SIP Industrial Products Limited

Gelders Hall Road Shepshed Loughborough

Leicestershire LE12 9NH United Kingdom



SIP WELDMATE® PRO
Handheld Spot Welder with Timer

25298 - 25299

For help or advice please contact your distributor, or sip directly on:

Tel.: 01509 500400

Email:

sales@sip-group.com

or

customerservice@sip-group.com

Please read and fully understand the instructions in this manual before operation. Keep this manual safe for future reference.

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SAFETY INSTRUCTIONS

- IMPORTANT: Please read the following instructions carefully, failure to do so could lead to serious personal injury and / or damage to the welder.
- KNOW YOUR ITEM: Read and understand the owner's manual and labels affixed to the item. Learn its applications and limitations, as well as the potential hazards specific to it.
- KEEP WORK AREA CLEAN AND WELL LIT: Cluttered work benches and dark areas
- DO NOT USE THE ITEM IN DANGEROUS ENVIRONMENTS: Do not use in environments with a potentially explosive atmosphere.
- KEEP CHILDREN AND UNTRAINED PERSONNEL AWAY FROM THE WORK AREA: All visitors should be kept at a safe distance from the work area.
- STORE THE ITEM WHEN NOT IN USE: It should be stored in a dry location and disconnected from the mains supply, and out of the reach of children.
- STAY ALERT: Always watch what you are doing and use common sense. Do not
 operate the item when you are tired or under the influence of alcohol or drugs.
- DISCONNECT THE ITEM FROM THE MAINS SUPPLY: When not in use and before servicing.
- NEVER LEAVE THE ITEM RUNNING WHILST UNATTENDED: Turn the item off and disconnect it from the mains supply between jobs.
- DO NOT ABUSE THE MAINS LEAD: Never attempt to move the item by the mains lead or pull it to remove the plug from the mains socket. Keep the mains lead away from heat, oil, sharp edges and moving parts. If the mains lead is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid unwanted hazards. All extension cables must be checked at regular intervals and replaced if damaged. Be sure the right size is used.
- CHECK FOR DAMAGED PARTS: Before every use of the item, any damage found should be carefully checked to determine that it will operate correctly, safely and perform its intended function. Any damaged, split or missing parts that may affect its operation should be correctly repaired or replaced by an authorised service centre unless otherwise indicated in this instruction manual.
- KEEP ALL COVERS / PANELS IN PLACE: Never operate the item with any covers / panels removed, this is extremely dangerous.

SAFETY INSTRUCTIONS Cont...

- USE ONLY RECOMMENDED ACCESSORIES: Consult this user manual, your distributor or SIP directly for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards and will invalidate any warranty you may have.
- DO NOT OVERREACH: Keep proper footing and balance at all times.
- USE THE RIGHT TOOL: Do not use the item to do a job for which it was not designed.
- HAVE YOUR ITEM REPAIRED BY A QUALIFIED PERSON: The item is in accordance
 with the relevant safety requirements. Repairs should only be carried out
 by qualified persons using original spare parts, otherwise this may result in considerable danger to the user.
- Stop operation immediately if you notice anything abnormal.
- Always disconnect the plug from the mains supply before cleaning or servicing etc.
- Be alert at all times, especially during repetitive, monotonous operations; Don't be lulled into a false sense of security.
- Appropriate personal protective equipment like safety boots, flame retardant
 clothing and face shield must be worn and must be designed to protect against all
 hazards created. Severe permanent injury can result from using inappropriate or
 insufficient protective equipment.
- Make sure there is adequate surrounding workspace.
- Do not attempt to move the item when it is loaded and/or in operation. Check all bolts, nuts, and screws for tightness before each use.
- Warning labels carry important information; Replace any missing or damaged warning labels.
- Clean the item immediately after use. Keep the item clean for best and safest performance.

SAFETY INSTRUCTIONS Cont...

- Electric welders have the potential to cause a shock that could lead to injury or death. Touching electrically 'hot' parts can cause fatal shocks and severe burns;
 While welding, all metal components connected to the welder are electrically 'hot'.
- Keep your body and clothing dry. Never work in a damp area without adequate insulation against electrical shock, stay on a dry duck board, or rubber mat when dampness or sweat can not be avoided. Sweat, sea water or moisture between the body and an electrically 'hot' part or grounded metal reduces the body surfaces electrical resistance enabling dangerous and possibly lethal currents to flow through the body.
- During normal operation, the heat and sparks created during the welding
 process have the potential to ignite flammable liquids, gases or other combustible
 material least 10 metres away and out of the reach of sparks and heat or
 protect against ignition with suitable and snug fitting, fire resistant covers or
 shields.
- An empty container that has held combustibles, or that can produce flammable or toxic vapours when heated, must never be welded, unless the container has first been cleaned. Consult HSE INDG214, HSG250 and CS15. HSE document CS15 includes information on cleaning by thorough steam or solvent/ caustic cleaning followed by purging and inserting with nitrogen, carbon dioxide or water filling just below working level.
- Be aware that the machine may content hot surfaces, do not touch them and allow the item to cool down.

When using your item, basic safety precautions should always be followed to reduce the risk of personal injury and / or damage to the unit.

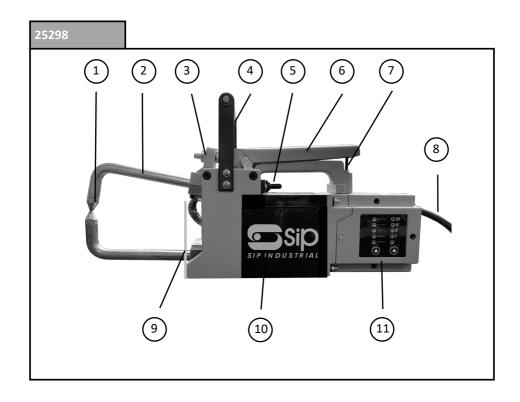
Read all of these instructions before operating the item and save this user manual for future reference.

This item should not be modified or used for any application other than that for which it was designed.

TECHNICAL SPECIFICATION

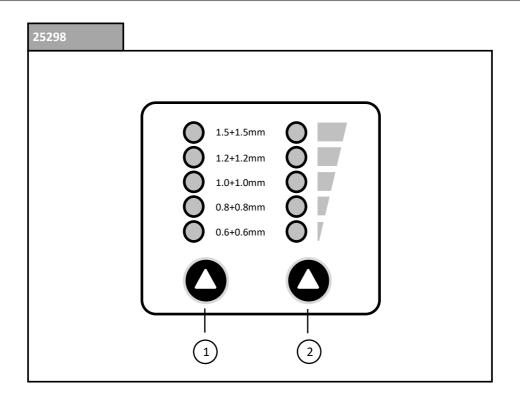
Model	25298	25299
Davier O Comple	230V 50Hz	230V 50Hz
Power & Supply	13A	13A
Max Welding Thickness	1.5mm - 1.5mm	2.0mm - 2.0mm
Spot Duration	120~900ms	80~1800ms
Pulse Spot Duration	N/A	240~3000ms
Welds Per Minute	3	4
Maximum Electrode Force	460N	460N
Weight (kg)	12.6Kg	9.7Kg

GETTING TO KNOW YOUR HAND-HELD SPOT WELDER



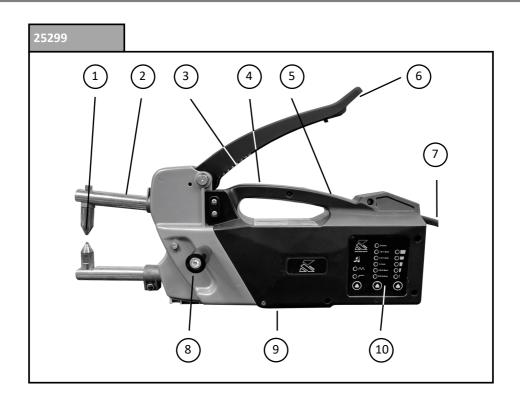
Item	Description	Item	Description
1	Electrode Tip	7	Adjustable Lever Stop
2	Electrode Arm	8	Mains Input Cable
3	Clamping Pressure Adjuster	9	Safety Baffle
4	Handle	10	Main Transformer
5	5 Weld Toggle Switch		Control Panel
6	Lever		

GETTING TO KNOW YOUR HAND-HELD SPOT WELDER Cont...



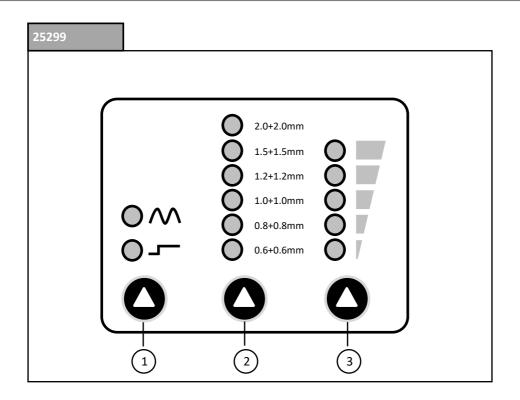
Item	Description	Item	Description
1 Material Thickness Selector		2	Spot Duration Selector

GETTING TO KNOW YOUR HAND-HELD SPOT WELDER Cont...



Item	Description	Item	Description
1	Electrode Tip		Lever
2	2 Electrode Arm		Mains Input Cable
3	Clamping Pressure Adjuster		Side Handle
4	4 Handle		Main Transformer
5	Weld Toggle Switch	10	Control Panel

GETTING TO KNOW YOUR HAND-HELD SPOT WELDER Cont...



Item	Item Description Item		Description
1	Welding Mode Selector	3	Spot Duration Selector
2	2 Material Thickness Selector		Pulse Spot
0	Standard Spot		

GUARANTEE

This item is covered by a 24 month parts and labour warranty covering failure due to manufacturers defects.

Please register your product online at www.sip-group.com within 28 days to qualify for the full 24 month warranty. Failure to register will result to a limited 12 month warranty period.

This does not cover failure due to misuse or operating the item outside the scope of this manual - any claims deemed to be outside the scope of the warranty may be subject to charges Including, but not limited to parts, labour and carriage costs.

Consumable items such as Electrodes, Handles, Leads etc are not covered by the warranty.



Note: Proof of purchase will be required before any warranty can be honoured.

Safety Symbols Used Within This Manual



Danger / Caution: Indicates risk of personal injury and / or the possibility of damage



Warning: Risk of electrical injury or damage



Note: Supplementary Information



Important: Please read the following instructions carefully, failure to do so could lead to injury and/or damage to the product.

OPERATING INSTRUCTIONS

Plug Wiring



Important: Please read the following instructions carefully, failure to do so could lead to serious injury, or damage to the product.

WARNING! It is the responsibility of the owner and the operator to read, understand and comply with the following:

You must check all electrical products, before use, to ensure that they are safe.

You must inspect power cables, plugs, sockets and any other connectors for wear or damage.

You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices; A residual current circuit Breaker (RCCB) should be incorporated in the main distribution board. We also recommend that a residual current device (RCD) is used. It is particularly important to use an RCD with portable products that are plugged into a supply which is not protected by an RCCB. If in any doubt consult a qualified electrician.

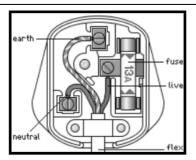
This product is supplied fitted with a moulded UK13A plug (BS1363).



Warning: The wires of the power cable & plug of this product are coloured in accordance with the following code:

Blue = Neutral : Brown = Live: Yellow and Green = Earth





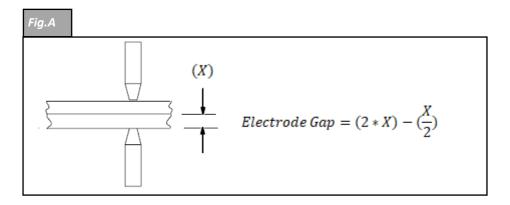
Wiring of a UK 13A Plug (BS1363)



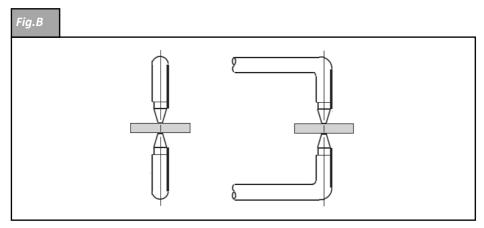
Danger / Caution: Do not use with an extension cable

Setting Up Your 25298 Spot Welder

- 1) Measure the thickness of the material, this will give you dimension "X"
- 2) To calculate the distance required between the electrodes, use the formula below.



3) Check that the electrodes are aligned correctly when closed, the points should be central, and the electrode arms should be straight. (As shown *Fig.A*)

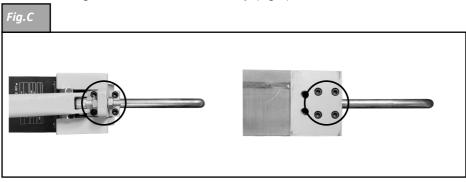


Adjusting Your 25298 Spot Welder

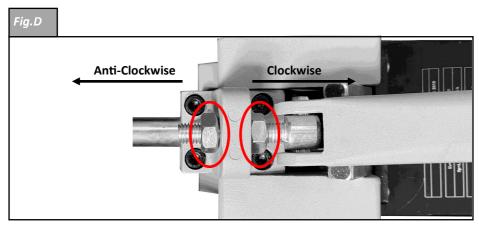
To correctly align your electrodes to the positions shown (Fig.A - Fig.B) some minor adjustments may need to be undertaken.

Please following the steps below;

1) Slightly loosen the 8 bolts (4top - 4bottom) that retain the electrode arms, allowing them to move, but not freely. (*Fig.C*)

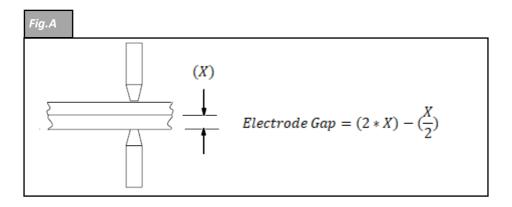


- 2) To adjust the electrode gap adjust the two nuts (shown Fig.D)
- Anti-Clockwise movement will increase the electrode pressure.
- Clockwise Movement will decrease electrode pressure

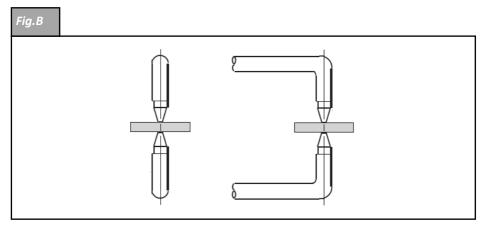


Setting Up Your 25299 Spot Welder

- 1) Measure the thickness of the material, this will give you dimension "X"
- 2) To calculate the distance required between the electrodes, use the formula below.



3) Check that the electrodes are aligned correctly when closed, the points should be central, and the electrode arms should be straight. (As shown *Fig.A*)

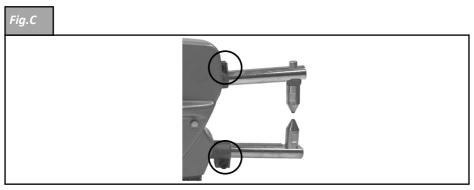


Adjusting Your 25299 Spot Welder

To correctly align your electrodes to the positions shown (Fig.A - Fig.B) some minor adjustments may need to be undertaken.

Please following the steps below;

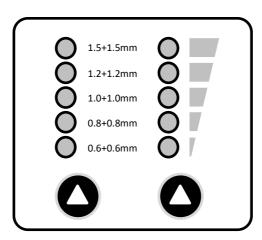
- 1) Slightly loosen the 2 clamping screws that retain the electrode arms, allowing them to move, but not freely. (*Fig.C*)
- 2) Once aligned as shown, tighten the screws to clamp the electrode arms.



- 2) To adjust the electrode gap adjust the Spring loaded screw (shown Fig.D)
- Clockwise movement will increase the electrode pressure.
- Anti-Clockwise Movement will decrease electrode pressure



25298 Welding Settings



- To set the correct material thickness on your SIP Hand-Held Spot Welder, click the left hand selector button, when pressed a green indication light will illuminate the current selected welding setting.
- Press the button repeatedly until the green light illuminates the desired setting.
- Complete a test weld on a sample of the same material that is required to be welded, and complete a strength test, if a longer duration weld is required;
- Press the right hand selector button, increasing the duration one setting at a time, until the weld has achieved the desired penetration level.

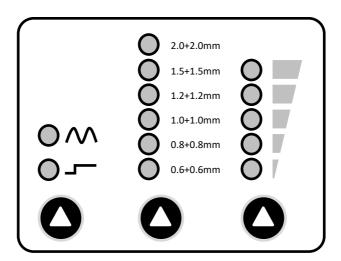


Danger / Caution: Do Not Drop!



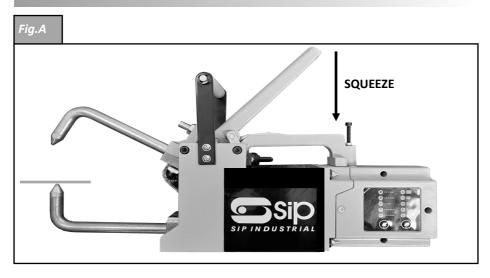
Danger / Caution: Do Not Exceed to the duty cycle stated in the technical specification table.

25299 Welding Settings

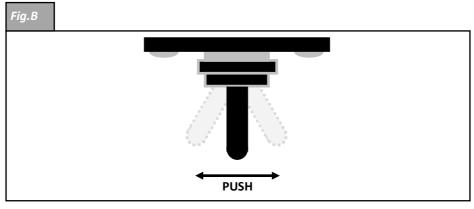


- To set the correct material thickness on your SIP Hand-Held Spot Welder, click the centre hand selector button, when pressed a green indication light will illuminate the current selected welding setting.
- Press the button repeatedly until the green light illuminates the desired setting.
- Complete a test weld on a sample of the same material that is required to be welded, and complete a strength test, if a longer duration weld is required;
- Press the right hand selector button, increasing the duration one setting at a time, until the weld has achieved the desired penetration level.
- The 25299 model also includes a "pulse Function" this allows you to weld through coatings (such as Zinctec, galvanisation and nickel Plating)
- To select the pulse function, use the left hand selector button to switch between standard spot and pulse spot.

Operating Your 25298 Spot Welder

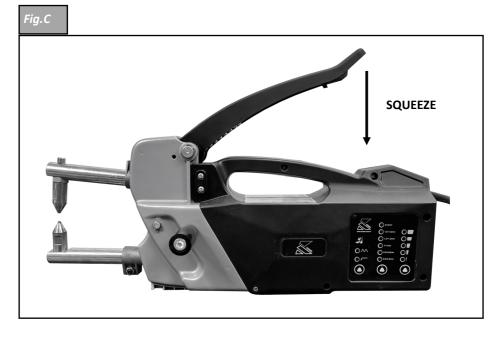


- 1) Insert the material in between the two electrodes, an align the tip with the desired location for the spot.
- 2) Squeeze the handle (*Fig.*A) until the material is compressed between the two electrode tips (Check the spot is in the correct location)
- 3) Push the weld toggle switch in either direction (*Fig.B*) hold until the spot timer completes its cycle



Operating Your 25299 Spot Welder

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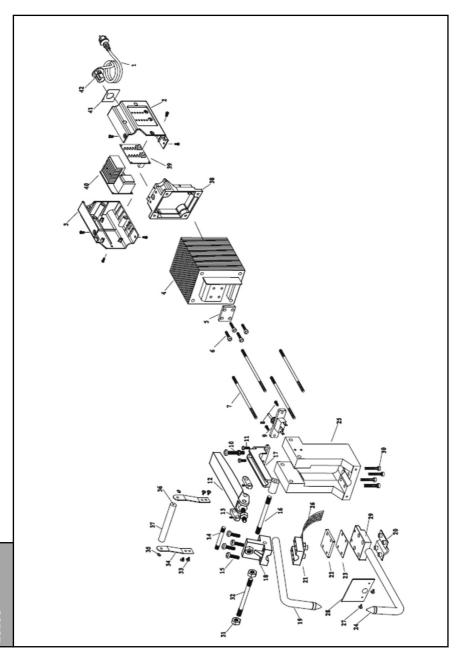


- 1) Insert the material in between the two electrodes, an align the tip with the desired location for the spot.
- 2) Squeeze the handle (*Fig.C*) until the material is compressed between the two electrode tips (Check the spot is in the correct location)
- 3) The weld cycle will begin as soon at the microswitch in the rear of the handle is triggered, maintain pressure until the cycle has completed.
- 4) Once the spot has cycle has finished, release the handle and remove the material.

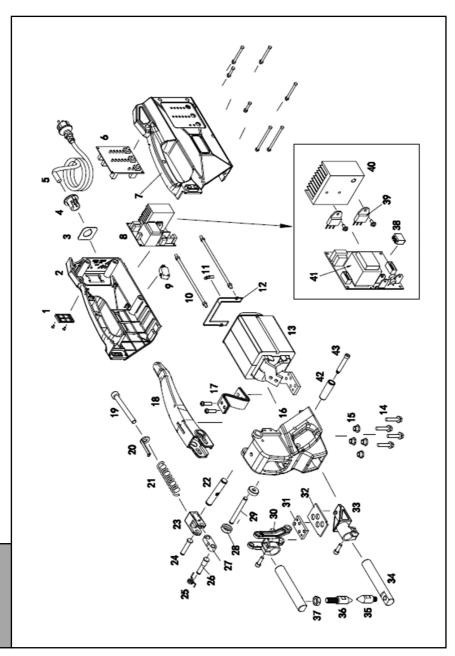


Danger / Caution: Material and electrodes will reach extremely high temperatures during operation.

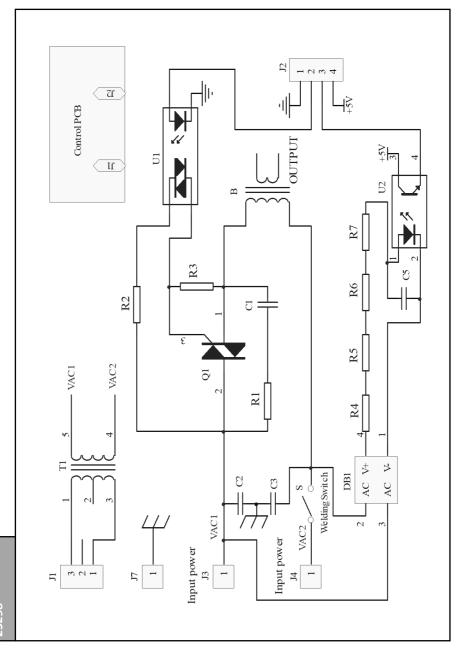
25298 EXPLODED DIAGRAM



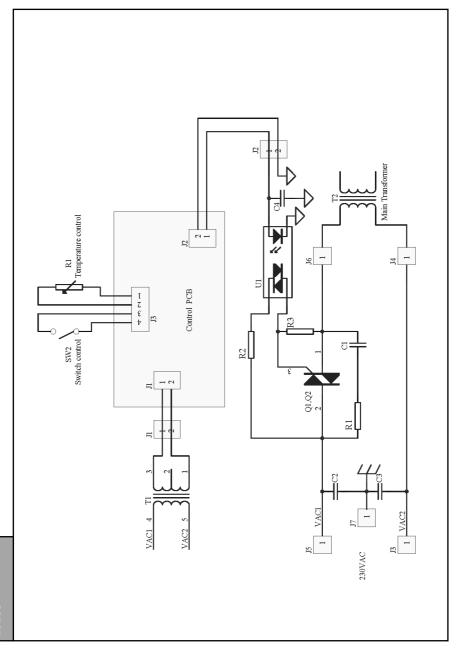
Ref. No	Description	Ref. No	Description
1	Mains Cable	22	Square Fixing plate
2	Right Plastic Cover	23	Square insulating plate
3	Left Plastic Cover	24	Lower spot weld arm electrode
4	Main transformer	25	Front frame Bracket
5	Upper Copper Clamping Block	26	Copper Braid
9	Copper Clamping Block Fixing Screw	27	Fixing Screw
7	Steel plate fixing screws	28	Insulation Plate
8	Switch fixing screw	29	Lower Copper Clamping Block
6	Power switch	30	Fixing screws
10	Movable Handle Limit Screw	31	Lock Nut
11	Handle screws	32	Fixing Bolt
12	Movable Handle	33	Fixing Screws
13	Side Handle Brackets	34	Mobile Handle Holder
14	Fixed Bolt for movable handle	35	Circlip
15	Hex Screws	36	Fixed Handle Shaft
16	Fixed Handle Bolt	37	Complete Handle / Part ref. 33, 34, 35, 36,
17	Fixed handle	38	Rear Frame
18	Handle Support Block	39	Control PCB
19	Upper spot weld arm	40	Power (Circuit) Board
20	U-channel insulating plate	41	Bushing Plate
21	Copper Braid Fixing Plate	42	Cable nut and Bushing



Ref. No	Description	Ref. No	Description
1	Plastic stopper	23	Handle connector
2	Left Plastic Panel	24	Rotating shaft 2
3	Fixing Bracket	25	Torsion spring
4	Cable nut and Bushing	26	Rotating shaft 3
5	Mains Cable	27	Traction lever
6	Control PCB	28	Plastic insulating sleeve 2
7	Right Plastic Panel	29	Rotating shaft 4
8	Power (Circuit) Board	30	Upper electrode support copper rod
6	Microswitch	31	Connecting press
10	Main Transformer Set Screw	32	Insulation plate
11	Thermistor	33	Lower electrode support rod fixing
12	Transformer silicon steel sheet fixing brack-	34	Lower electrode support rod
13	Main transformer	35	Lower Electrode
14	(Main transformer secondary output lower	36	Upper Electrode
15	Plastic insulating sleeve 1	37	Upper Electrode with Fixed Copper Screw
16	Aluminium front frame	38	Optocoupler
17	Flexible connecting copper piece	39	Thyristor
18	Handle	40	Heat sink
19	Hexagonal long screw	41	Control transformer
20	Spring-guided compression element	42	Insulated Side Handle
21	Spring	43	Turning handle set screw
22	Rotating shaft 1		



26



MAINTENANCE

Trouble Shooting

Issue/Fault	Potential Cause	Soltuion
Poor Welding Occurs	1.Electrode Tips deformed, dirty, oxidized, or pitted. 2.Electrodes dirty or oxidized. 3.Poor contact with work-pieces. 4.Coatings on work-pieces inhibiting good contact. 5.Material too thick for Spot Welding	1.Dress or replace Electrode Tips. Refer to Dressing Electrode Tips or Replacing Electrode Tips. 2.Clean or replace electrodes 3.Adjust Tong pressure. Refer to Adjusting electrodes and Operating Lever Pressure. 4.Remove paint, oxides, chemical compounds including galvanized coating. 5.Ensure that work-piece thickness is within capacity of Spot Welding. Refer to Specifications.
Longer Than Normal Weld Time Required	1.Electrode Tips deformed, dirty, oxidized, or pitted. 2.Metals to be welded are dirty. 3.Electrodes dirty or oxidized. 4.Facility line voltage low.	1.Dress or replace Electrode Tips. Refer to Dressing Electrode Tips or Replacing Electrode Tips. 2.Clean metals with fine wet-dry sandpaper. 3.Clean or replace electrodes. 4.Check input line voltage with voltmeter.
Burn Through at Weld Point	Weld time too long. Electrodes out of alignment. Electrode Tips deformed, dirty, oxidized, or pitted.	1.Shorten weld time. 2.Realign Tongs. Refer to Electrode Tip Alignment. 3.Dress or replace Electrode Tips. Refer to Dressing Electrode Tips or Replacing Electrode Tips.
Electrode Tips Overheating	1.Not enough electrode pressure. 2.Weld time too long. 3.Material too thick for Spot Welding.	1.Increase electrode pressure. Refer to Adjusting Tong and Operating Lever Pressure. 2.Shorten weld time. 3.Ensure that work-piece thickness is within capacity of Spot Welding. Refer to Specifications.
Electrode Tips Arcing on Work-pieces	1.Not enough electrode pressure. 2.Electrode Tips misaligned. 3.Work-piece material has become welded to Tips.	1.Increase electrode pressure. Refer to Adjusting Tong and Operating Lever Pressure. 2.Realign Tips or dress Tips to correct diameter. Referand Electrode Tip Alignment or Dressing Electrode Tips. 3.Dress or replace Electrode Tips. Refer to Dressing Electrode Tips or Replacing Electrode Tips.
Hole in Weld	Contact area of Electrode Tips too large.	Dress Electrode Tips to restore spot diameter and face angle to approximate that of new tip. Refer to Dressing Electrode Tips

MAINTENANCE Cont...

Daily Maintenance

- Check electrodes (Discolouration, oxidisation, Damage)
- Clean and reshape electrodes where required (See page 31)
- Visual Checks of machine for damage

Weekly Maintenance

- Check all fixings for tightness
- Inspect for worn/wearing parts (Replace where Necessary)
- Tighten the handle
- Inspect weld switch

Annual Maintenance

- Inspect electrode Force Adjuster
- Inspect electrode arm sockets

Redressing Electrode Tips

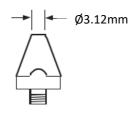


Important: Please read the following instructions carefully, failure to do so could lead to

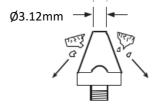
- After time the electrode tips will become worn, and the weld quality will suffer because of this. To prevent a decrease in weld quality the electrode tips must be kept at an optimum size and clean.
- 1) Disconnect the power supply from the welding unit
- 2) Remove the electrode tips from the electrode arms
- 3) Holding the tips in a vice, or other suitable clamping device, carefully remove the burred edges from the tip using a file

Ensure that the tip point of the electrode is kept concentric, round and flat

- 4) Reinstall the electrode tip into the electrode arm, ensuring they are correctly tightened.
- 5) Realign the electrode tips following the guide on page 15







ACCESSORIES

For information on the accessories available for this product, please visit our website. www.sip-group.com

NOTES

UK - DECLARATION OF CONFORMITY

We
SIP (Industrial Products) Ltd
Gelders Hall Road
Shepshed
Loughborough
Leicestershire

LE12 9NH England

As the manufacturer within the UK, England, Scotland & Wales, declare that the SIP WELDMATE® PRO SW150 Spot Welder with Timer - 25298

SIP WELDMATE® PRO SW200 Spot Welder with Timer & Pulse - 25299

Conforms to the requirements of the following regulation(s), as indicated.

Electromagnetic Compatibility Regulations 2016

Electrical Equipment (Safety) Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in

Electrical & Electronic Equipment Regulations 2012

And the relevant harmonised standard(s), including

BS EN60974-10:2014+A1:2015

BS EN IEC 60974-1:2018/AI:2019

Mr P. Ippaso - Managing Director

SIP (Machinery Europe) Ltd

Date: 17/06/2024

CA CA We

SIP (Machinery Europe) Ltd **ASM Chartered Accountants** First Floor Block One **Quayside Business Park** Dundalk **County Louth** Republic of Ireland

As the manufacturers authorised representative within the EC declare that the

SIP WELDMATE® PRO SW150 Spot Welder with Timer - 25298

SIP WELDMATE® PRO SW200 Spot Welder with Timer & Pulse - 25299

Conforms to the requirements of the following directive(s), as indicated. EMC 2014/30/EU

Low Voltage Directive 2014/35/EU

RoHS 2011/65/EU & 2015/863/EU

And the relevant harmonised standard(s), including

EN IEC 62135-2:2021

EN 62135-1:2015

Mr P. Ippaso - Managing Director SIP (Machinery Europe) Ltd

Date: 17/06/2024

Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.

Never dispose of electrical equipment or batteries in with your domestic waste. If your supplier offers a disposal facility please use it or alternatively use a recognised recycling agent. This will allow the recycling of raw materials and help protect the environment.





FOR HELP OR ADVICE ON THIS PRODUCT PLEASE CONTACT YOUR DISTRIBUTOR, OR SIP

DIRECTLY ON: TEL: 01509 500400

EMAIL:

sales@sip-group.com

or

customerservice@sip-group.com

www.sip-group.com