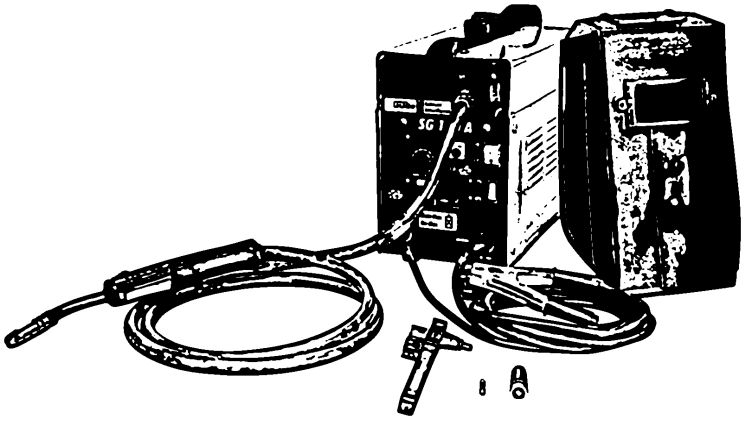
SG 120 A

English



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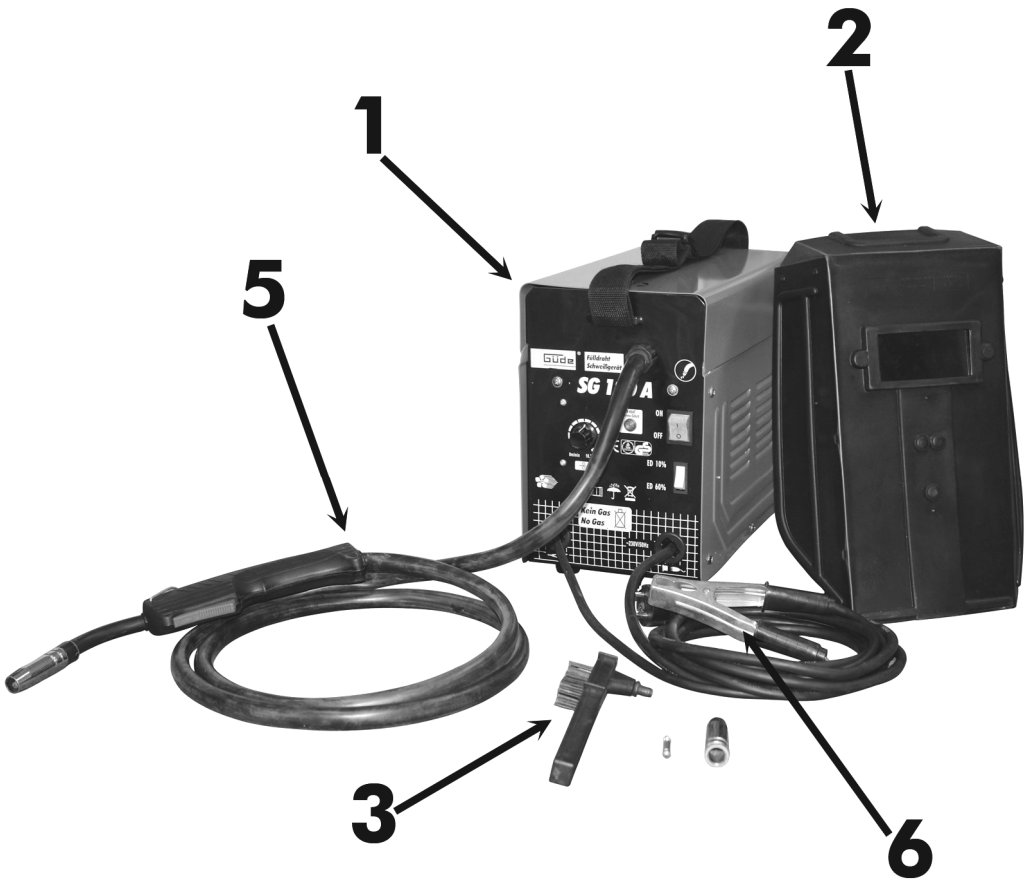
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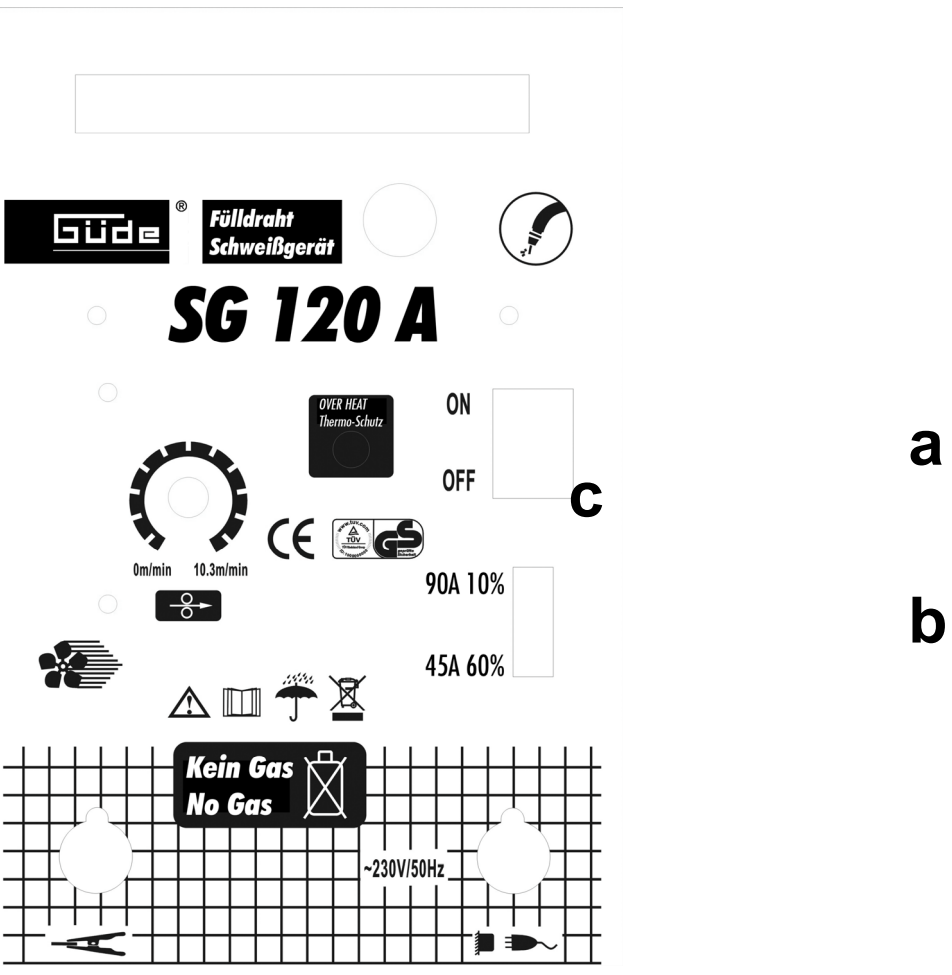
Güde
Fülldraht Schweißgerät
SG 120 A
OVER HEAT Thermo-Schutz
ON
OFF
0m/min 10.3m/min
90A 10%
45A 60%
Kein Gas No Gas
~230V/50Hz

a

b

c

GB	**Thank you for buying the gas welder Güde GE 120 W and for the trust in our products you have shown.** **!!! Before you put the unit in operation, please, read this instruction manual carefully!!!**

AV.1	**Reprints, even if partial should be approved. Technical changes reserved.**

GB	Any technical questions? Complaints? Do you need any spare parts or the instruction manual? On your web page e **www.guede.com, in section** Servicing, you ma get a fast and non-beauorocraatic help. Please, help us to help you. For your unit to be identified in case of a complaint, we need the series number, year of manufacture and the ordering number. All the data may be found on the plate. For you to keep them handy at any time, please write them down **Series number:** **Ordering number:** **Year of manufacture :**		
	Phone: +49 (0) 79 04 / 700-360	**Fax: +49 (0) 79 04 / 700-51999**	**E-mail: support@ts.guede.com**

Unit

Solid wire welding machine SG 120 A

Powder coated steel sheet case.
2 gearing stages, heat overloading protection
Switching time with forced circulation due to cooling. Good for solid wits up to 0,9 mm (small reel).

Outfit:
Including hoses directly connected, grounding cables, terminal. welder´ s shield and brush.

Scope of Delivery (Fig. 1)

1. Solid wire welding machine SG 120 A
2. Welder's shield
3. Brush
5. Directly connected hose
6. Earthling terminal

Introduction
Solid wire welding
No additional gas is necessary for solid wire welding. It is advantageous as the operator Is more mobile and the gas in the wire is directed directly in the arc and the unit is windproof when used outdoors.
When the wire touches the piece worked an electrical arc arises immediately. It is not a defect.
When the hose is put into operation, only the wire feed is activated, not the whole relay or ignition. Set up the power of welding and the speed of wire fee do get the dc arc and to hear harmonic welding noise.
Otherwise: „Learning by doing"!
Is true
SG 120 A welding machine for solid wire welding is a compact unit made according to the latest technical parameters, owing to which its reliability is high.
Minimum maintenance is sufficient to provide long service life without any difficulties. Our manual of use contains sufficient information on installation and maintenance of these welding units.

To reach a better result with he welding machine, it is recommended to use a protection welding spray to protect and maintain nozzles and parts to be welded (#24843). This is the way how to increase the sealing properties and to decrease splashing

GB **EC Declaration of Conformity**
We herewith declare, Birkichstraße 6, 74549 Wolpertshausen, Germany
That the following Appliance complies with the appropriate basic safety and health requirements of the EC Directive based on its design and type, as brought into circulation by us.
In a case of alternation of the machine, not agreed upon by us, this declaration will loose its validity.
Machine description: Welding machine Date/Authorized Signature:
Arnold, executive officer

Applied EU Directives
- **EU directive on machines 98/37/EG**
- **EU directive on low voltage 73/23/EWG**
- **EU directive on EMC 89/336/EWG EU 93/68/EEC directive**

Applied harmonised standards :
EN 60974-1:2005
EN 60974-10:2003
Place of certification :
TÜV Rheinland Product Safety GmbH
Am Grauen Stein
D-51105 Köln
Reference number :
15019498 001

Warranty

Claims according to the certificate of warranty attached.

General Safety Instructions

The operating manual should be read entirely before the first use. If in doubt regarding the connection and operation, contact the manufacturer (servicing department).

TO PROVIDE FOR A HIGH DEGREE OF SAFETY, OBSERVE THE INSTRUCTIONS BELOW CAREFULLY:

Care of additional security according to EN 947-3. Consult an expert electrician.

Notice: The operation is permissible only with stray current protection switch!

CAUTION!

- **Keep your worksite clean and tidy.** The untidy workplaces invite the hazard of accidents and injuries.
- **Be mindful of conditions of the environment, which you are working in.** Do not use the electrical and work tools in the wet and dump environment. See to the sufficient lighting. Do not expose the electrical tools to rain or increased dampness Do not put the electrical tools on in the area of easily inflammable liquids or gases.
- **Do not let any stranger approach the unit.** Visitor and viewers, children in the foist place and the sick and infirm should stay at a safe distance from the worksite.
- **Take care of the safe storage of the tools** The tools out of use should be stored in a dry elevated place, not easily approachable.
- **Use an appropriate tool for every work .** Do not use small-sized tool for works, the completion of which requires heavy tools. Use the tools Use the tools for the purposes which they were manufactured for. Make sure that the tools are always clean and sharp.
- **Mind suitable clothing.** Do not wear loose fitting clothes and jewels. They could be caught by movable parts of the unit. To work outdoors, it is recommended to wear working gloves and antiskid shoes. Long hair should be protected as appropriate.
- **Use personal protection equipment.** Protection glasses and hearing protectors should be always worn. Respirator or a protection face mask are also indispensable Tight fitting gloves must be worn when handing sharp edges or saw blades
- **Take care of the electrical cable Do not pull the cable.** When unplugging, only the socket should be touched, The cable must be at a safe distance from water resources, oil and sharp edges.
- **Secure the piece to be processed.** Use appropriate clamps, vices etc. It is safer than to hold the piece by hand. In addition, you will have both the hands free to work.
- **Always take care for your posture tlo be firmly balanced.** Never lean forward or sideward if you want to reach something.
- **Remove the socket wrench etc.** Before switching the unit on, all the wrenches and other tools to replace parts must be removed.
- **Prevent unintentional switching on.** Before plugging in, check the unit to see that it is switched off.
- **When working outdoors, always use special extension cables.** These cables are suitable for the purpose and they are marked in a corresponding way.
- **Be concentrated all the time. Mind what you are doing.** Use common sense Never work with an electrical tool when you are tired.
- **Watch out for damaged parts.** Check the unit through before use. Are any parts damaged? If the damage is slight only, consider if the operation of the unit will still be safe and perfect. Mind the correct adjustment and setting of moving parts. Do some elements fail to fit correctly in the others? Are some of them damaged? Is everything installed properly? Are any other conditions of the unit perfect functioning met? Any damaged protective devices etc. have to be repaired or replaced by authorised serviceman, unless otherwise stated in the operating manual
- **Use only approved parts.** Use only genuine spare parts for maintenance and repairs. The spare parts should be bought in an approved servicing centre.
- **Warning!** Use of accessories and assembled parts not expressly recommended in this manual may lead to the risk of persons and property.

Initial Operation Safety Instructions

Use of welding machines and the process of welding may endanger the welder's and other persons´ health .Please, read the injuries prevention regulations below carefully and respect them. Remember that the considerate use of the welding machine and observation of regulations are the best provisions against any injury.

1) Wear a suitable protection suit without any pockets and trousers without turn-ups. Avoid synthetic materials.

2) Always wear insulation gloves.

3) Wear close working boots.

4) Always use the protection welder's shield and use goggles of transparent glass and side protection.

5) See to sufficient ventilation of the work area If it is not possible the small rooms need installation of ventilation equipment.

6) Clean the parts to be welded, remove the rust, fat and varnish to provide for absorbing smokiness.

7) Make sure that the power cable is in perfect condition. The overloading and short-current protection fixtures should be available as well as grounding protection. The minimum voltage should answer the supply source mains voltage.

8) Mind that no uncovered and worn cables are around as well as the supply cable, ventilator and welding cable. If necessary replace them with standardised cables.

9) Connect the grounding cable ob the piece to be welded.

10) Do not twine hoses and the grounding cable round the body.

11) Do not straighten the hoses on your body or other persons

12) Never use the unit in wet areas without an electrical shock protection

13) Never weld without using a side protection flaps on the unit.

14) Never touch the current nozzle or the piece to be welded. You will avoid burning.

15) Do not work in easily inflammable vessels or near to them.

16) The unit should stand in a stable and straight position.

17) **The protection degree of the unit is IP 21. The unit should be never expose to rain and damp when operated or stored.**

Emergency Action

Apply respective first aid and call qualified medical aid fast.
Protect the injured from more injuries and calm him/her down.

Meaning of Symbols

Following symbols are used in this instruction/on the unit:

Product safety:

CE	
Product compliance with respective EU standards	

Bans:

	
General ban combined with another pictograph	

Warning:

	
Warning/Caution	Warning against hazardous electric voltage

Commands:

	
Use protection glasses	Use ear protectors
	
Read operating manual before use	Use protection gloves

Environment protection:

	
Wastes to be disposed of in a professional manner not to harm the environment .	Cardboard packaging to be collected for recycling .
	
Faulty and/or disposed of electrical/electronic appliances to be collected by authorised salvage places.	

Packaging:

	
Protect from moisture	Keep Up

Technical Data:

	
Connection	Weight
	
Transformer	Mains protection
	
Temperature indicator	230 V connection

Assigned Use

Welding machine SG 120 A was made for solid wire welding (without any gas, solid wire welding)

Residual Hazards and Protective Action

Mechanical residual hazards

Perforation

Hands may be perforated with the wire. Wear protection gloves, hold your hands at a safe distance from the wire outlet.

Splashes

Splashes at welding may cause burns .
Wear protection clothes and welder's mask.

Electrical Residual Hazards
Direct Electrical Contact
Defective cable or plug may cause an electrical shock.
A defective cable and plug should always be replace by a professional. Use the unit only connected to the stray current switch (FI).

Direct electrical contact with wet hands may cause an electrical shock
Avoid any touch with wet hands and mind the corresponding grounding.

Indirect electrical contact

A contact with conductive parts of open or defective electrical parts may cause injuries
Always unplug the unit for maintenance. Only use on connections with FI switch

Thermal residual hazards

Burns, frost bites

Contact with the hose jet and the processed piece may cause burns
Let the (hose) nozzle and the piece to be processed cool down. Wear protection gloves.

Noise hazard

Hearing impairment

A prolonged work with the unit may lead to the hearing impairment .
Use hearing protectors .

1.1.1 **Radiation exposure hazard**

Ultraviolet, infrared and visible light. The electric arc will give infrared and ultraviolet radiation
Always work with a welding shield a protection suit and gloves..

Human factor negligence

Negligent use of personal protection equipment

Unit without use of required protection equipment protection equipment may cause ever external and internal injuries.
Always use suitable protection suits and work with care.

Material and other substances hazard

Contact, aspiration

Long-time aspiration of welding gases may be health hazardous**.**
Work with exhaustion
Work in a well-ventilated area
Prevent direct aspiration of gases.

Hot slag and sparkles may cause fires and explosion.
Never work with the unit in a fire-hazardous environment.

Other Hazards

Insufficient local lighting

Insufficient lighting is a high safety risk.
When working with the unit take care of sufficient lighting .

Personal slipping, tumble or fall

Cables and hoses may cause tumble or fall.
Keep your worksite tidy

Disposal
Disposal instructions are given by pictographs on the unit or packaging. For meaning of individual symbols refer to chapter "Symbols on Unit".

Operator Requirements

Disposal instructions are given by pictographs on the unit or packaging. For meaning of individual symbols refer to chapter "Symbols on Unit".

Qualification

No special qualification is required for use of the unit except for detailed direction by a professional.

Minimum Age

Only persons above 16 years of age are allowed to work with the unit.
Exempted from the provision is the use of the juvenile trainees if they work in the course of their professional training with an aim to obtain the skill under a trainer supervision.

Training

Use of the unit requires adequate lesson by a professional or the use of the manual only.
Special training is not required.

Technical Data

Connection/Frequency:	**230V~50 Hz**
Protection	**32 A**
Control scope:	**2 (45/90 A)**
Switching time:	**90 A ~ 10 %**
	45 A ~ 60 %
May. Wire thickness :	**0,9 mm**
Recommended material thickness:	**1,5-5 mm**
Idle run voltage :	**31 V**
Protection type:	**IP21S**
Insulation class:	**H**

Weight: **14 kg**

Transportation and Storage

- It should be cleaned properly for longer storage.

Assembly and Initial Operation

Before plugging in the welding machine, check that the voltage is complying and the voltage complies with the unit full load. It is also necessary to make sure that the supply earth system is sufficient.

Grounding

The unit is connected to the terminal with a grounding cable. Make sure that the contact between the tongs and the piece to be welded is perfect. The parts touching each other have to be degreased and any rust must be removed. Also, it should be protected against it. Any non-functioning piece will decrease the welding capacity and may result in non-satisfactory quality of welding.

The better is the contact, the better is the result of welding
(e.g. polish with hand angle cutter)

Operation (Fig. 2)

Control Post

ON/OFF

The welding machine is equipped with a power switch (ON-OFF position). **(Fig. 2/a)**

Welding current set-up

The welding machine SG 120 A for solid wire welding has a three way switch to provide for 2 set-up of the welding current according to the required load **(Fig. 2/b)**

Setting the speed of wire feed

The wire feed speed will be set up by a potentiometer. The rate of the wire feed should be set up by the potentiometer to be found in the front side of the tool. The potentiometer is used together with a reversing switch in control of the current load, which results in a DC arc **(Fig. 2/c)**

Overheating Protection

The unit is equipped with thermal protection to interrupt the welding current supp immediately when a higher temperature is reached. . Then a red warning light will turn on **(Fig. 2/d).** As soon as the temperature decrease at a level enabling the operation, the warning light will go off again The current supply will be restored and the unit is able to operate again.

The wire reel assembly and the hoses set

Reels weighing up to 0,2-0,4 Kg –may be used on the unit.

Wire feed motor

Make sure that diameter of the wire feed groove is the same as that of the wire. The welding machines are determined for a reel carrying wires of diameter 0,6 and 0,8. If it is necessary to work with a wire of diameter 0,9, it is possible to use the supplied reel .The required diameter is printed on the printed on the side.

Welding machine SG 120 A is equipped with grooved reels to weld with solid wire without gaseous shield

Wire Introduction

The first 10 cm of wire should be cut in a way that the resulting cut is straight, is not overlapping, sagging and dirty. Lift up the reel joined using a movable arm by releasing a respective screw. Insert the wire in the plastic lead by pulling it through a respective groove and thus inserting in the lead again . Mind that the wire should not be stretched, it should be inserted loosely. Make sure for the wire not to be tightened and be laid loosely. Lower the moving arm again and set up the pressure by a respective screw. The pressure, id correctly set-up will thus The pressure properly set-up will influence the regular feed of the wire. Even if the wire gets stuck the driving wheel is driven by the correct pressure and the wire is fed without any problems further on. The wire resistance should be set up on the wire axis. The resistance should be set up in a way to provide for easy drawing out and to prevent winding back by itself. If the action of the clutch is too dragging and the driving wheel is skidding, the clutch should be tightened so that the wire guiding becomes regular.

Hoses Connection

Solid wire welding machine SG 120 A. It has got a set of hoses directly connected being thus ready for use. The exchange, if necessary has to be done extremely carefully by an expert. To exchange the gas nozzle it is sufficient to unscrew and pull it out. The gas nozzle must be pulled out together with every current nozzle exchange. It is necessary to see that the diameter of the nozzle coincides with the diameter of the wire. The gas nozzle should be kept clean any time

Operator Safety Instructions

- Before the machine is switched on, all the safety and protection elements must be installed properly at places.
- Do not use the unit before you have read the operating manual carefully.

- Observe all the safety instructions indicated in the manual.
- Be responsible to the others.

Troubles- Causes – Troubleshooting

(Trouble): The wire does not move as the wire feed pulley is turning

(Cause):

1. Dirt on the jet
2. The reel carrier clutch is set up too fast
3. Set of hoses is damaged .

(Troubleshooting):

1. Clean
2. Release
3. Check the wire guide jacket

(Trouble): Wire feed irregular or interrupted

(Cause):

1. Nozzle is damaged
2. Burns in the nozzle
3. Dirt in the driving wheel groove
4. Crack on the worn driving wheel

(Troubleshooting):

1. Exchange
2. Exchange
3. Cleaning
4. Exchange

(Trouble): The arc has gone

(Cause):

1. Poor contact between the grounding tongs and the piece
2. Short-circuit between the jet and the gas nozzle

(Troubleshooting):

1. Tighten and check the tongs
2. Clean o replace the jet and gas nozzle

(Trouble): Weld joint porous

(Cause):

1. Wrong distance or inclination from the hoses
2. Wet pieces

(Troubleshooting)

1. The distance between the hoses and the work piece should be 5-10 mm. The inclination should not be less than 60 according to the piece..
2. To dry with a pistol with warm air or other agent.

(Trouble) : The unit stopped functioning unexpectedly after a long operation.

Cause):

1. The machine has got overheated due to a long operation and in result the heat protection turned on.

(Troubleshooting):

1. Let the machine cooled.

Inspections and Maintenance

Unplug the unit before any work.

- Clean the plastic parts with a damp cloth. Do not use any detergents, solvents and sharp articles.
- After every use, remove the dust from vents and moving parts with a soft brush or tweezers.
- Oil all the metal moving parts regularly.

Inspections and Maintenance Safety Instructions

Only a unit maintained and cared for on a regular basis may be a serviceable aid. Insufficient maintenance and care may result in emergencies and unforeseen accidents.

Observe all the safety instructions shown in this manual.