

Degaussing machine

Set Degauss 600

099-002065-EW501

27.07.2015

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General instructions

CAUTION



Read the operating instructions!

The operating instructions provide an introduction to the safe use of the products.

- Read the operating instructions for all system components!
- Observe accident prevention regulations!
- Observe all local regulations!
- Confirm with a signature where appropriate.



In the event of queries on installation, commissioning, operation or special conditions at the installation site, or on usage, please contact your sales partner or our customer service department on +49 2680 181-0.

A list of authorised sales partners can be found at www.ewm-group.com.

Liability relating to the operation of this equipment is restricted solely to the function of the equipment. No other form of liability, regardless of type, shall be accepted. This exclusion of liability shall be deemed accepted by the user on commissioning the equipment.

The manufacturer is unable to monitor whether or not these instructions or the conditions and methods are observed during installation, operation, usage and maintenance of the equipment. An incorrectly performed installation can result in material damage and injure persons as a result. For this reason, we do not accept any responsibility or liability for losses, damages or costs arising from incorrect installation, improper operation or incorrect usage and maintenance or any actions connected to this in any way.

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The content of this document has been prepared and reviewed with all reasonable care. The information provided is subject to change, errors excepted.

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2 Safety instructions

2.1 Notes on the use of these operating instructions

DANGER

Working or operating procedures which must be closely observed to prevent imminent serious and even fatal injuries.

- Safety notes include the "DANGER" keyword in the heading with a general warning symbol.
- The hazard is also highlighted using a symbol on the edge of the page.

WARNING

Working or operating procedures which must be closely observed to prevent serious and even fatal injuries.

- Safety notes include the "WARNING" keyword in the heading with a general warning symbol.
- The hazard is also highlighted using a symbol in the page margin.

CAUTION

Working or operating procedures which must be closely observed to prevent possible minor personal injury.

- The safety information includes the "CAUTION" keyword in its heading with a general warning symbol.
- The risk is explained using a symbol on the edge of the page.

CAUTION

Working and operating procedures which must be followed precisely to avoid damaging or destroying the product.

- The safety information includes the "CAUTION" keyword in its heading without a general warning symbol.
- The hazard is explained using a symbol at the edge of the page.

Special technical points which users must observe.

Instructions and lists detailing step-by-step actions for given situations can be recognised via bullet points, e.g.:

- Insert the welding current lead socket into the relevant socket and lock.

2.2 Explanation of icons

Symbol	Description
	Special technical points which users must observe.
	Correct
	Wrong
	Activate and release/tap/tip
	Release/do not activate
	Press and hold/switch
	Turn
	Signal light off
	Signal light on
	Signal light flashes
	Switch off machine
	Switch on machine
	ENTER (enter the menu)
	NAVIGATION (Navigating in the menu)
	EXIT (Exit the menu)
	Time display (example: wait 4s/press)
	Interruption in the menu display (other setting options possible)
	Tool not required/do not use
	Tool required/use

2.3 General

DANGER



Electromagnetic fields!

The power source may cause electrical or electromagnetic fields to be produced which could affect the correct functioning of electronic equipment such as IT or CNC devices, telecommunication lines, power cables, signal lines and pacemakers.

- Observe the maintenance instructions - See 6 Maintenance, care and disposal chapter!
- Unwind welding leads completely!
- Shield devices or equipment sensitive to radiation accordingly!
- The correct functioning of pacemakers may be affected (obtain advice from a doctor if necessary).



Do not carry out any unauthorised repairs or modifications!

To avoid injury and equipment damage, the unit must only be repaired or modified by specialist, skilled persons!

The warranty becomes null and void in the event of unauthorised interference.

- Appoint only skilled persons for repair work (trained service personnel)!



Electric shock!

Welding machines use high voltages which can result in potentially fatal electric shocks and burns on contact. Even low voltages can cause you to get a shock and lead to accidents.

- Do not touch any live parts in or on the machine!
- Connection cables and leads must be free of faults!
- Switching off alone is not sufficient!
- Place welding torch and stick electrode holder on an insulated surface!
- The unit should only be opened by specialist staff after the mains plug has been unplugged!
- Only wear dry protective clothing!
- Wait for 4 minutes until the capacitors have discharged!

WARNING



Risk of injury due to radiation or heat!

Arc radiation results in injury to skin and eyes.

Contact with hot workpieces and sparks results in burns.

- Use welding shield or welding helmet with the appropriate safety level (depending on the application)!
- Wear dry protective clothing (e.g. welding shield, gloves, etc.) according to the relevant regulations in the country in question!
- Protect persons not involved in the work against arc beams and the risk of glare using safety curtains!



Explosion risk!

Apparently harmless substances in closed containers may generate excessive pressure when heated.

- Move containers with inflammable or explosive liquids away from the working area!
- Never heat explosive liquids, dusts or gases by welding or cutting!

WARNING



Smoke and gases!

Smoke and gases can lead to breathing difficulties and poisoning. In addition, solvent vapour (chlorinated hydrocarbon) may be converted into poisonous phosgene due to the ultraviolet radiation of the arc!

- Ensure that there is sufficient fresh air!
- Keep solvent vapour away from the arc beam field!
- Wear suitable breathing apparatus if appropriate!



Fire hazard!

Flames may arise as a result of the high temperatures, stray sparks, glowing-hot parts and hot slag produced during the welding process.

Stray welding currents can also result in flames forming!

- Check for fire hazards in the working area!
- Do not carry any easily flammable objects such as matches or lighters.
- Keep appropriate fire extinguishing equipment to hand in the working area!
- Thoroughly remove any residue of flammable substances from the workpiece before starting welding.
- Only continue work on welded workpieces once they have cooled down.
Do not allow to come into contact with flammable material!
- Connect welding leads correctly!



Risk of accidents if these safety instructions are not observed!

Non-observance of these safety instructions is potentially fatal!

- Carefully read the safety information in this manual!
- Observe the accident prevention regulations in your country.
- Inform persons in the working area that they must observe the regulations!



Danger when coupling multiple power sources!

Coupling multiple power sources in parallel or in series has to be carried out by qualified personnel and in accordance with the manufacturer's guidelines. Before bringing the power sources into service for arc welding operations, a test has to verify that they cannot exceed the maximum allowed open circuit voltage.

- Connection of the machine may be carried out by qualified personnel only!
- When decommissioning individual power sources, all mains and welding current leads have to be safely disconnected from the welding system as a whole. (Danger due to inverse voltages!)
- Do not couple welding machines with pole reversing switch (PWS series) or machines for AC welding, as a minor error in operation can cause the welding voltages to be combined.

CAUTION



Noise exposure!

Noise exceeding 70 dBA can cause permanent hearing damage!

- Wear suitable ear protection!
- Persons located within the working area must wear suitable ear protection!

CAUTION**Obligations of the operator!****The respective national directives and laws must be observed for operation of the machine!**

- National implementation of the framework directive (89/391/EWG), as well as the associated individual directives.
- In particular, directive (89/655/EWG), on the minimum regulations for safety and health protection when staff members use equipment during work.
- The regulations regarding work safety and accident prevention for the respective country.
- Setting up and operating the machine according to IEC 60974-9.
- Check at regular intervals that users are working in a safety-conscious way.
- Regular checks of the machine according to IEC 60974-4.

**Damage due to the use of non-genuine parts!****The manufacturer's warranty becomes void if non-genuine parts are used!**

- Only use system components and options (power sources, welding torches, electrode holders, remote controls, spare parts and replacement parts, etc.) from our range of products!
- Only insert and lock accessory components into the relevant connection socket when the machine is switched off.

**Damage to the machine due to stray welding currents!****Stray welding currents can destroy protective earth conductors, damage equipment and electronic devices and cause overheating of components leading to fire.**

- Make sure all welding leads are securely connected and check regularly.
- Always ensure a proper and secure electrical connection to the workpiece!
- Set up, attach or suspend all conductive power source components like casing, transport vehicle and crane frames so they are insulated!
- Do not place any other electronic devices such as drillers or angle grinders, etc., on the power source, transport vehicle or crane frames unless they are insulated!
- Always put welding torches and electrode holders on an insulated surface when they are not in use!

**Mains connection****Requirements for connection to the public mains network**

High-performance machines can influence the mains quality by taking current from the mains network. For some types of machines, connection restrictions or requirements relating to the maximum possible line impedance or the necessary minimum supply capacity at the interface with the public network (Point of Common Coupling, PCC) can therefore apply. In this respect, attention is also drawn to the machines' technical data. In this case, it is the responsibility of the operator, where necessary in consultation with the mains network operator, to ensure that the machine can be connected.

CAUTION



EMC Machine Classification

In accordance with IEC 60974-10, welding machines are grouped in two electromagnetic compatibility classes - See 8 Technical data chapter:

Class A machines are not intended for use in residential areas where the power supply comes from the low-voltage public mains network. When ensuring the electromagnetic compatibility of class A machines, difficulties can arise in these areas due to interference not only in the supply lines but also in the form of radiated interference.

Class B machines fulfil the EMC requirements in industrial as well as residential areas, including residential areas connected to the low-voltage public mains network.

Setting up and operating

When operating arc welding systems, in some cases, electro-magnetic interference can occur although all of the welding machines comply with the emission limits specified in the standard. The user is responsible for any interference caused by welding.

In order to **evaluate** any possible problems with electromagnetic compatibility in the surrounding area, the user must consider the following: (see also EN 60974-10 Appendix A)

- Mains, control, signal and telecommunication lines
- Radios and televisions
- Computers and other control systems
- Safety equipment
- The health of neighbouring persons, especially if they have a pacemaker or wear a hearing aid
- Calibration and measuring equipment
- The immunity to interference of other equipment in the surrounding area
- The time of day at which the welding work must be carried out

Recommendations for **reducing interference emission**

- Mains connection, e.g. additional mains filter or shielding with a metal tube
- Maintenance of the arc welding equipment
- Welding leads should be as short as possible and run closely together along the ground
- Potential equalization
- Earthing of the workpiece. In cases where it is not possible to earth the workpiece directly, it should be connected by means of suitable capacitors.
- Shielding from other equipment in the surrounding area or the entire welding system

2.4 Transport and installation

WARNING



Incorrect handling of shielding gas cylinders!

Incorrect handling of shielding gas cylinders can result in serious and even fatal injury.

- Observe the instructions from the gas manufacturer and in any relevant regulations concerning the use of compressed air!
- Place shielding gas cylinders in the holders provided for them and secure with fixing devices.
- Avoid heating the shielding gas cylinder!



Risk of accident due to improper transport of machines that may not be lifted!

Do not lift or suspend the machine! The machine can fall down and cause injuries! The handles and brackets are suitable for transport by hand only!

- The machine may not be lifted by crane or suspended!

CAUTION



Risk of tipping!

There is a risk of the machine tipping over and injuring persons or being damaged itself during movement and set up. Tilt resistance is guaranteed up to an angle of 10° (according to IEC 60974-1).

- Set up and transport the machine on level, solid ground.
- Secure add-on parts using suitable equipment.



Damage due to supply lines not being disconnected!

During transport, supply lines which have not been disconnected (mains supply leads, control leads, etc.) may cause hazards such as connected equipment tipping over and injuring persons!

- Disconnect supply lines!

CAUTION



Equipment damage when not operated in an upright position!

The units are designed for operation in an upright position!

Operation in non-permissible positions can cause equipment damage.

- Only transport and operate in an upright position!

2.4.1 Ambient conditions



CAUTION



Installation location

The machine may only be placed and operated on a suitable, load-bearing and even surface (according to IP 34s in case of outside operation as well)!

- Ensure the machine is operated on an even, anti-slip floor and provide sufficient lighting of the work area.
- Safe operation of the machine must be guaranteed at all times!

CAUTION



Equipment damage due to dirt accumulation!

Unusually high quantities of dust, acid, corrosive gases or substances may damage the equipment.

- Avoid high volumes of smoke, vapour, oil vapour and grinding dust!
- Avoid ambient air containing salt (sea air)!



Non-permissible ambient conditions!

Insufficient ventilation results in a reduction in performance and equipment damage.

- Observe the ambient conditions!
- Keep the cooling air inlet and outlet clear!
- Observe the minimum distance of 0.5 m from obstacles!

2.4.1.1 In operation

Temperature range of the ambient air:

- -25 °C to +40 °C

Relative air humidity:

- Up to 50% at 40 °C
- Up to 90% at 20 °C

2.4.1.2 Transport and storage

Storage in an enclosed space, temperature range of the ambient air:

- -30 °C to +70 °C

Relative air humidity

- Up to 90% at 20 °C

3 Intended use

WARNING



Hazards due to improper usage!

Hazards may arise for persons, animals and material objects if the equipment is not used correctly. No liability is accepted for any damages arising from improper usage!

- The equipment must only be used in line with proper usage and by trained or expert staff!
- Do not modify or convert the equipment improperly!

3.1 Applications

3.1.1 Degaussing

By degaussing ferromagnetic workpieces for welding tasks, arc deflection, arc instability, irregular droplet detachment, spatter and irregular sidewall fusion are reduced.

3.1.2 activgauss

With activgauss an opposing magnetic field is created by an adjustable direct current. This field is active during the welding process and counteracts the magnetism of the component. In this way, arc deflection, arc instability, irregular droplet detachment, spatters and irregular sidewall fusion are reduced.

3.2 Documents which also apply

3.2.1 Warranty

 For more information refer to the "Warranty registration" brochure supplied and our information regarding warranty, maintenance and testing at www.ewm-group.com!

3.2.2 Declaration of Conformity


 The designated machine conforms to EC Directives and standards in terms of its design and construction:

- EC Low Voltage Directive (2006/95/EC),
- EC EMC Directive (2004/108/EC),

This declaration shall become null and void in the event of unauthorised modifications, improperly conducted repairs, non-observance of the deadlines for the repetition test and / or non-permitted conversion work not specifically authorised by the manufacturer.

The original copy of the declaration of conformity is enclosed with the unit.

3.2.3 Welding in environments with increased electrical hazards

 In compliance with IEC / DIN EN 60974, VDE 0544 the machines can be used in environments with an increased electrical hazard.

3.2.4 Service documents (spare parts and circuit diagrams)



DANGER



Do not carry out any unauthorised repairs or modifications!

To avoid injury and equipment damage, the unit must only be repaired or modified by specialist, skilled persons!

The warranty becomes null and void in the event of unauthorised interference.

- Appoint only skilled persons for repair work (trained service personnel)!

Original copies of the circuit diagrams are enclosed with the unit.

Spare parts can be obtained from the relevant authorised dealer.


3.2.5 Calibration/Validation






We hereby confirm that this machine has been tested using calibrated measuring equipment, as stipulated in IEC/EN 60974, ISO/EN 17662, EN 50504, and complies with the admissible tolerances.

Recommended calibration interval: 12 months

4 Machine description – quick overview

4.1 Scope of delivery

 *Performance-dependent accessories like torches, workpiece leads, electrode holders or intermediate hose packages are available from your authorised dealer.*

Position	Quantity	Type and designation	Item number
	1	Degauss 600 Degaussing machine	090-002065-00502
	2	LC 35qmm 5m Load cable (plug/socket)	092-002888-00005
	1	LC 35qmm 20m Load cable (plug/plug)	092-002889-00020
	1	RT DGS1 Degauss remote control	090-008806-00000
	1	RA5 19POL 5m Connection cable, e.g. for remote control	092-001470-00005

4.1.1 Front view

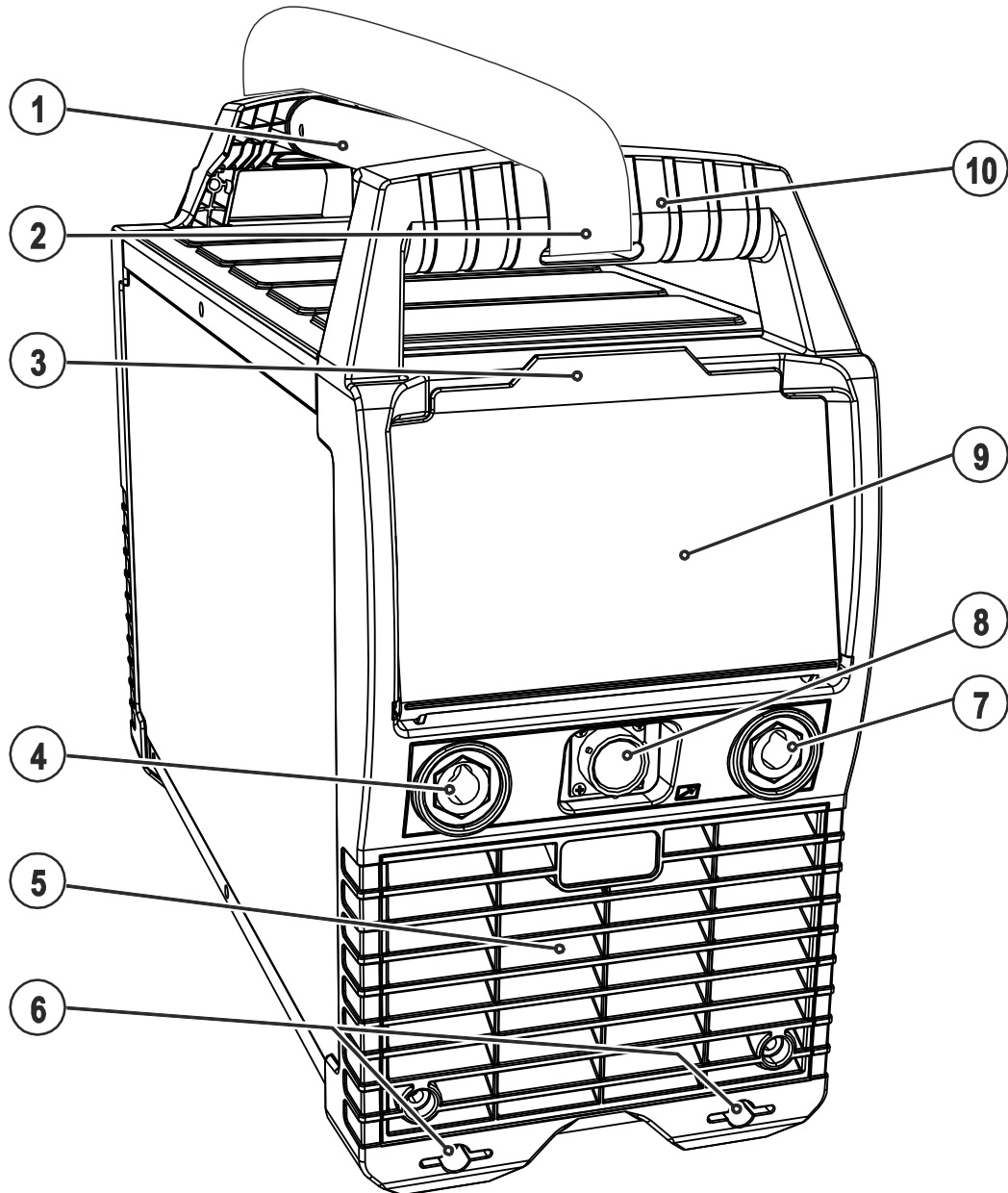





Figure 4-1

Item	Symbol	Description
1		Transport bar
2		Carrying strap - See 5.3.1 Adjusting the length of the carrying strap chapter
3		Protective cap
4		Connection socket, “+” potential
5		Cooling air inlet Dirt filter can be retrofitted
6		Machine feet
7		Connection socket, potential –
8		19-pole connection socket Control cable for remote control
9		Machine control- See 4.1.3 Machine control – Operating elements chapter
10		Carrying handle

4.1.2 Rear view

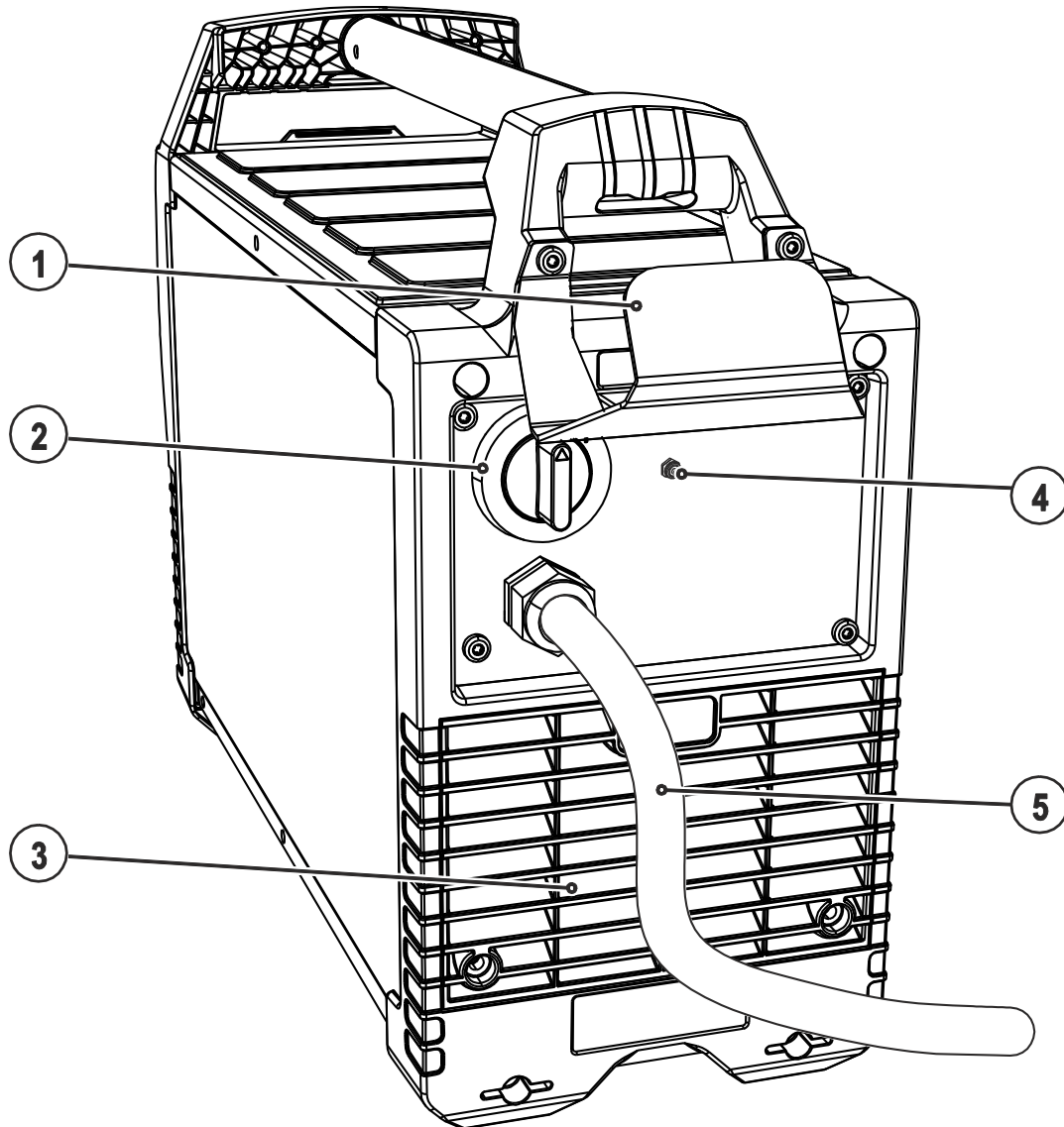




Figure 4-2

Item	Symbol	Description
1		Cable holder
2		Main switch, machine on/off
3		Cooling air outlet
4		Automatic cutout push-button Pole reversing switch supply voltage fuse. Press to reset triggered fuse.
5		Mains connection cable - See 5.4 Mains connection chapter

4.1.3 Machine control – Operating elements

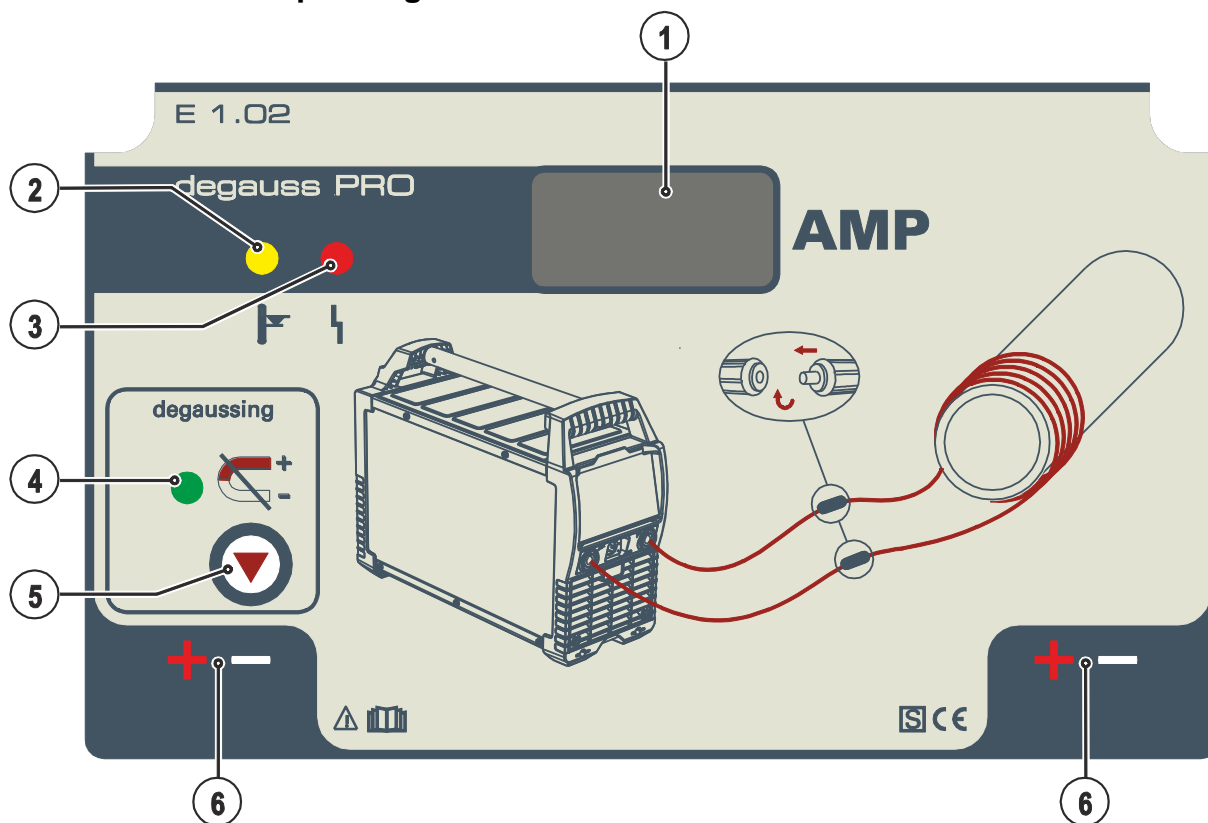


Figure 4-3

Item	Symbol	Description
1		Three-figure display Presentation of process parameters.
2		Excess temperature signal light / Welding torch cooling failure For error messages, - See 7 Rectifying faults chapter
3		Collective interference signal light For error messages, - See 7 Rectifying faults chapter
4		Degaussing signal light The degaussing signal light flashes during the degaussing process.
5		Degaussing push-button Use this push-button to start and stop the degaussing process.
6		Welding current polarity signal light The signal light shows the selected polarity at the welding current socket below.

4.2 RT DGS1

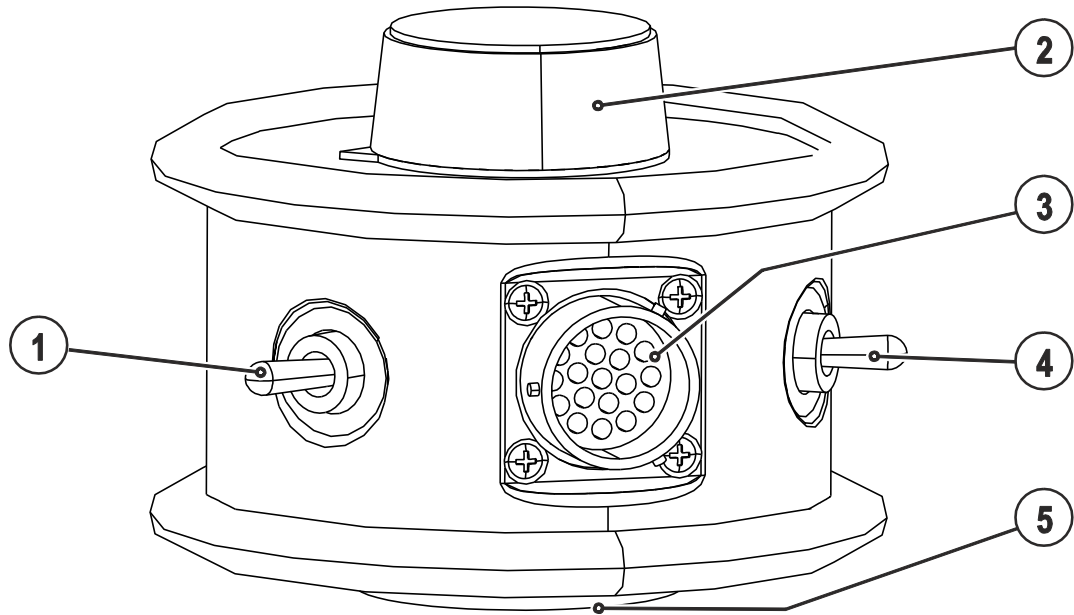


Figure 4-4

Item	Symbol	Description
1		Changeover switch for pole reversal The position of the changeover switch determines the welding current polarity of the connection sockets and thus the opposing magnetic field of the component.
2		Welding current rotary dial Infinite adjustment of the welding current from 10A to maximum current
3		19-pole connection socket (analogue) For connecting the control lead.
4		Changeover switch for activgauss ON/OFF
5		Fixing magnet For fixing to the power source

5 Design and function

5.1 General

WARNING



Risk of injury from electrical voltage!

Contact with current-conducting parts, e.g. power connections, can be fatal!

- Observe the safety information on the first page of the operating instructions!
- Commissioning must be carried out by persons who are appropriately trained in handling power sources!
- Connect connection or power cables while the machine is switched off!

CAUTION



Risk of burns from the current connection!

If power connections are not firmly screwed in, connections and cables could heat up and cause burns if touched!

- Check power connections daily and tighten up if necessary.



Hazards due to electrical current!

If swapping between various procedures and connection lines remain connected to the machine, open circuit or process voltage is present in all lines!

- Always store connection lines in an insulated manner at the start of work and during work interruptions!

CAUTION



Damage due to incorrect connection!

Accessory components can be damaged due to incorrect connection!

- Only insert and lock accessory components in the relevant connection socket when the power source is switched off.
- Comprehensive descriptions can be found in the operating instructions for the relevant accessory component.
- Accessory components are detected automatically after the power source is switched on.



Using protective dust caps!

Protective dust caps protect the connection sockets and therefore the machine against dirt and damage.

- The protective dust cap must be fitted if there is no accessory component being operated on that connection.
- The cap must be replaced if faulty or if lost!

5.2 Machine cooling

To obtain an optimal duty cycle from the power components, the following precautions should be observed:

- Ensure that the working area is adequately ventilated.
- Do not obstruct the air inlets and outlets of the machine.
- Do not allow metal parts, dust or other objects to get into the machine.

5.3 Transport and installation

WARNING



Risk of accident due to improper transport of machines that may not be lifted!

Do not lift or suspend the machine! The machine can fall down and cause injuries! The handles and brackets are suitable for transport by hand only!

- The machine may not be lifted by crane or suspended!

CAUTION




Installation location

The machine may only be placed and operated on a suitable, load-bearing and even surface (according to IP 34s in case of outside operation as well)!

- Ensure the machine is operated on an even, anti-slip floor and provide sufficient lighting of the work area.
- Safe operation of the machine must be guaranteed at all times!

5.3.1 Adjusting the length of the carrying strap

 To demonstrate adjustment, lengthening the strap is shown in the figure. To shorten, the strap's loops must be inched in the opposite direction.

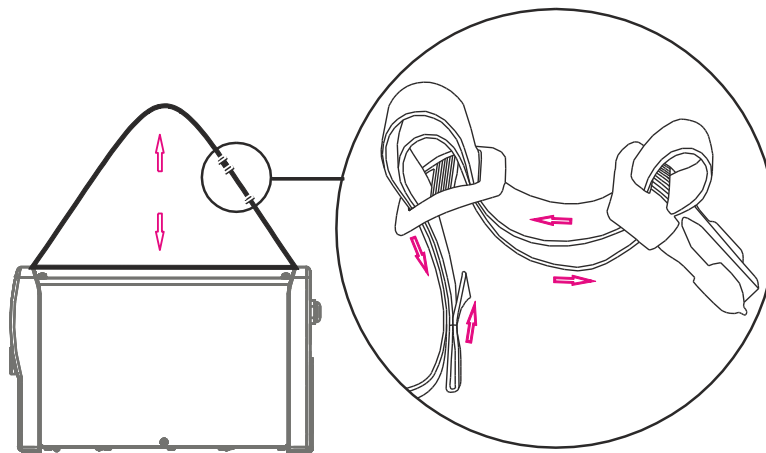


Figure 5-1

5.3.2 Cable strap

In the delivery state, the machine has a cable strap for easy and orderly transport of earth lead, welding torch, electrode holder etc. The following figure shows the fastened strap and how the components can be secured.

The machine itself may not be transported with this cable strap!

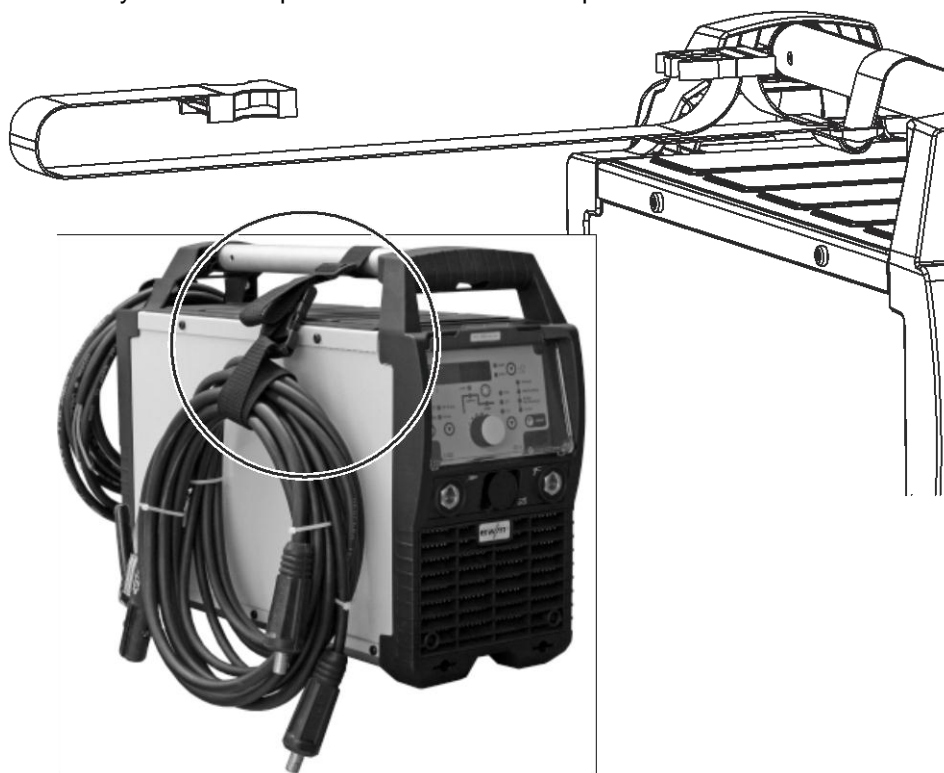


Figure 5-2

5.3.3 Cable holder

The machine is supplied with a cable holder with mounting material. This cable holder can be used to coil and conveniently transport the mains cable. Install the cable holder as shown in the figure.

5.3.3.1 Assembly

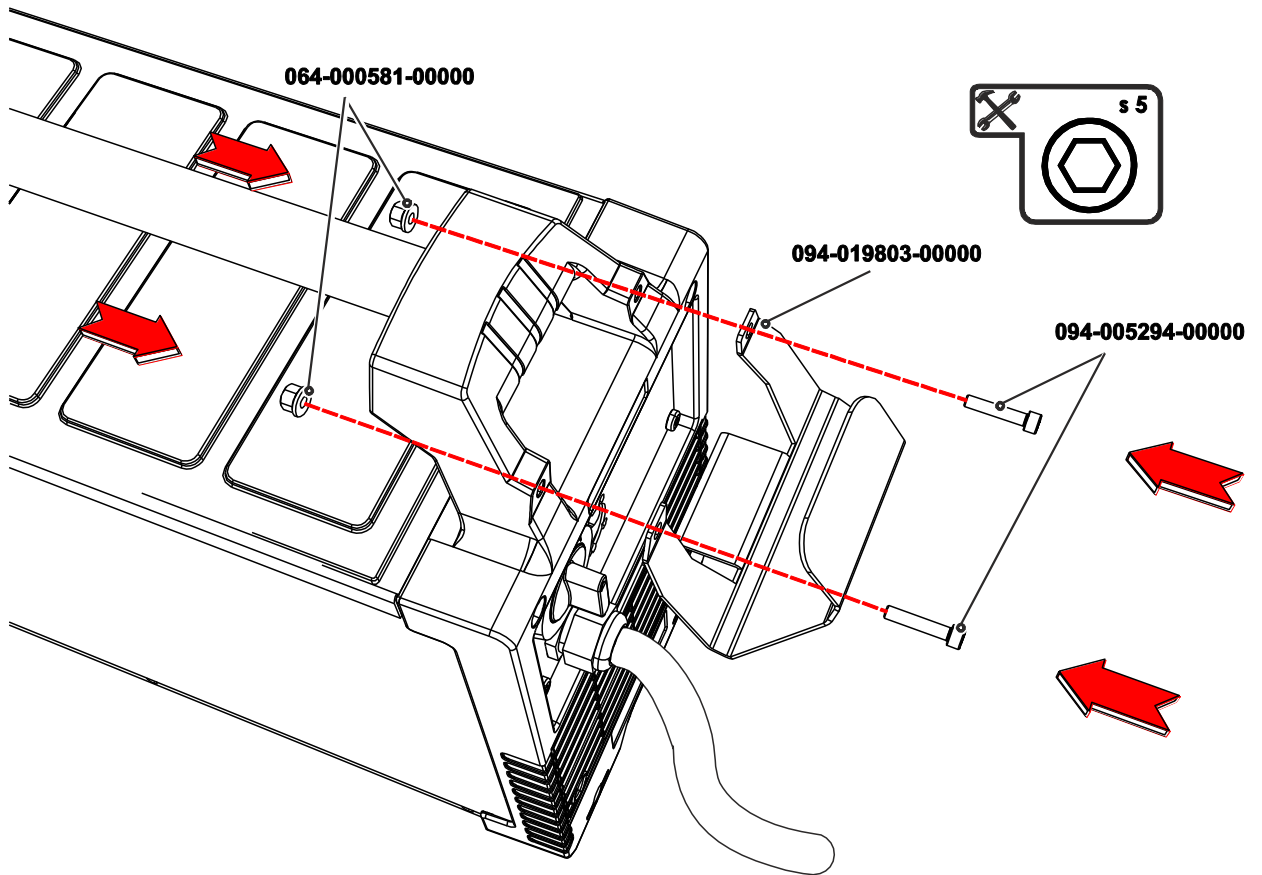


Figure 5-3

5.3.3.2 Application



Figure 5-4

5.3.4 Protective flap, welding machine control

5.3.4.1 Deinstallation/Installation

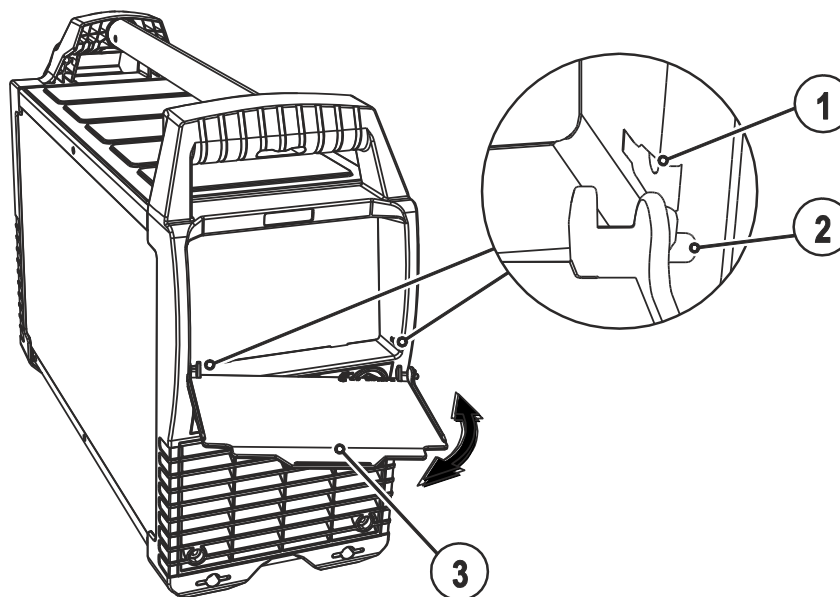


Figure 5-5

Item	Symbol	Description
1		Seating hole for mounting nipple
2		Mounting nipple, protective cap
3		Protective cap

- Remove the protective cap by gently pressing from the side while simultaneously pulling. To attach, insert and snap into place.

5.4 Mains connection

DANGER



Hazard caused by improper mains connection!

An improper mains connection can cause injuries or damage property!

- Only use machine with a plug socket that has a correctly fitted protective conductor.
- If a mains plug must be fitted, this may only be carried out by an electrician in accordance with the relevant national provisions or regulations!
- Mains plug, socket and lead must be checked regularly by an electrician!
- When operating the generator always ensure it is earthed as stated in the operating instructions. The resulting network has to be suitable for operating devices according to protection class 1.

5.4.1 Mains configuration



The machine may be connected to:

- a three-phase system with four conductors and an earthed neutral conductor
- a three-phase system with three conductors of which any one can be earthed, e.g. the outer conductor

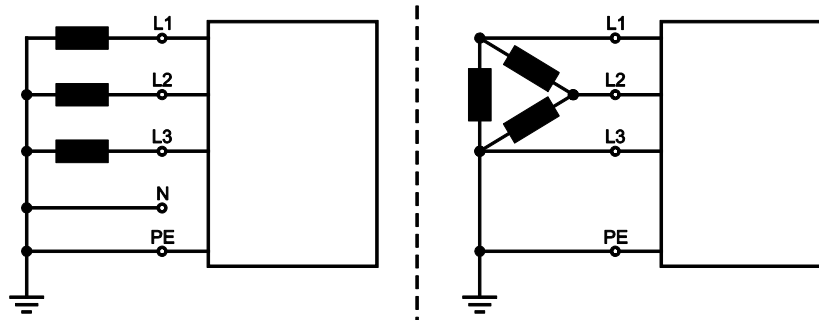


Figure 5-6

Legend

Item	Designation	Colour code
L1	Outer conductor 1	brown
L2	Outer conductor 2	black
L3	Outer conductor 3	grey
N	Neutral conductor	blue
PE	Protective conductor	green-yellow

CAUTION



Operating voltage - mains voltage!

The operating voltage shown on the rating plate must be consistent with the mains voltage, in order to avoid damage to the machine!

- - See 8 Technical data chapter!

- Insert mains plug of the switched-off machine into the appropriate socket.

5.5 Degaussing

5.5.1 Notes for preparation

 *The higher the number of turns, the better the degaussing result.*

5.5.1.1 Laying current leads in case of round components

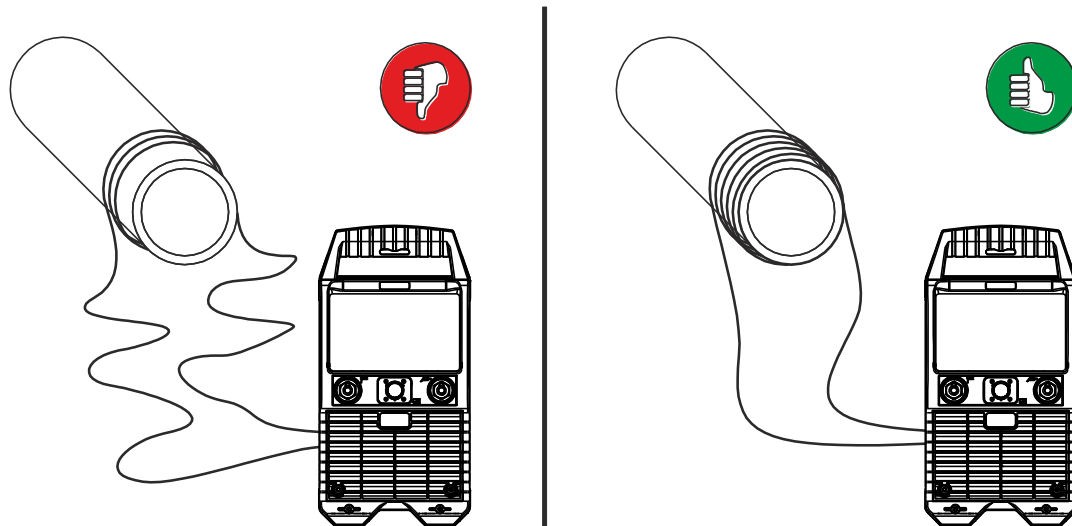


Figure 5-7

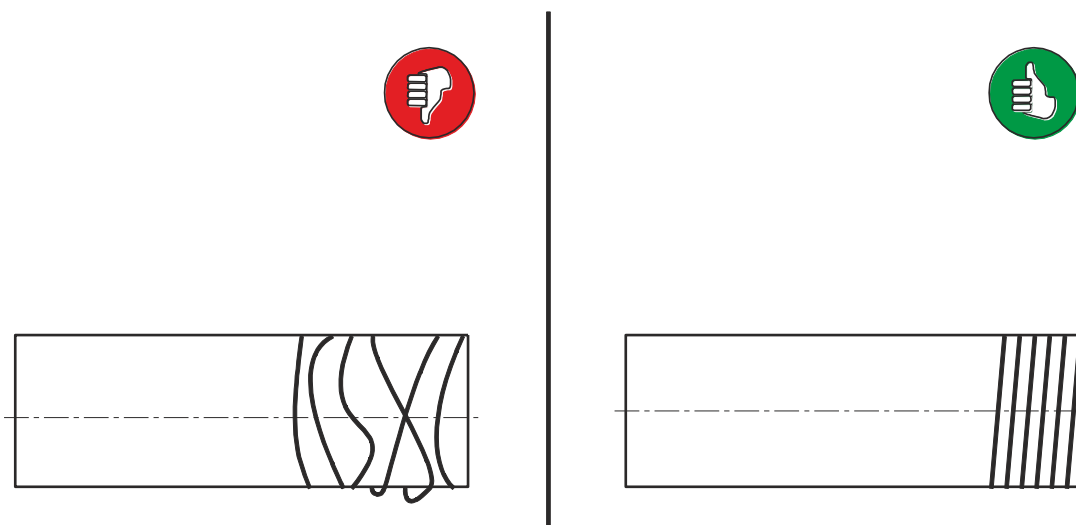


Figure 5-8

- Install the current leads as close as possible to each other and to the component.
- Lay the current leads up to the area relevant for welding, e.g. to the sidewalls of the joint.

5.5.1.2 Laying current leads in case of metal plates

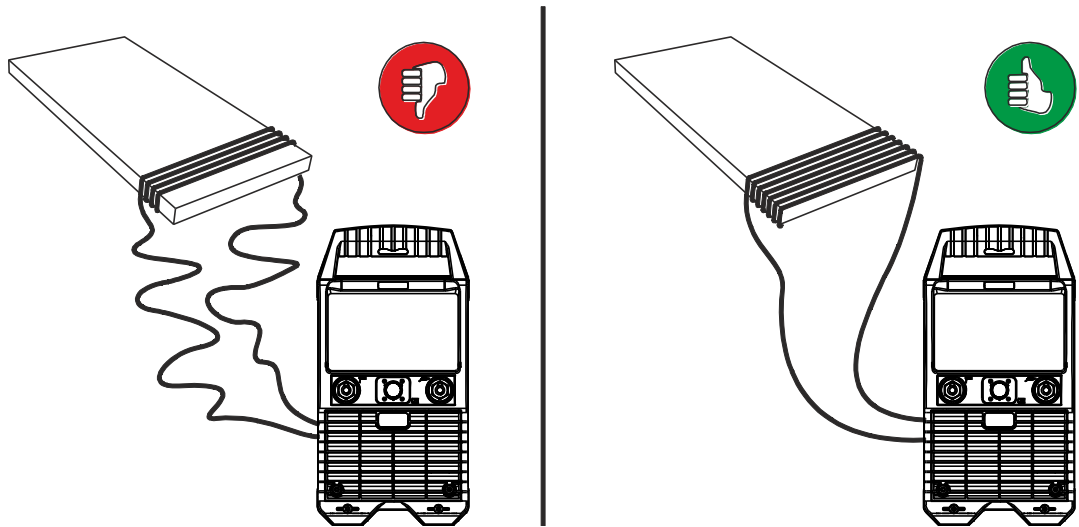


Figure 5-9

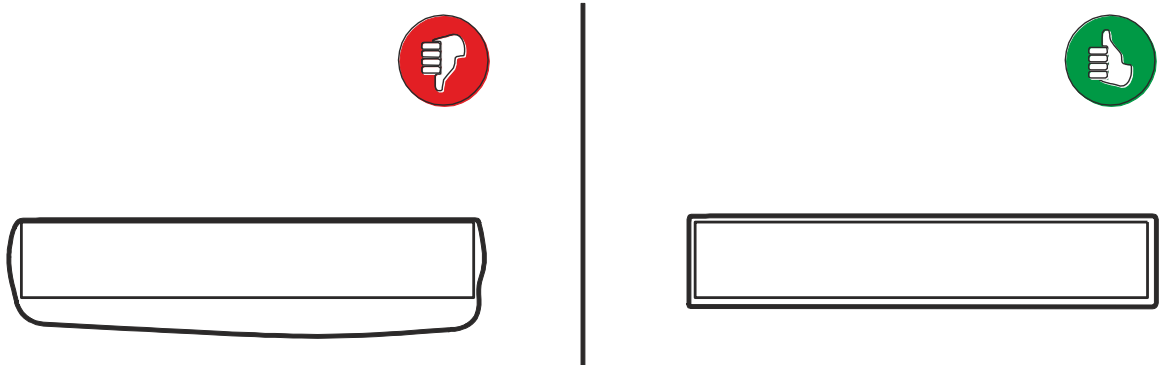


Figure 5-10

- Install the current leads as close as possible to each other and to the component.
- Lay the current leads up to the area relevant for welding, e.g. to the sidewalls of the joint.

-  **In case of large or long components all current leads have to be placed with a distance of 3–4 cm to each other in order to degauss the component.**

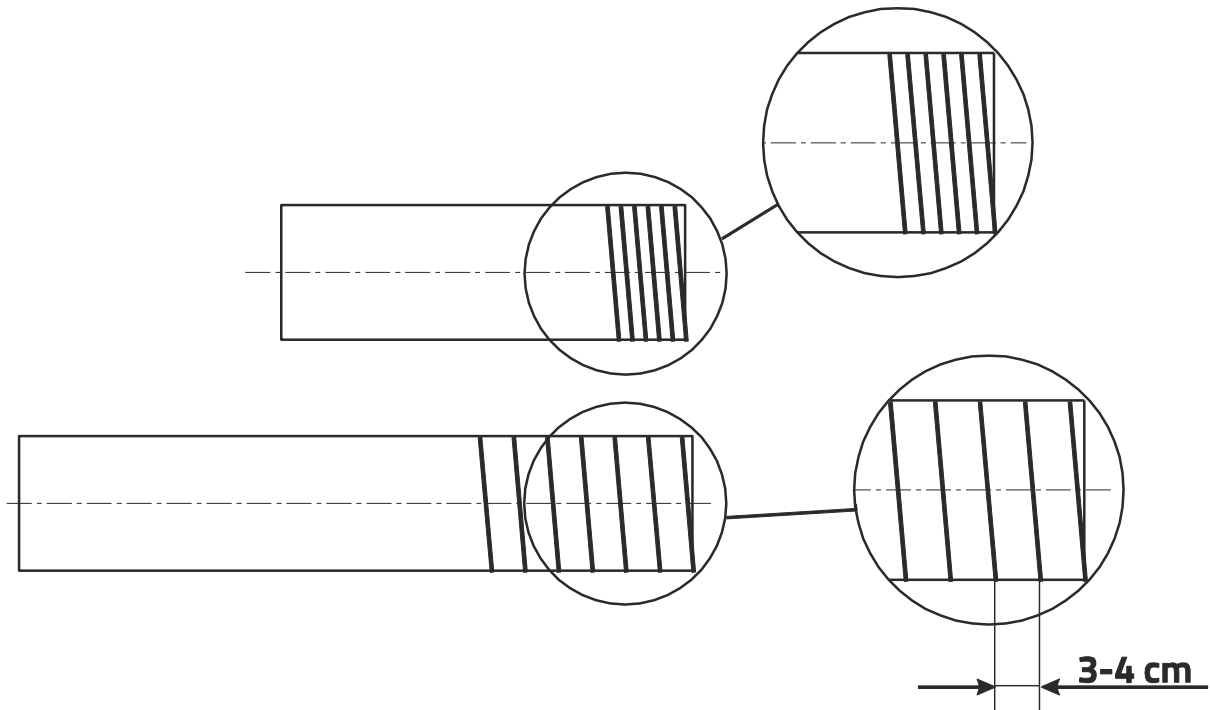


Figure 5-11

- Install the current leads as close as possible to each other and to the component.
- Lay the current leads up to the area relevant for welding, e.g. to the sidewalls of the joint.

5.5.2 Function sequence

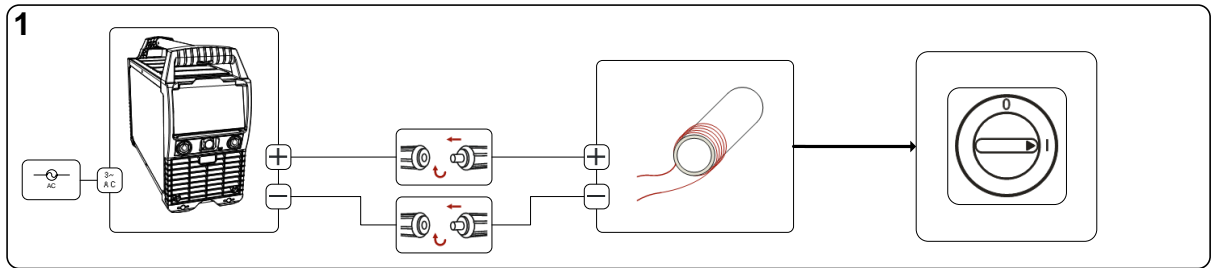


Figure 5-12

- Establish all connections, see figure.
- Switch on the machine.

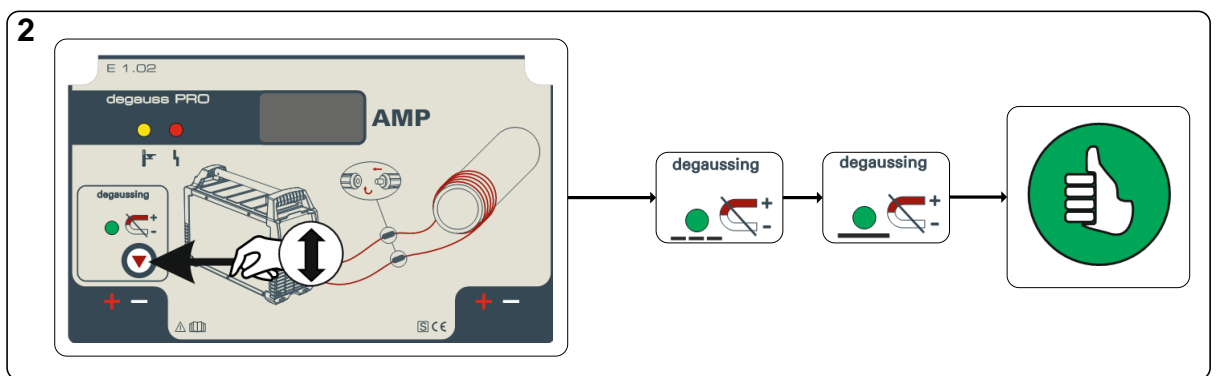


Figure 5-13

- Press the degaussing push-button.
- The signal light flashes.
- The degaussing process runs automatically.
- The signal light flashes continuously.
- The degaussing process is complete.

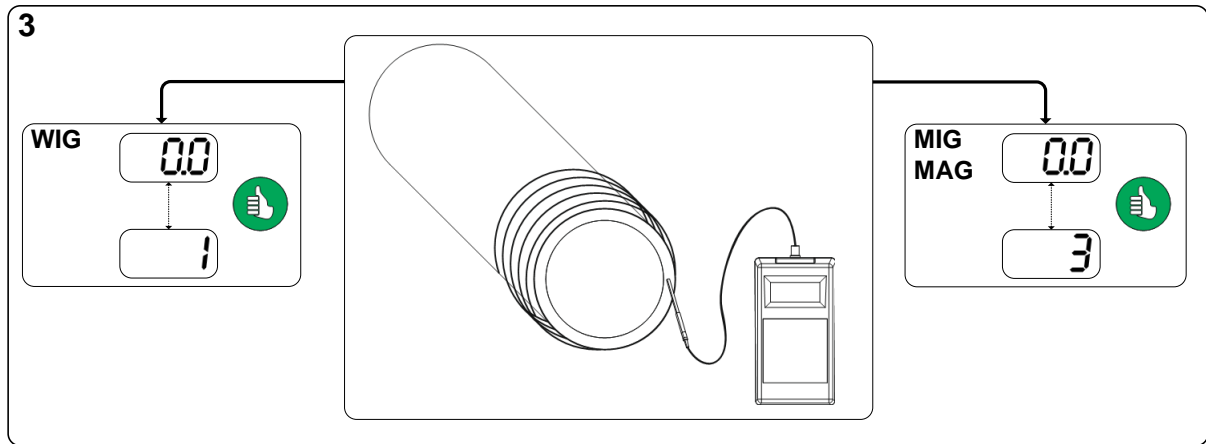


Figure 5-14

- Check the magnetic field of the workpiece with the magnetic field meter.

If the field strength is too high, the degaussing process can be repeated once.

5.5.2.1 Automatic cut-out

The degaussing process is stopped within 5 seconds if no current flow can be established. The display will then show the letters brE (interruption).

- Check all circuit connections.

5.6 activgauss

5.6.1 Notes for preparation

 *The higher the number of turns, the better the degaussing result.*

5.6.1.1 Laying current leads in case of round components

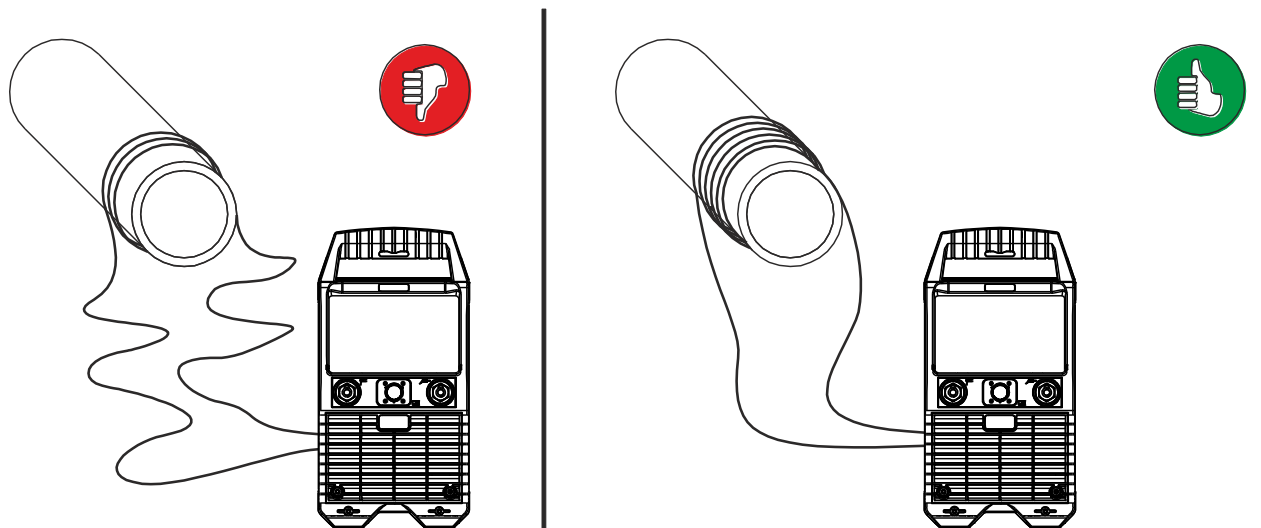


Figure 5-15

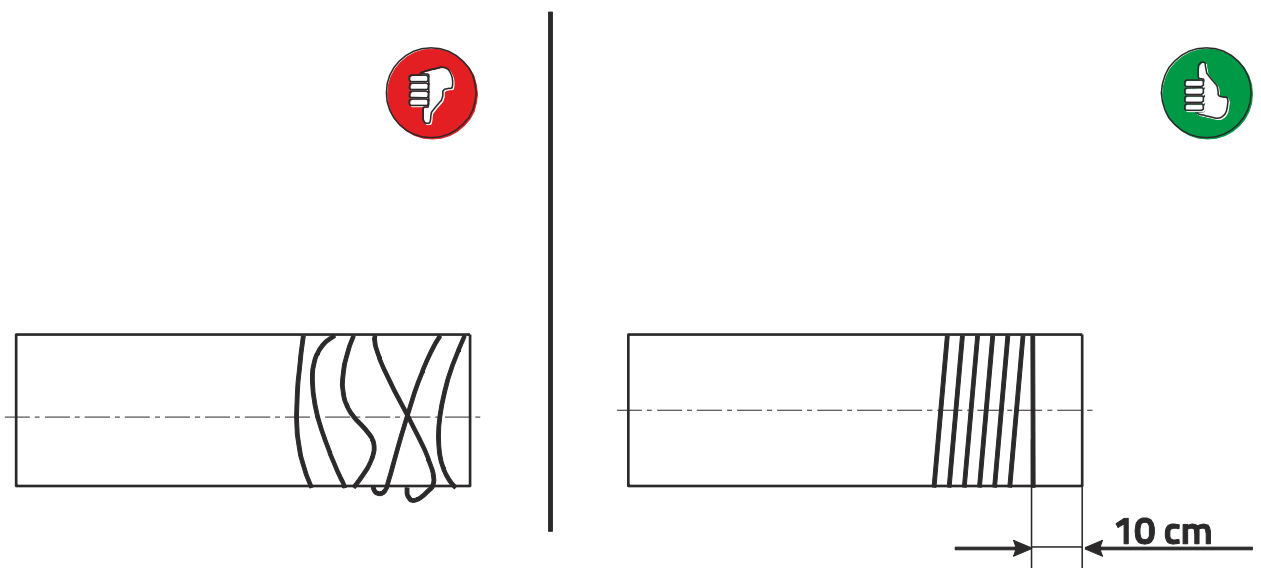


Figure 5-16

- Install the current leads as close as possible to each other and to the component.
- Lay the current leads with a distance of approx. 10 m to the area relevant for welding, e.g. to the sidewalls of the joint.

5.6.1.2 Laying current leads in case of metal plates

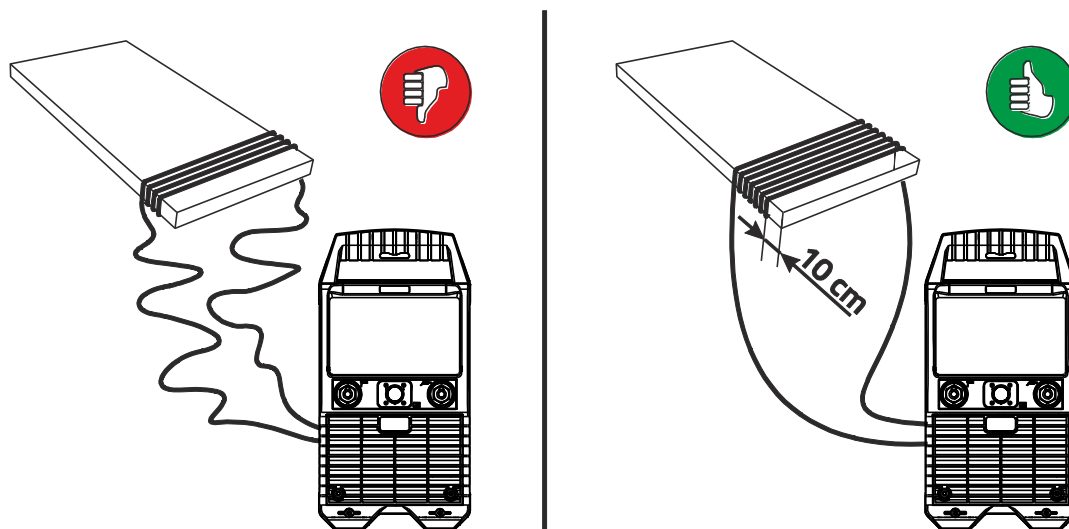


Figure 5-17

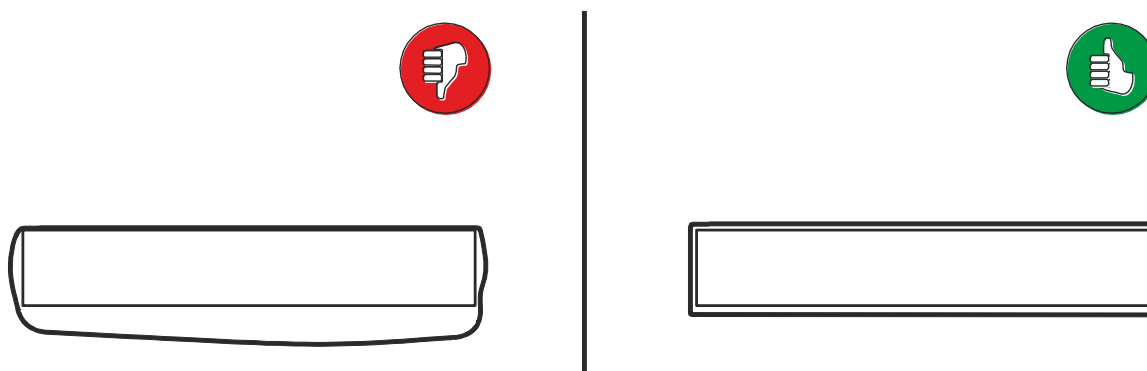


Figure 5-18

- Install the current leads as close as possible to each other and to the component.
- Lay the current leads with a distance of approx. 10 m to the area relevant for welding, e.g. to the sidewalls of the joint.

5.6.2 Functional sequence with RT DGS 1 remote control

⚠ WARNING

⚡ Risk of injury from electrical voltage!
Contact with current-conducting parts, e.g. power connections, can be fatal!

- Observe the safety information on the first page of the operating instructions!
- Commissioning must be carried out by persons who are appropriately trained in handling power sources!
- Connect connection or power cables while the machine is switched off!

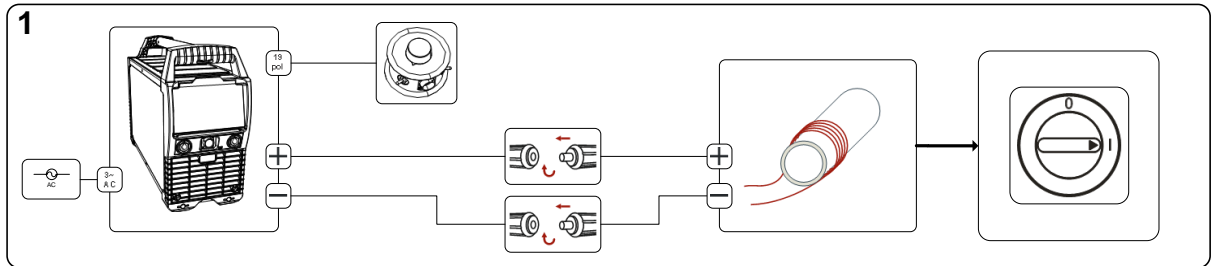


Figure 5-19

- Establish all connections, see figure.
- Switch on the machine.

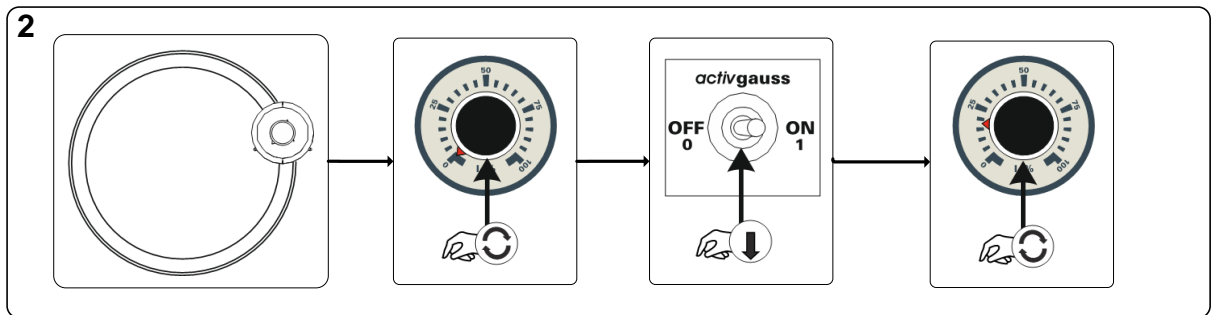


Figure 5-20

- Position the remote control against the component.
- Turn the rotary knob at the remote control to "0".
- Switch on the activgauss function at the remote control.
- Increase the current at the remote control so that the magnetic field of the component decreases to "0".

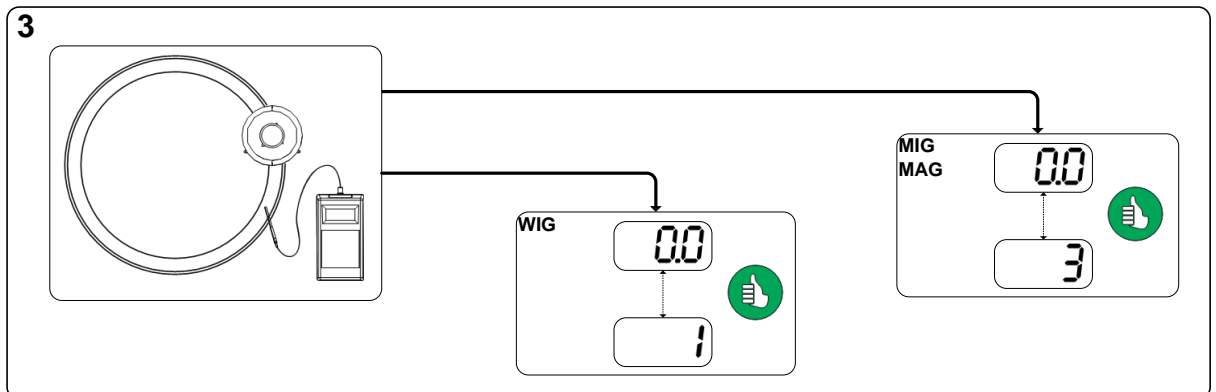


Figure 5-21

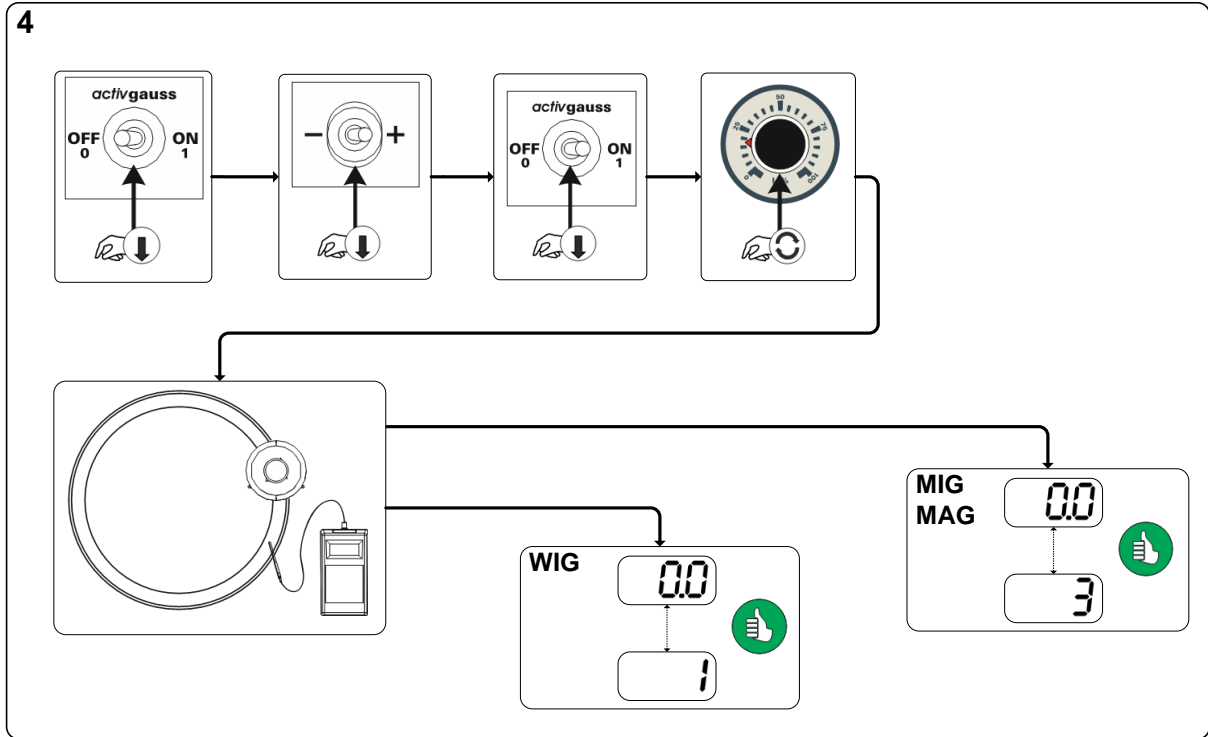


Figure 5-22

- If the magnetic field of the component increases:
- Switch off the activgauss function at the remote control.
- Reverse the polarity at the remote control.
- Switch on the activgauss function at the remote control.
- Increase the current at the remote control so that the magnetic field of the component decreases to "0".

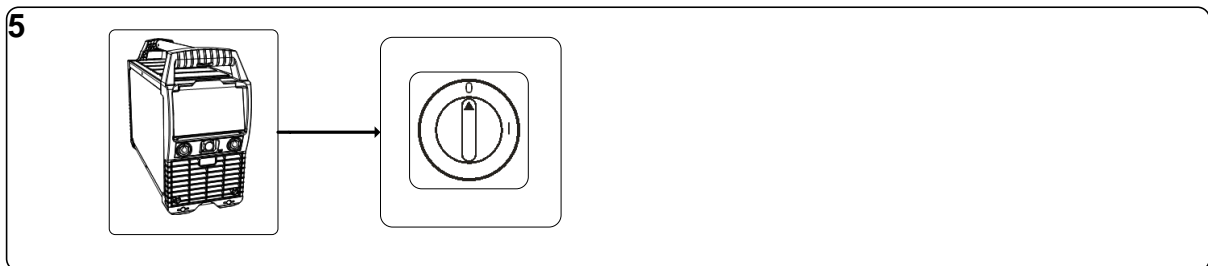


Figure 5-23

- Switch off machine at the main switch.
- Remove all connections.

094-021939-00000

D Achtung!!!
Bevor das Kabel entfernt wird,
überprüfen ob der Prozess
beendet wurde!

EN Attention!!!
Make sure the process has been
finished before disconnecting
the cable!

5.7 Recommended values for TIG welding

Field strength	Result
< 0.5 mT	★★★★
0.5–1 mT	★★★☆☆
1–2 mT	★★☆☆*
2–5 mT	★☆☆☆☆
> 5 mT	☆☆☆☆

5.8 Recommended values for MIG/MAG welding

Field strength	Result
< 3 mT	★★★★
3–4 mT	★★★☆☆
4–6 mT	★★☆☆*
6–8 mT	★☆☆☆☆
> 8 mT	☆☆☆☆

5.9 Dirt filter

- These accessory components can be retrofitted as an option - See 9 Accessories chapter.**
- The dirt filter can be used in places with unusually high levels of dirt and dust in the ambient air. The filter reduces the duty cycle of the welding machine via the reduced flow of cooling air. The filter must be disassembled and cleaned regularly depending on the level of dirt (blow out with compressed air).**

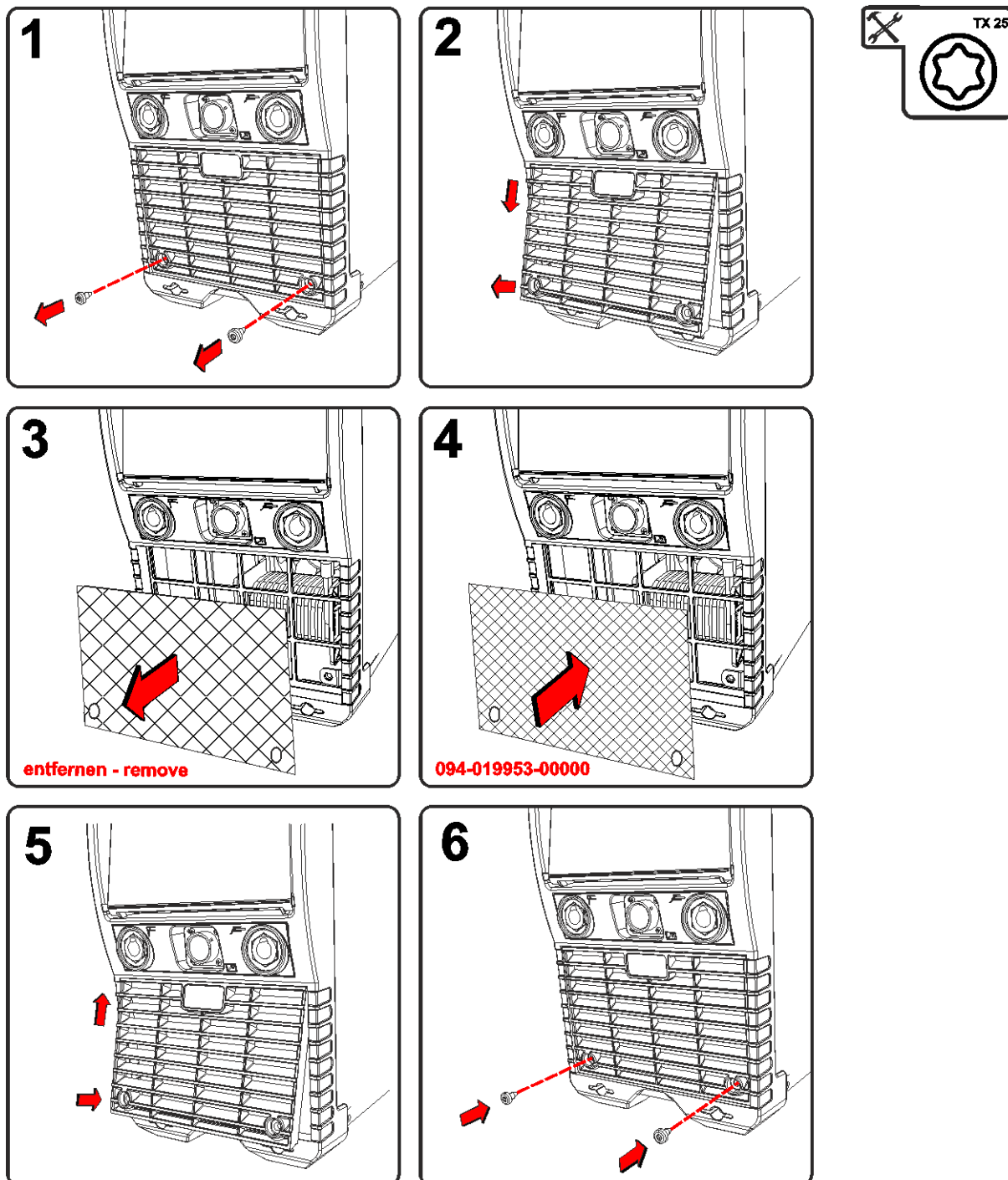


Figure 5-24

6 Maintenance, care and disposal

DANGER



Do not carry out any unauthorised repairs or modifications!

To avoid injury and equipment damage, the unit must only be repaired or modified by specialist, skilled persons!

The warranty becomes null and void in the event of unauthorised interference.

- Appoint only skilled persons for repair work (trained service personnel)!



Risk of injury from electric shock!

Cleaning machines that are not disconnected from the mains can lead to serious injuries!

- Disconnect the machine completely from the mains.
- Remove the mains plug!
- Wait for 4 minutes until the capacitors have discharged!

Repair and maintenance work may only be performed by qualified authorised personnel; otherwise the right to claim under warranty is void. In all service matters, always consult the dealer who supplied the machine. Return deliveries of defective equipment subject to warranty may only be made through your dealer. When replacing parts, use only original spare parts. When ordering spare parts, please quote the machine type, serial number and item number of the machine, as well as the type designation and item number of the spare part.

6.1 General

When used in the specified environmental conditions and under normal operating conditions, this machine is largely maintenance-free and requires a minimum of care.

There are some points, which should be observed, to guarantee fault-free operation of your welding machine. Among these are regular cleaning and checking as described below, depending on the pollution level of the environment and the length of time the unit is in use.

6.2 Maintenance work, intervals

6.2.1 Daily maintenance tasks

6.2.1.1 Visual inspection

- Mains supply lead and its strain relief
- Gas tubes and their switching equipment (solenoid valve)
- Other, general condition

6.2.1.2 Functional test

- Welding current cables (check that they are fitted correctly and secured)
- Gas cylinder securing elements
- Operating, message, safety and adjustment devices (Functional test)

6.2.2 Monthly maintenance tasks



6.2.2.1 Visual inspection

- Casing damage (front, rear and side walls)
- Transport elements (strap, lifting lugs, handle)

6.2.2.2 Functional test


- Selector switches, command devices, emergency stop devices, voltage reducing devices, message and control lamps

6.2.3 Annual test (inspection and testing during operation)

-  **The welding machine may only be tested by competent, capable persons!** A capable person is one who, because of his training, knowledge and experience, is able to recognise the dangers that can occur while testing welding power sources as well as possible subsequent damage and who is able to implement the required safety procedures.
-  **For more information refer to the "Warranty registration" brochure supplied and our information regarding warranty, maintenance and testing at www.ewm-group.com!**

A periodic test according to IEC 60974-4 "Periodic inspection and test" has to be carried out. In addition to the regulations on testing given here, the relevant local laws and regulations must also be observed.

6.3 Disposing of equipment

-  **Proper disposal!**
The machine contains valuable raw materials, which should be recycled, and electronic components, which must be disposed of.



- **Do not dispose of in household waste!**
- **Observe the local regulations regarding disposal!**

6.3.1 Manufacturer's declaration to the end user

- According to European provisions (guideline 2002/96/EG of the European Parliament and the Council of January, 27th 2003), used electric and electronic equipment may no longer be placed in unsorted municipal waste. It must be collected separately. The symbol depicting a waste container on wheels indicates that the equipment must be collected separately.
This machine is to be placed for disposal or recycling in the waste separation systems provided for this purpose.
- According to German law (law governing the distribution, taking back and environmentally correct disposal of electric and electronic equipment (ElektroG) from 16.03.2005), used machines are to be placed in a collection system separate from unsorted municipal waste. The public waste management utilities (communities) have created collection points at which used equipment from private households can be disposed of free of charge.
- Information about giving back used equipment or about collections can be obtained from the respective municipal administration office.
- EWM participates in an approved waste disposal and recycling system and is registered in the Used Electrical Equipment Register (EAR) under number WEEE DE 57686922.
- In addition to this, returns are also possible throughout Europe via EWM sales partners.

6.4 Meeting the requirements of RoHS

We, EWM AG Mündersbach, hereby confirm that all products supplied by us which are affected by the RoHS Directive, meet the requirements of the RoHS (Directive 2011/65/EU).

7 Rectifying faults

All products are subject to rigorous production checks and final checks. If, despite this, something fails to work at any time, please check the product using the following flowchart. If none of the fault rectification procedures described leads to the correct functioning of the product, please inform your authorised dealer.

7.1 Checklist for rectifying faults



The correct machine equipment for the material and process gas in use is a fundamental requirement for perfect operation!

Legend	Symbol	Description
	↘	Fault/Cause
	✘	Remedy


Excess temperature signal light illuminates

- ↘ Excess temperature, welding machine
- ✘ Allow the machine to cool down whilst still switched on

Functional errors

- ↘ Machine control without displaying the signal lights after switching on
 - ✘ Phase failure > check mains connection (fuses)
- ↘ Connection problems
 - ✘ Make control lead connections and check that they are fitted correctly.
- ↘ Loose welding current connections
 - ✘ Tighten power connections on the torch and/or on the workpiece
 - ✘ Tighten contact tip correctly


7.2 Error messages (power source)

 **A welding machine error is indicated by an error code being displayed (see table) on the display on the machine control.**

In the event of a machine error, the power unit is shut down.

 **The display of possible error numbers depends on the machine version (interfaces/functions).**



- If multiple errors occur, these are displayed in succession.
- Document machine errors and inform service staff as necessary.

Error message	Possible cause	Remedy
E 0	Start signal set in the event of errors	Do not press the torch trigger or the foot-operated remote control
E 4	Temperature error	Allow the machine to cool down
E 5	Mains overvoltage	Switch off the machine and check the mains voltage
E 6	Mains undervoltage	
E 7	Electronics error	Switch the machine on and off again.
E 9	Secondary overvoltage	If the error persists, notify service department
E12	Voltage reduction error (VRD)	
E13	Electronics error	
E14	Adjustment error in current recording	Switch off the machine, place the electrode holder in an insulated position and switch the machine back on. If the error persists, notify service department
E15	Error in on of the electronics supply voltages	Switch the machine off and on again. If the error persists, notify service department
E23	Temperature error	Allow the machine to cool down
E32	Electronics error	Switch the machine on and off again. If the error persists, notify service department
E33	Adjustment error in voltage recording	Switch off the machine, place the electrode holder in an insulated position and switch the machine back on. If the error persists, notify service department
E34	Electronics error	Switch the machine on and off again. If the error persists, notify service department
E37	Temperature error	Allow the machine to cool down
E40	Motor fault	Check wire feed unit, switch the machine off and on again, inform the service department if the fault persists.
E55	Failure of a mains phase	Switch off the machine and check the mains voltage
E58	Short circuit in welding circuit	Switch off machine and check welding current leads for correct installation, e.g., put down electrode holder in an electrically insulated manner, disconnect degausser current lead.
Error message	Possible cause	Remedy
	Circuit interruption	Check current lead.

8 Technical data

8.1 Degauss 600


 **Performance specifications and guarantee only in connection with original spare and replacement parts!**

Open circuit voltage	41 V
Mains voltage (tolerances)	3 x 400 V (+20% to -25 %)
Frequency	50/60 Hz
Mains fuse (safety fuse, slow-blow)	3 x 16 A
Mains connection lead	H07RN-F4G2,5
cosφ/efficiency	0.99/88%
Insulation class/protection classification	H/IP 34s
Ambient temperature	-25 °C to +40 °C
Machine cooling/torch cooling	Fan/gas
Workpiece lead	35 mm ²
Dimensions L/W/H	600 x 205 x 415 mm
Weight	25.5 kg
EMC class	A
Constructed to standard	IEC 60974-1, -10  / 

8.1.1 RT DGS1

Interface	19-pole
Dimensions L x W x H	118 x 118 x 94 mm
Weight	0,42 kg

9 Accessories

 *Performance-dependent accessories like torches, workpiece leads, electrode holders or intermediate hose packages are available from your authorised dealer.*

9.1 Options

Type	Designation	Item no.
ON Filter Pico 350	Dirt filter for air inlet	092-002756-00000

9.2 General accessories

Type	Designation	Item no.
HP FIM1-4	Hall probe for fieldmeter	094-021021-00000
FIM1-4	Fieldmeter	094-021020-00000
5POLE/CEE/32A/M	Machine plug	094-000207-00000
RT DGS1	Degauss remote control	090-008806-00000
RA10 19POL 10M	Remote control e.g. connection cable	092-001470-00010
RA20 19POL 20M	Remote control e.g. connection cable	092-001470-00020

10 Appendix A

10.1 Overview of EWM branches

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