (with proof of purchase from a CIGWELD Accredited Seller) to the store where you purchased the product or contact CIGWELD Customer Care 1300 654 674 for advice on your nearest Service Provider. CIGWELD reserves the right to request documented evidence of date of purchase. CIGWELD or our Accredited Distributor must be notified in writing of its claim within seven (7) days of becoming aware of the basis thereof, and at its own expense returning the goods which are the subject of the claim to CIGWELD or nominated Accredited Distributor/Accredited Service Provider

This warranty is given.
CIGWELD Pty Ltd A.B.N. 56007226815
71 Gower Street, Preston Victoria, Australia, 3072
Phone: 1300 654 674
Email: support@cigweld.com
Website: cigweld.com.au

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Please note that the information detailed in this statement supersedes any prior published data produced by CIGWELD.

WARRANTY SCHEDULE – BLUEVENOM XF250⁶ SiC INVERTER

WARRANTY	WARRANTY PERIOD (PARTS AND LABOUR)
BlueVenom FeedX4 Wire Feeder	5 Years

ACCESSORIES	WARRANTY PERIOD
15m Water-Cooled Interconnection Lead	3 Months

CIGWELD LIMITED WARRANTY DOES NOT APPLY TO;

- Obsolete goods sold at auction, second-hand goods and prototype goods.
- Consumable Parts for MIG, Plasma welding, Plasma cutting and Oxy fuel torches, O-rings, fuses, filters or other parts that fail due to normal wear.

Notes:

* No employee, agent, or representative of CIGWELD is Authorised to change this warranty in any way or grant any other warranty, and CIGWELD shall not be bound by any such attempt. Correction of non-conformities, in the manner and time provided herein, constitutes fulfilment of CIGWELD's obligations to purchaser with respect to the product.
* This warranty is void, and seller bears no liability hereunder, if purchaser used replacement parts or accessories which, in CIGWELD's sole judgment, impaired the safety or performance of any CIGWELD product and if the unit is altered or serviced by an unauthorised CIGWELD Service Provider. Purchaser's rights under this warranty are void if the product is sold to purchaser by unAuthorised persons.

NOTES:

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