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Weller®

WS 51 / WS 81

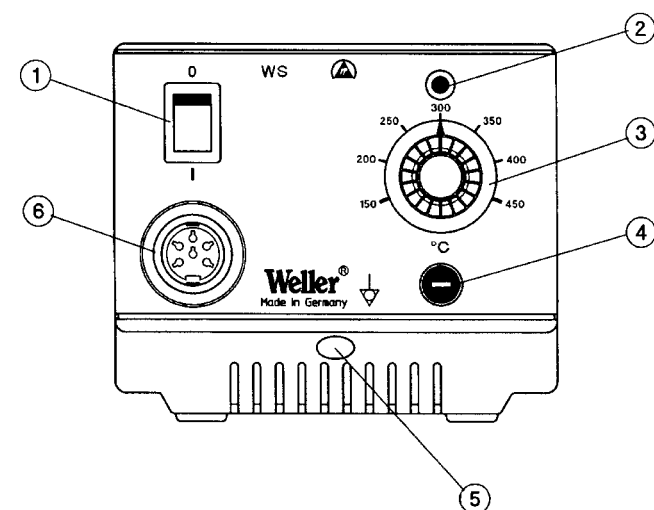
- Ⓓ Betriebsanleitung
- Ⓕ Manuel d'Utilisation
- Ⓐ Gebruiksaanwijzing
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- Ⓖ Operating Instruction
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D	NL	I
1. Netzschalter	1. Netschakelaar	1. Interruttore di rete
2. Optische Regelkontrolle	2. Optische regelcontrole	2. Controllo di regolazione ottico
3. Drehpotentiometer für Temperatur-einstellung (stufenlos 150°C-450°C)	3. Draai potentiometer voor temperatuurinstelling (traploos van 150°C - 450°C).	3. Potenziometro girevole per impostazione della temperatura (lineare fra 150°C e 450°C)
4. Schlüsselschalter (nur WS 81)	4. Sleutelschakelaar. (alleen WS 81)	4. Interruttore a chiave (solo per WS 81)
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6. Anschlußbuchse für LötKolben	6. Aansluitbus voor soldeerapparaat	
F	I	DK
1. Interrupteur secteur	1. Interruttore di rete	1. Netafbryder
2. Contrôle visuel du réglage	2. Controllo di regolazione ottico	2. Optisk regulatorkontrol
3. Potentiomètre rotatif pour le réglage de la température (en continu de 150°C à 450°C)	3. Potenziometro girevole per impostazione della temperatura (lineare fra 150°C e 450°C)	
4. Interrupteur à clé (uniquement WS 81)	4. Interruttore a chiave (solo per WS 81)	
5. Prise de compensation du potentiel		
6. Prise de raccordement du fer à souder		

5. Boccia per compensazione di potenziale
6. Boccia di collegamento per stilo brasatore

- GB**
1. Mains switch
 2. Connection bush for soldering iron
 3. Rotary potentiometer for setting temperature (150°C-450°C)
 4. Key switch (WS 81 only)
 5. Equipotential bonding bush
 6. Connection bush for soldering iron

- S**
1. Nätströmbrytare
 2. Optisk regleringskontroll
 3. Vridpotentiometer för temperaturinställning (steglös 150 C-450 C)
 4. Nyckelströmbrytare. (endast WS 81)
 5. Potentialutjämningsbussning
 6. Anslutningsbussning till lödkolv

- E**
1. Interruptor de red
 2. Control óptico de regulación
 3. Potenciómetro giratorio para el ajuste de la temperatura (sin escalones 150°C - 450°C)
 4. Conmutador con llave (sólo WS 81)
 5. Conector hembra para compensación de potencial
 6. Conector hembra para soldador

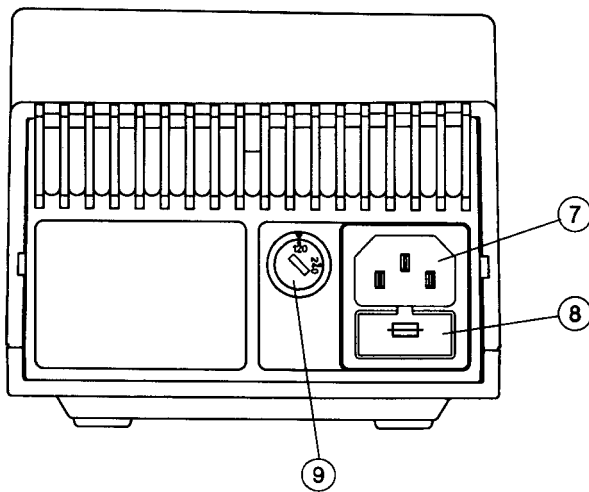
- DK**
1. Netafbryder
 2. Optisk regulatorkontrol

3. Drejepotentiometer til indstilling af temperaturen (trinløst 150°C - 450°C)
4. Nøgleskifte (kun WS 81)
5. Potentialudligningsbøsning
6. Tilslutningsbøsning til loddekolbe

- P**
1. Interruptor de rede
 2. Controlo visual da regulação
 3. Potenciómetro rotativo para o ajuste da temperatura (continuamente de 150°C até 450°C)
 4. Interruptor de chave (apenas WS 81)
 5. Conector para a ligação equipotencial
 6. Conector para o ferro de soldar

- FIN**
1. Verkkokytkin
 2. Optinen säätökontrolli
 3. Käännettävä potentiometri lämpötilan säätöä varten (portaaton säätö 150°C - 450°C)
 4. Avainkytkin (vain WS 81)
 5. Potentialintasausliitäntä
 6. Kolvin liitäntä

- GR**
1. Ηλεκτρικός διακόπτης
 2. Οπτικός ρυθμιστικός έλεγχος
 3. Περιστροφικό ποτενσιόμετρο για τη ρύθμιση της θερμοκρασίας (ακλιμάκωτη ρύθμιση μεταξύ 150 και 450 βαθμούς Κελσίου).
 4. Διακόπτης κλειδιού (μόνο για τον τύπο WS 81)
 5. Υποδοχή εξίσωσης δυναμικού
 6. Συνδετική υποδοχή για το έμβολο συγκολλήσεων



- F**
- 7. Raccordement secteur
 - 8. Fusible secteur
 - 9. Sélecteur de tension (uniquement version commutable)

- NL**
- 7. Netaansluiting
 - 8. Netzekering
 - 9. Spanningskeuzeschakelaar (alleen omschakelbare versie)

- D**
- 7. Netzanschluß
 - 8. Netzsicherung
 - 9. Spannungswahlschalter (nur umschaltbare Version)

- I**
- 7. Collegamento a rete
 - 8. Fusibile di rete
 - 9. Selettore di tensione (solo nella versione commutabile)

- GB**
- 7. Power supply connector
 - 8. Fuse
 - 9. Voltage selection switch (dual-voltage version only)

- S**
- 7. Nätanslutning
 - 8. Nätssäkring
 - 9. Spänningsvalbrytare (endast omkopplingsbar version)

- E**
- 7. Conexión de red
 - 8. Fusible de red
 - 9. Conmutador selector de tensión (sólo versión conmutable)

- DK**
- 7. Nettilslutning
 - 8. Netsikring
 - 9. Spændingsomskifter (kun omskiftelig version)

- P**
- 7. Ligação à rede
 - 8. Fusível de rede
 - 9. Interruptor selector de tensão (apenas versão comutável)

- FIN**
- 7. Verkoliitanta
 - 8. Verkkosulake
 - 9. Jännitteen valintakytkin (vain vaihtomahdollisuuden omaavissa laitteissa)

- GR**
- 7. Σύνδεση στο ηλεκτρικό ρεύμα
 - 8. Ηλεκτρική ασφάλεια
 - 9. Διακόπτης επιλογής ηλεκτρικής τάσης (μόνο για τον κατασκευαστικό τρόπο με δυνατότητα μεταρρύθμισης)

1. Beschreibung

1.1 Steuergerät

Die Lötstationen WS 81 und WS 51 gehören einer Gerätefamilie an, die für die industrielle Fertigungstechnik, sowie für den Reparatur- und Laborbereich entwickelt wurde. Die analoge Regelelektronik gewährleistet ein optimales Regelverhalten an unterschiedlichen Lötwerkzeugen. Die besonders leistungsfähigen 24 V Heizelemente ermöglichen ein ausgezeichnetes dynamisches Verhalten, die das Lötwerkzeug so zum universellen Einsatz bringen. Verschiedene Potentialausgleichsmöglichkeiten zur Lötspitze, Nullspannungsschalter sowie antistatische Ausführung von Steuergerät und Kolben ergänzen den hohen Qualitätsstandard.

Die gewünschte Temperatur kann im Bereich von 150°C - 450°C stufenlos über ein Drehpotentiometer eingestellt werden. Das Erreichen der vorgewählten Temperatur wird durch Blinken einer grünen LED signalisiert, die zur optischen Regelkontrolle dient. Dauerndes Leuchten bedeutet, daß das System aufheizt.

Eine Verriegelung der eingestellten Solltemperatur ist über einen in der Frontplatte integrierten Schlüsselschalter (4) möglich. Bei abgeschlossenem Gerät kann die Temperatureinstellung nicht mehr verändert werden. (nur WS 81)

1.2. LötKolben

- LR 21: Unser „Standard“ LötKolben. Mit einer Leistung von 50 W und einem sehr breiten Lötspitzenspektrum (ET-Serie) ist dieser LötKolben universell im Elektronikbereich einsetzbar.
- MLR 21: Mit seiner Leistung von 25 W und einer schlanken Bauform eignet sich dieser Mikro-LötKolben besonders für feine Lötarbeiten mit geringem Wärmebedarf.
- MPR 80: Der Weller Peritronic MPR 80 ist ein LötKolben mit einstellbarem Arbeitswinkel von 40°. Dadurch wird eine individuelle Gestaltung des Lötprozesses hinsichtlich seiner Ergonomie ermöglicht. Durch seine Leistung von 80 W und schlanker Bauform eignet er sich für feine Lötarbeiten. (nicht an WS 51 anschließbar)
- WTA 50: Die Entlötpinzette WTA 50 wurde speziell zum Auslöten von SMD-Bauteilen konzipiert. Zwei Heizelemente (2 x 25 W) mit jeweils eigenem Temperatursensor sorgen für gleiche Temperaturen an beiden Schenkeln.
- LR 82: Leistungsfähiger 80 W LötKolben für Lötarbeiten mit großem Wärmebedarf. Die Befestigung der Lötspitze erfolgt über einen Bajonettverschluß, der einen positionstreuen Spitzenwechsel ermöglicht

D

WSP 80:

(nicht an WS 51 anschließbar).

Der LötKolben WSP 80 zeichnet sich durch sein blitzschnelles und präzises Erreichen der Löttemperatur aus. Durch seine schlanke Bauform und einer Heizleistung von 80 W ist ein universeller Einsatz von extrem feinen Lötarbeiten bis hin zu solchen mit hohem Wärmebedarf möglich. Nach Wechsel der Lötspitze ist ein unmittelbares Weiterarbeiten möglich, da die Betriebstemperatur in kürzester Zeit wieder erreicht ist (nicht an WS 51 anschließbar).

Weiter anschließbare Werkzeuge siehe Zubehörliste.

Technische Daten

Abmessungen in mm:	166 x 115 x 101 (L x B x H)
Netzspannung (6):	230 V / 50 Hz (120 V / 60 Hz umschaltbare Version)
Leistungsaufnahme:	WS 50: 55 W WS 80: 95 W
Schutzklasse:	1 (Steuergerät) und 3 (LötKolben)
Sicherung (7):	WS 51: T315mA (umschaltbare Version T315mA) WS 81: T500mA (umschaltbare Version T800mA)
Temperaturregelung:	150°C - 450°C
Genauigkeit:	± 9°C
Potentialausgleich (9):	Über eine 3,5 mm Schaltklinkenbuchse (Grundzustand hart geerdet)

2. Inbetriebnahme

LötKolbenablage montieren (siehe Explo-Zeichnung). Das Lötwerkzeug in der Sicherheitsablage ablegen. LötKolbenstecker in die Anschlußbuchse (6) des Steuergerätes einstecken und durch kurze Rechtsdrehung arretieren. Überprüfen, ob die Netzspannung mit der Angabe auf dem Typenschild übereinstimmt und der Netzschalter (1) sich im ausgeschalteten Zustand befindet. Bei umschaltbarer Version, die Spannungsvariante am Wahlschalter (9) einstellen (Werkseitig auf 240V). Steuergerät mit dem Netz verbinden. Gewünschte Temperatur am Drehpotentiometer (3) einstellen. Gerät am Netzschalter(1) einschalten. Grüne Leuchtdiode (2) leuchtet. Diese Leuchtdiode dient als optische Regelkontrolle. Dauerndes Leuchten bedeutet System heizt auf. Blinken signalisiert das Erreichen der Betriebstemperatur.

1. Description



1.1 Control unit

The soldering stations WS 81 and WS 51 are a part of the range of products which were developed for industrial manufacturing as well as for the repair and laboratory sector. The analog electronic control system guarantees the best possible control performance for various soldering tools. The high-powered 24 V heating elements make excellent dynamic performance possible, so that the soldering tools can be used universally.

Various equipotential bonding possibilities for the soldering iron tip, zero power switch and antistatic design of control unit and iron complete the high quality standard. The desired temperature can be set by a rotary potentiometer in an infinitely variable range between 150°C - 450°C.

The set temperature can be locked by the key switch (4) integrated in the front plate. Temperature settings cannot be changed when the unit is locked. A blinking red LED in the display signals that the preset temperature has been reached – this serves as a optical regulator. Constant illumination means that the system is overheating. (WS 81 only)

1.2 Soldering irons

- LR 21: Our "standard" soldering iron. With a power of 50 watts and a wide spectrum of soldering tips (ET series) this soldering iron can be used anywhere in the electronics sector.
- MLR 21: With its 25-watt power and slim design, this micro-soldering iron is especially well-suited for fine soldering work with a low heating requirement.
- MPR 80: The Weller Peritronic MPR 80 soldering iron has an adjustable working angle of 40° to enable an individually ergonomic soldering process. The 80-watt power and slim design makes this soldering iron suitable for fine soldering work. (cannot be used with WS 51)
- WTA 50: The unsoldering tweezers WTA 50 were specially designed for unsoldering SMD components. Two heating elements (2 x 25 watts), each with its own temperature sensor, ensure constant temperatures at both ends.
- LR 82: High-performance 80 watt soldering iron for soldering work with high heat requirements. The soldering tip is attached by a bayonet catch to ensure correct position when using different tips (cannot be used with WS 51).

WSP 80: The soldering iron WSP 80 is characterized by its capacity for reaching the soldering temperature quickly and precisely. Its slim design and heating power of 80 watts makes universal usage possible - from extremely fine to high-temperature unsoldering work. Work can be continued immediately after switching soldering tips, since the temperature is reached again quickly (cannot be used with WS 51).

See "Accessories" for additional tools.

Technical Data

Dimensions in mm:	166 x 115 x 101 (l x w x h)
Supply voltage (6):	230 V / 50 Hz (120 V / 60 Hz for dual-voltage version)
Power input:	WS 51: 55 watts WS 81: 95 watts
Class:	1 (control unit) and 3 (soldering iron)
Fuse (7):	WS 51: T315mA (dual-voltage version T315mA) WS 81: T500mA (dual-voltage version T800mA)
Temp. control:	50°C - 450°C
Precision:	± 9°C
Equipotential bonding (9):	Via a 3.5 mm jack (initial state - hard-grounded)

2. Starting

Assemble soldering iron rest (see exploded drawing). Place the soldering iron in the safety rest. Insert the soldering iron plug into the connection bush (6) of the control unit and lock by turning to the right. Check that the power supply corresponds to the specifications on the name plate and that the power switch (1) is in the OFF position. On version that can be switched, set the voltage on selection switch (9) (set in the factory to 240 V). Connect the control unit to the power supply. Set the temperature at the rotary potentiometer (3). Switch on unit at the supply switch (1). Green LED (2) will illuminate. This LED functions as the optical regulator. Constant illumination means that the system is overheating. The blinking light signals that the operating temperature has been reached.

Setting the temperature

The digital display (2) shows the actual value temperature. By pressing the UP or DOWN key (3, 4) the digital display (2) switches to the setpoint. The setpoint can be changed by tapping or by firmly pressing the UP or DOWN button (3, 4) in the desired

direction. Pressing the button will change the setpoint quickly. The digital display (2) returns automatically to the actual value approximately 2 seconds after releasing the button.

Maintenance

The transition between the heating element / sensor and the tip of the soldering iron may not come in contact with dirt, foreign particles or become damaged, since this affects the precision of the temperature control.

3. Equipotential bonding

The various circuit elements of the 3,5 mm jack bush (5) make 4 variations possible:

Hard-grounded:	No plug (delivery form)
Equipotential bonding:	With plug, equalizer at center contact (impedance 0 ohms)
Potential free:	With plug
Soft-grounded:	With plug and soldered resistance.
Grounding with set	resistance value.

4. Instructions for use

For initial heating, coat the selective tinnable tip with solder. This removes any oxidation or dirt on the tip which may have occurred during storage. During pauses between soldering and before storing the soldering iron, ensure that the tip of the soldering iron is well coated. Do not use aggressive fluxing agents.

Note: Always ensure the proper position of the soldering iron tip. These soldering irons have been adjusted for an average-size tip. Deviations can occur due to exchanging of the tip or using other tip designs.

5. Safety instructions

The manufacturer assumes no liability for uses other than those described in the operating instructions, or for unauthorized alterations.

These operating instructions and warnings should be read carefully and kept in an easily visible location in the vicinity of the soldering iron. Non-observance of these warnings can result in accidents, injury or risks to health.

The WELLER soldering stations WS 81 and WS 51 are in compliance with the EC Declaration of Conformity in accordance with the basic safety requirements specified by Directives 89/336/EEC and 73/23/EEC.

6. Accessories

5 29 161 99	Soldering iron set WSP 80 (WS 81 only)
5 33 131 99	Soldering iron set MPR 80 (WS 81 only)
5 33 111 99	Soldering iron set MLR 21
5 33 112 99	Soldering iron set LR 21, antistatic
5 33 113 99	Soldering iron set LR 82 (WS 81 only)
5 33 133 99	Soldering iron set WTA 50
5 13 050 99	Reflow soldering unit EXIN 5
5 27 028 99	Preheating plate WHP 80 (WS 81 only)
5 33 155 99	Soldering iron set WMP (WS 81 only)
5 25 030 99	Thermal insulating unit WST 20

7. Scope of supply

WS 81	WS 51	PU 81 / PU 51
Control unit	Control unit	Control unit
Soldering iron WSP 80	Soldering iron LR 21	Power cable
Power cable	Power cable	Operating instructions
Operating instructions	Operating instructions	Jack
Soldering iron rest	Soldering iron rest	
Jack	Jack	

Illustration: Circuit diagram, see Page 48 + 49
Illustration: Exploded view, see Page 50 + 51

8. Warnings

1. The power cord may be inserted in approved power sockets or adapters only.
2. Keep your work area in proper order.
Always return the soldering tool to its original holder when not in use. Do not bring combustible materials near the hot soldering tools.
3. Take care for the surroundings.
Don't use the soldering tool in a moist or wet environment.
4. Protect yourself against electrical shocks.
Avoid touching grounded parts with your body, e.g. pipes, heating radiators, stoves, refrigerators.
5. Keep children at a distance.
Don't allow other persons to touch or disturb the soldering tool or cord. Keep other persons away from your work area.
6. Store your soldering tool in an appropriate place.
Unused soldering tools should be stored in a dry location which is out of the reach of children (some place high or in a locked cabinet). Switch off all unused soldering tools.
7. Do not overload your soldering tool.
Use the soldering tool only with the specified voltage or specified pressure and pressure range.
8. Use the appropriate soldering tool.
Don't use a soldering tool whose performance is not adequate for your work. Never use the soldering tool for purposes for which it was not designed.
9. Wear suitable work cloths.
There is a danger of burning yourself with liquid solder. Wear the corresponding protective clothing in order to protect yourself against burns.
10. Protect your eyes.
Wear protective eyewear. When working with bonding agents, it is particularly important to observe the warning notices of the bonding agent manufacturer. Protect

- yourself against spattering solder. There is a danger of burning yourself with liquid solder.
11. Use a soldering vapour suction device.
If devices for solder vapour suction are available, ensure that these are connected and correctly used.
12. Do not use the cord for purposes for which it is not designed.
Never carry the soldering tool by the cord. Don't use the cord to pull the power plug from the socket. Protect the cord from heat, oil, and sharp edges.
13. Protect the work piece.
Use clamping devices to hold the work piece in place. This is more secure than using your hands, and leaves both hands free to work with the soldering tool.
14. Avoid abnormal posture.
Set-up your work place with proper ergonomics. Avoid bad posture when working. Always use the suitable soldering tool.
15. Take care of your soldering tool.
Keep the soldering tool clean for better and safer work. Follow the maintenance instructions and the notices concerning changing the soldering tips. Regularly inspect all connected cords and hoses. Repairs should only be carried out by a qualified technician. Use only original WELLER replacement parts.
16. Remove the power plug from the socket before opening the unit.
17. Remove all maintenance tools.
Before switching on the unit, check that all maintenance tools have been removed from the unit. 17. Avoid unexpected operation.
Make sure that the mains switch is turned off when inserting the plug into the socket or connecting to mains. Don't hold a soldering tool which is connected to a mains supply while touching the mains switch.
18. Pay attention.
Be careful of what you do. Work with caution. Don't use the soldering tool if you are not concentrated on your work.

19. Inspect the soldering tool for any damage.

Before further use of the soldering tool, safety devices or slightly damaged parts must be carefully checked for error-free and intended operation. Inspect moving parts for error-free operation and that they don't bind, or whether any parts are damaged. All parts must be properly mounted and all requirements fulfilled for guaranteed error-free operation of the soldering tool. Damaged safety devices and parts must be repaired or replaced by a qualified technician, so long as nothing else is indicated in the Operation Manual.

20. Attention.

Use only accessories or attachments which are listed in the accessories list of the Operation Manual. Use only WELLER accessories or attachments on original WELLER equipment. Use of other tools and other accessories can lead to a danger of injury.

21. Repairs to your soldering tool should be carried out by qualified technician.

This soldering tool is in accordance with the relevant safety regulations. Repairs should only be carried out by a qualified electrician using original WELLER replacement parts. Failure to do so can lead to accidents for the operator.

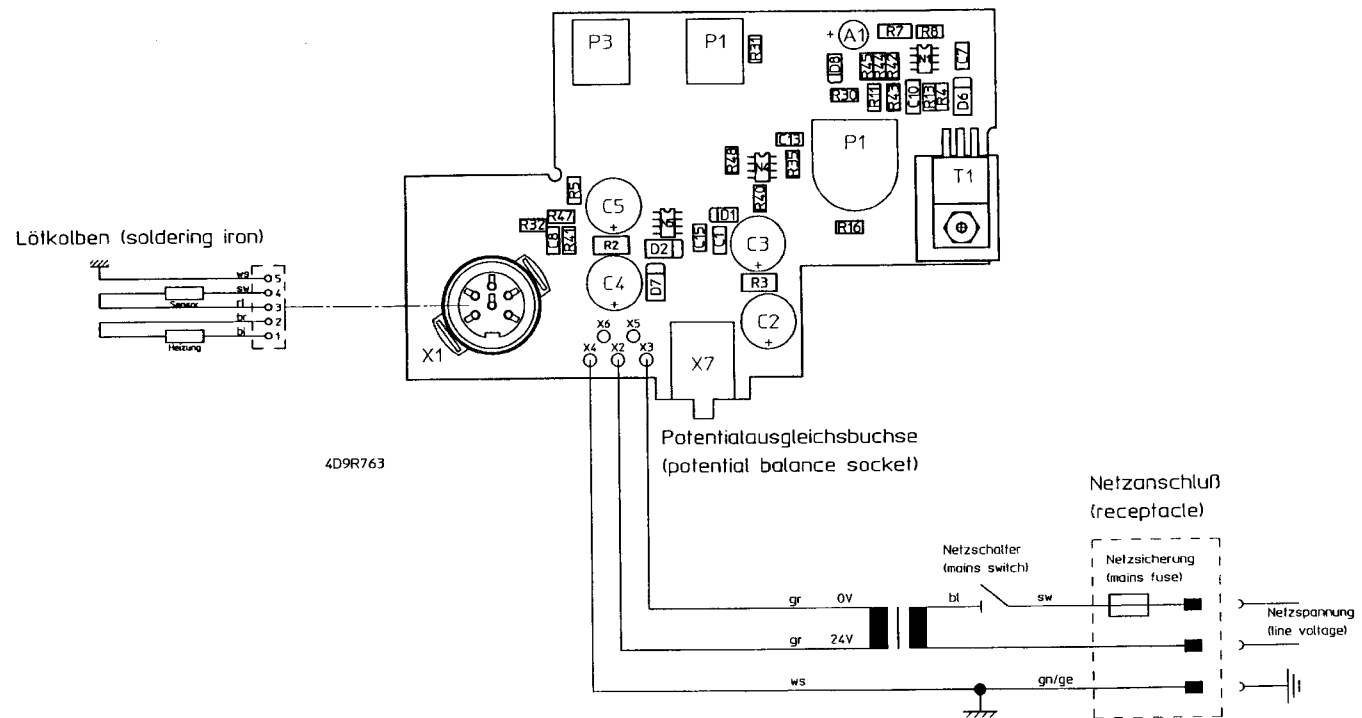
22. Do not work on electrically live parts.

The grip of antistatic designed soldering tools is conductive.

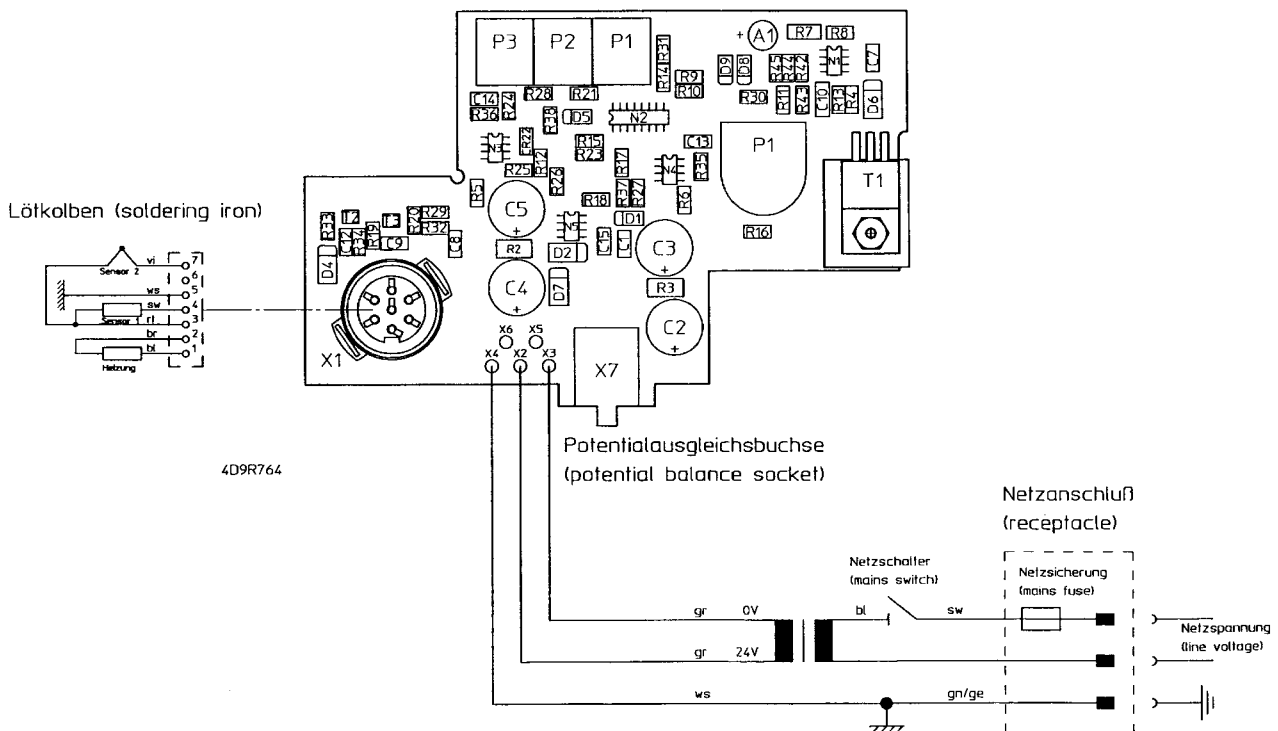
23. Applications with other WELLER equipment.

If the soldering tool is to be used together with other WELLER equipment and attachments, also observe the warning notices given in the corresponding Operation Manual.

24. Observe the valid safety regulations for your work place.



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