



SW230

PORTABLE SPOT WELDER

OPERATING INSTRUCTIONS





SW230

Congratulations on your new Strata product!

The Strata range from Euroquip uses latest technology design and engineering to produce welding products that combine market leading value and features with durability. Designed for discerning operators who seek professional results and product quality without the price tag of a full professional setup. Design emphasis is placed on simple, functional design and operation. Strata product is subject to stringent quality control and designed and manufactured to NZ & Australian standards.

Common use of Strata products include:

- Light Engineering
- Automotive
- Home/Hobby Engineering
- Farming
- Industrial Maintenance & Repairs

For industrial welding solutions, check out the Strata range from Euroquip:

www.strata.co.nz

Euroquip is a market leading provider of innovative power equipment solutions to a wide range of industries across New Zealand and Australia. Key product categories are; welding equipment, air compressors, power generators and cleaning equipment.

Euroquip's slogan is 'empowering industries', find out more about the advantage Euroquip brings at **www.euroquip.co.nz**.



Contents

1. Product Features.....	4
2. Product Specifications.....	5
3. Installation Of Welder.....	6
4. Welding.....	6
5. Welding Defects.....	6
6. Product Operation.....	7
7. Welding Arm Replacement & Adjustment.....	7
8. Care & Maintenance.....	8
9. General Safety.....	9
10. Warranty.....	13

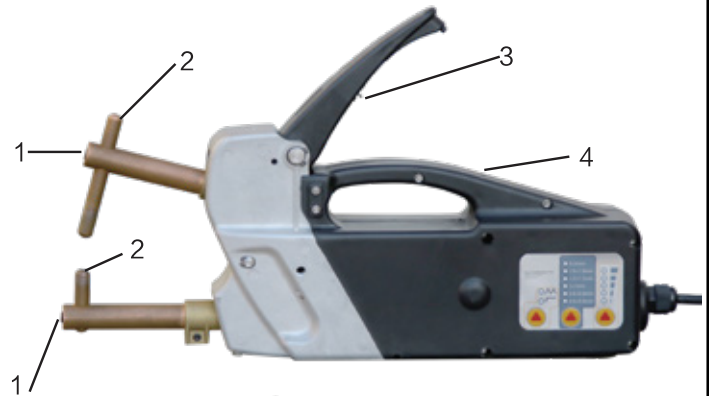


1. Product Features

This spot welder is equipped with an advanced microprocessor and incorporates a cutting-edge fuzzy logic system. This technology not only simplifies the operation of the machine but also significantly enhances the quality of the spot welds it produces. It is designed for spot welding sheet metals up to a thickness of 2mm per sheet, supporting a combined thickness of up to 4mm.

Features:

1. **Automatic Adjustment:** The welder automatically adjusts the spot welding current and time based on the thickness of the material, ensuring optimal performance.
2. **Operational Modes:** Offers a choice between continuous and pulsed operation modes to accommodate different welding needs. The pulsed operation is ideal for achieving high yields and managing high-stress conditions.
3. **Adjustable Arm Pressure:** The arm pressure can be adjusted from 40kg to 120kg, providing versatility for various welding tasks.
4. **Thermally Isolated Handle:** The handle is crafted from thermally isolated materials, enhancing safety and comfort during extended use.
5. **Thermal Protection:** Equipped with thermal protection to prevent overheating, ensuring both the safety of the operator and the longevity of the machine.



1. Electrode adjustment screw
2. Electrode
3. Pressure adjustment screw
4. Welding switch



SW230

2. Product Specifications

Input voltage 50/60Hz	220-230V
Input Current	10A
Output Current	6300-8900A
Output voltage	1-2V
Maximum welding thickness	1.0+1.0+1.0/2.0+2.0
Load sustained rate	10%
Size	450X200X100 mm
Packing size	500X300X150 mm
Weight	Stand-alone 10kg/With Packaging 15kg



SW230

3. Installation Of Welder

3.1 Setup

Place the machine in a ventilated area. Dust, dirt, or any other foreign material that might enter the machine may restrict the ventilation which could affect the machine's performance. Fasten the side handle, arms & electrodes ensuring the grub screws are tightened securely.

3.2 Input Power Connections

All sections concerning the installation of this machine must be read carefully. Make sure that the input power plug has been disconnected before inspecting, maintaining, or servicing. Connect the yellow-green wire to a good electrical ground.

The SW230 should only be operated on a 220-240 volt power supply & should not be used on long extension cords. If an extension cord is required the minimum conductor size must be 1.5mm & extension cable must not exceed 20M in length.

3.3 Output Connections

Ensure Arms & Electrodes are installed correctly, grub screws tightened securely. Clean the electrodes regularly to maintain good electrical conductivity.

4. Welding

Machine installation must be done by a competent staff. All connections must correspond to the rules in force and must respect laws concerning accidents.

Ensure you have the correct PPE including gloves, goggles or mask. Select your desired welding process (pulse or standard), select the material thickness, then alter the weld time if required. Hold the sheet metal together & gently lower the lever to hold it securely in place between the electrodes, where you would like the weld. Push the lever all the way down to start the welding process.

5. Welding Defects

Base material melted or overheated: Reduce the weld time.
Weld not strong enough: Increase weld time or use pulse mode.
Weld not precise: Check electrodes are clean & shaped correctly.



SW230

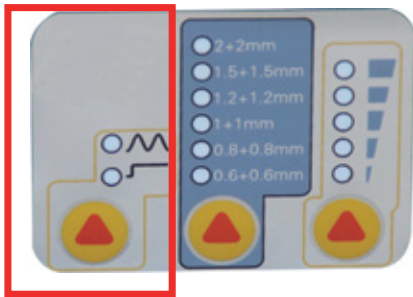
6. Product Operation

Preparation:

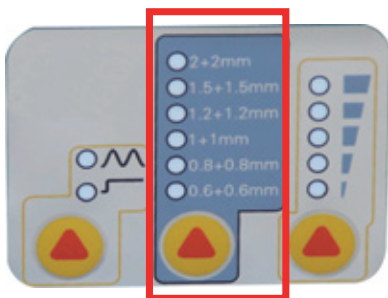
1. Before welding ensure the electrodes are clean & the points meet together when the lever is lowered

Welding Mode Selection:

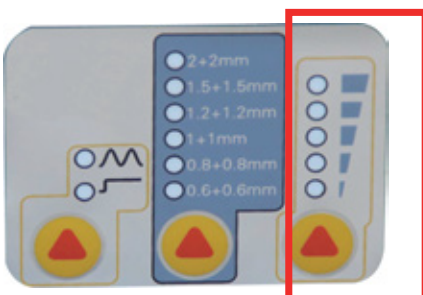
2. **Welding Mode:** Choose the desired welding mode. Select from Pulse or Continuous operation.



3. **Material Thickness:** Select the material thickness closest to what you are welding. If welding more than two layers, select the thickness closest to the total thickness being welded.



4. **Weld Time:** The normal level is #3. Increase or decrease weld time to achieve the desired quality. Ensuring strong and consistent joins.



7. Welding Arm Replacement & Adjustment

1. Standard and Optional Equipment:

- Standard Configuration: The machine is equipped with 120mm straight arm set.
- Optional Arms: Shaped or extended arms can be fitted to accommodate different welding needs.

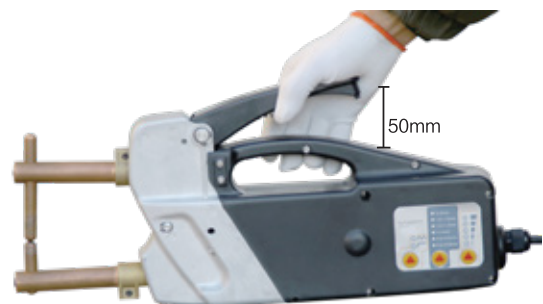


2. Installing the Electrode Arm:

- Lifting and Loading: Lift the pressure arm to its highest position, install the desired electrode arm, and adjust the welding electrode for proper alignment.

3. Electrode and Pressure Arm Adjustment:

- Alignment and Locking: Press the pressure arm down to ensure the welding electrode fully matches and locks into place. Adjust the distance between the pressure arm and the bump joint of the electrode pair to approximately 50mm for optimal positioning.



4. Operation Check:

- Pressure Arm Activation: Press down on the pressure arm handle to close the contact with the root switch of the machine, initiating the welding process.

5. Fine-Tuning Pressure:

- Pressure Adjustment: Adjust the internal hex screws within the pressure arm to modify the welding electrode pressure. This adjustment is crucial for achieving the best welding results, especially in high yield point and high-stress scenarios.



8. Care & Maintenance

8.1 Tips for Keeping your Welding Machine in Top Condition


Here is a list of general maintenance that should be adhered to on any welder. For more specific maintenance care of this machine, see page 12.

- Regularly clean the ventilation slots.
- Keep the casing clean.
- Check all cables before use.
- Replace worn consumable parts in a timely manner.
- Use a soft cloth or brush to clean electrical components.
- Do not use liquid cleaning products, water or especially solvents.
- Do not use compressed air to clean electrical components as this can force dirt and dust further into components, causing electrical short circuits.
- Check for damaged parts. Do not use the welder with damaged parts.
- A damaged welder must be carefully checked by a qualified person to determine that it will operate properly. Check for breakage of parts, mountings and other conditions that may affect its operation. An authorised service centre should properly repair a damaged part. Have your welder repaired by an expert.

This appliance is manufactured in accordance with relevant safety standards. Only experts must carry out repairing of electrical appliances, otherwise considerable danger for the user may result. Use only genuine replacement part. Do not use modified or non-genuine parts.

8.2 Storing the Welder

When not in use the welder should be stored in the dry and frost-free environment.

 **WARNING!** Before performing cleaning/maintenance, replacing cables / connections, make sure the welding machine is switched off and disconnected from the power supply.

8.3 Welding Machine Servicing

Experience has shown that many fatal accidents originated from servicing improperly executed. For this reason, a careful and thorough inspection on a serviced welding machine is just as important as one carried out on a new welding machine. Furthermore, in this way producers can be protected from being held responsible for defects stemming from repairs not carried out by the manufacturer.

8.4 Prescriptions to follow for servicing

After rewinding the transformer or the inductance, the welding machine must pass the applied-voltage test in accordance with indications of the international standard. If the servicing is not done by the manufacturers, the repaired welding machines which underwent replacements or modifications of any component shall be marked in a way such that the identity of the person having serviced it is clear. After making repairs, take care to re-order the cables so that there is sure to be insulation between the primary and secondary sides of the machine. Make sure that the wires cannot come into contact with moving parts or parts that heat during operation. Replace all clamps in their original positions on the machine, to prevent a connection between the primary and secondary circuits if a conductor accidentally breaks or disconnects.



9. Safety

Store and Retain this Manual

Retain this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product serial number at the rear of this manual and keep this manual and the receipt in a safe and dry place for future reference.

Important Safety Information

Failure to follow the warnings and instructions may result in electric shock, fire, serious injury and/or death. Save all warnings and instructions for future reference.



This is the safety alert symbol to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER! indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING! indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTE, used to address practices not related to personal injury.

General Safety Warnings

1. Maintain labels and nameplates on the welder. These carry important information. If unreadable or missing, contact Euroquip for a replacement.

2. Avoid unintentional starting. Make sure the welder is setup correctly and you are prepared to begin work before turning on the welder.

3. Unplug before performing maintenance.

Always unplug the welder from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.

4. Never leave the welder unattended while energised. Turn power off before leaving the welder unattended.

5. Do not touch live electrical parts. Wear dry, insulating gloves. Do not touch the electrode or the conductor tong with bare hands. Do not wear wet or damaged gloves.

6. Protect yourself from electric shock. Do not use the welder outdoors. Insulate yourself from the work piece and the ground. Use non-flammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material large enough to cover the area of contact with the work or the ground.

7. Avoid inhaling dust. Some dust created by power sanding, sawing, grinding, drilling, cutting, welding and other construction activities, contain chemicals known to cause cancer, birth defects or other harm. Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

8. People with pacemakers should consult their physician(s) before using this machine.



WARNING!

Electromagnetic fields in close proximity to a heart pacemaker could cause interference, or failure of the pacemaker. The use of a Welder is **NOT RECOMMENDED** for pacemaker wearers. Consult your doctor.



SW230

9. Ensure that the unit is placed on a stable location before use.



WARNING!

If this unit falls while plugged in, severe injury, electric shock, or fire may result.

10. Transportation Methods Lift unit with the handles provided, or use a handcart or similar device of adequate capacity. If using a fork lift vehicle, secure the unit to a skid before transporting.



CAUTION!

Disconnect input power conductors from de-energized supply line before moving the welding power source.

11. Exercise good work practices. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be considered by the operator.

Welding Safety Instructions & Warnings



WARNING!

Protect yourself and others from possible serious injury or death. Keep children away. Read the operating/Instruction manual before installing, operating or servicing this equipment. Have all installation, operation, maintenance, and repair work performed by qualified people.

If an operator does not strictly observe all safety rules and take precautionary actions, welding products and welding processes can cause serious injury or death, or damage to other equipment or property. Safe practices have developed from past experience in the use of welding and cutting.

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 European Standard EN60974-1 entitled: Safety in welding and allied processes.



WARNING!

Only use safety equipment that has been approved by an appropriate standards agency. Unapproved safety equipment may not provide adequate protection. Eye and breathing protection must be AS/NZS compliant for the specific hazards in the work area.



DANGER!

Always wear AS/NZS compliant safety glasses and full face shield fitted with appropriate filter shade number (Refer Filter Table in this safety section)



CAUTION!

Heavy-duty work gloves, non-skid safety shoes and hearing protection used for appropriate conditions will reduce personal injuries.



CAUTION!

Have the equipment serviced by a qualified repair person using identical replacement parts. This will ensure that the safety of the power tool is maintained.

Personal Safety



CAUTION!

Keep the work area well lit. Make sure there is adequate space surrounding the work area. Always keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use equipment in areas near flammable chemicals, dust, and vapours. Do not use this product in a damp or wet location.

1. Stay alert, watch what you are doing and use common sense when operating equipment. Do not use a tool while you are tired or under the influence of drugs, alcohol or medication. A moment of distraction when operating equipment may result in serious personal injury.
2. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.



Arc Rays can Burn Eyes and Skin



DANGER!

Arc rays from the welding process produce intense heat and strong ultraviolet rays that can burn eyes and skin.

1. Use a Welding Helmet or Welding Face Shield fitted with a proper shade filter (refer AS 60974-1, AS/NZS 1337.1 and AS/NZS 1338.1 Safety Standards) to protect your face and eyes when welding or watching. (See Filter Table later in this section)
2. Wear approved safety glasses. Side shields are 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 safety protection.
5. Never wear contact lenses while welding.
4. If working on a metal wall, ceiling, etc., prevent ignition of combustibles on the other side by moving the combustibles to a safe location. If relocation of combustibles is not possible, designate someone to serve as a fire watch, equipped with a fire extinguisher, during the welding process and well after the welding is completed.
5. Do not weld or cut on materials having a combustible coating or combustible internal structure, as in walls or ceilings, without an approved method for eliminating the hazard.
6. After welding, make a thorough examination for evidence of fire. Be aware that visible smoke or flame may not be present for some time after the fire has started. Do not weld or cut in atmospheres containing dangerously reactive or flammable gases, vapours, liquids, and dust. Provide adequate ventilation in work areas to prevent accumulation of flammable gases, vapours, and dust.
7. Do not apply heat to a container that has held an unknown substance or a combustible material whose contents, when heated, can produce flammable or explosive vapours. Clean and purge containers before applying heat. Vent closed containers, including castings, before preheating, welding, or cutting.

Noise Can Damage Hearing



CAUTION!

Noise from some processes can damage hearing. Use AS/NZS compliant ear plugs or ear muffs if the noise level is high.

Work Environment Safety



DANGER!

Remove any combustible material from the work area.

1. When possible, move the work to a location well away from combustible materials. If relocation is not possible, protect the combustibles with a cover made of fire resistant material.
2. Remove or make safe all combustible materials for a radius of 10 metres around the work area. Use a fire resistant material to cover or block all doorways, windows, cracks, and other openings.
3. Enclose the work area with portable fire resistant screens. Protect combustible walls, ceilings, floors, etc., from sparks and heat with fire resistant covers.

Electricity Can Kill



DANGER!

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 semi-automatic 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.

1. Do not touch live electrical parts.
2. Wear dry, hole-free insulating gloves and body protection.
3. Insulate yourself from the work and the ground using dry insulating mats or covers.



SW230

4. Disconnect input power 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 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 the 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. Connect work piece to a good electrical ground.
11. Do not touch the electrode while in contact with the work (ground) circuit.

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 (MMA)	Less than or equal to 100	8
	100 to 200	10
	200 to 300	11
	300 to 400	12
	Greater than 400	13
Gas Metal Arc Welding (GWAW) (MIG) other than Aluminium And Stainless Steel	Less than or equal to 150	10
	150 to 250	11
	250 to 300	12
	300 to 400	13
Gas Metal Arc Welding (GWAW) (MIG) Aluminium and Stainless Steel	Less than or equal to 250	12
	250 to 350	13
Gas Tungsten Arc Welding (GTAW) (TIG)	Less than or equal to 100	10
	100 to 200	11
	200 to 250	12
	250 to 350	13
	Greater than 350	14
Flux-Cored Arc Welding (FCAW) - with or without Shielding Gas	Less than or equal to 300	11
	300 to 400	12
	400 to 500	13
	Greater than 500	14
Air - Arc Gouging	Less than or equal to 400	12
Plasma - Arc Cutting	50 to 100	10
	100 to 400	12
	400 to 800	14
Plasma - Arc Spraying	—	15
Plasma - Arc Welding	Less than or equal to 20	8
	20 to 100	10
	100 to 400	12
	400 to 800	14
Submerged - Arc Welding	—	2 (5)
Resistance Welding	—	Safety Spectacles or Eye Shield

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



SW230

10. Warranty

As part of an on-going commitment to excellence in product support, Euroquip offers a comprehensive product warranty program.

Warranty period for SW230:

Commercial Use: 12 Months

Domestic Use: 12 Months

Warranty covers failure caused by manufacturing and material defects in the product, during the warranty period specified. The warranty period begins when the product is purchased by the end user. Warranty is not transferrable and is only claimable by the original purchaser.

Warranty does not cover parts that are subject to wear and tear from usage.

Warranty covers failure of a product caused by defective materials and/or manufacturing for the period given and the usage specified by Euroquip. The warranty period begins when the product is purchased by the end user. Warranty is not transferrable and is only claimable by the original purchaser.

Warranty also does not cover failure caused by the untimely replacement or service of the above wearing parts. Evidence must be provided that the product has been maintained and serviced suitably for a claim to be considered under warranty.

Failure caused by incorrect operation of the product, lack of proper care and maintenance of the product, external damage, external circumstances such as contaminated fuel or poor water supply, modifications to the product, attempted repair/ service by a party other than an Approved Service Agent, is not covered under warranty.

Warranty does not cover pre delivery service and adjustment, or failure that may occur as a result of lack of/ incorrect pre delivery service and adjustment.

Warranty does not cover any incidental, indirect or consequential loss, damage or expense that may result from any defect, failure or malfunction of a product.

Should any issue be found to be a combination of a warranty failure and a non-warranty issue, the repair cost component to rectify and repair the non-warranty failure is the customers' full responsibility.

The decision that an issue with a product qualifies as a warranty claim is made at the sole jurisdiction of Euroquip.

No costs incurred will be considered under warranty if repairs are carried out by a party other than a Euroquip Approved Service Agent, unless with prior consent in writing from Euroquip.

It is the responsibility of the purchaser to deliver a product under warranty to the nearest relevant service agent or product reseller. Warranty does not cover call outs, mileage and freight costs.

If a product is repaired under warranty, parts and labour required for the repair will be supplied at no charge. Warranty assessment and repair will be scheduled and executed according to the normal work flow at the service location and depending on the availability of suitable replacement parts.

This warranty policy is an additional benefit and does not affect the legal rights of any end user, reseller or service agent.



SW230

Notes



SW230

Notes



Congratulations on your new STRATA 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. To locate your nearest distributor or service agency visit www.strata.co.nz, or email us at customerservice@euroquip.co.nz

www.strata.co.nz