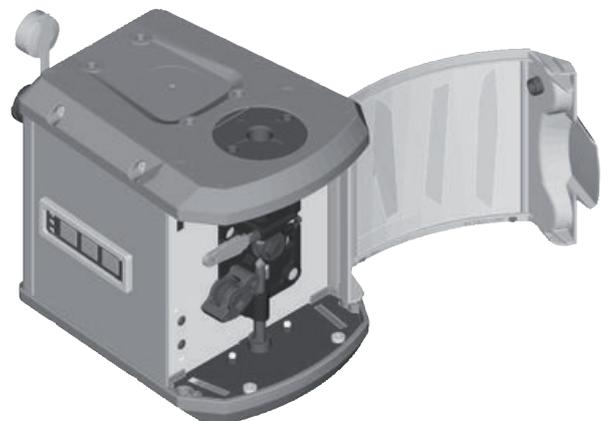


Operating Instructions

WF 25i REEL R /SA/2R/G/W



EN | Operating Instructions



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Safety rules

Explanation of safety notices

DANGER!

Indicates immediate danger.

- ▶ If not avoided, death or serious injury will result.
-

WARNING!

Indicates a potentially hazardous situation.

- ▶ If not avoided, death or serious injury may result.
-

CAUTION!

Indicates a situation where damage or injury could occur.

- ▶ If not avoided, minor injury and/or damage to property may result.
-

NOTE!

Indicates a risk of flawed results and possible damage to the equipment.

General

The device is manufactured using state-of-the-art technology and according to recognised safety standards. If used incorrectly or misused, however, it can cause:

- injury or death to the operator or a third party,
 - damage to the device and other material assets belonging to the operating company,
 - inefficient operation of the device.
-

All persons involved in commissioning, operating, maintaining and servicing the device must:

- be suitably qualified,
 - have sufficient knowledge of welding and
 - read and follow these operating instructions carefully.
-

The operating instructions must always be at hand wherever the device is being used. In addition to the operating instructions, attention must also be paid to any generally applicable and local regulations regarding accident prevention and environmental protection.

All safety and danger notices on the device

- must be in a legible state,
 - must not be damaged,
 - must not be removed,
 - must not be covered, pasted or painted over.
-

For the location of the safety and danger notices on the device, refer to the section headed "General" in the operating instructions for the device.

Before switching on the device, rectify any faults that could compromise safety.

This is for your personal safety!

Proper use

The device is to be used exclusively for its intended purpose.

The device is intended solely for the welding processes specified on the rating plate.

Any use above and beyond this purpose is deemed improper. The manufacturer shall not be held liable for any damage arising from such usage.

Proper use includes:

- carefully reading and following all the instructions given in the operating instructions
- studying and obeying all safety and danger notices carefully
- performing all stipulated inspection and maintenance work.

Never use the device for the following purposes:

- Thawing out pipes
- Charging batteries
- Starting engines

The device is designed for use in industry and the workshop. The manufacturer accepts no responsibility for any damage caused through use in a domestic setting.

The manufacturer likewise accepts no liability for inadequate or incorrect results.

Environmental conditions

Operation or storage of the device outside the stipulated area will be deemed as not in accordance with the intended purpose. The manufacturer shall not be held liable for any damage arising from such usage.

Ambient temperature range:

- during operation: -10 °C to + 40 °C (14 °F to 104 °F)
- during transport and storage: -20 °C to +55 °C (-4 °F to 131 °F)

Relative humidity:

- up to 50% at 40 °C (104 °F)
- up to 90% at 20 °C (68 °F)

The surrounding air must be free from dust, acids, corrosive gases or substances, etc.

Can be used at altitudes of up to 2000 m (6561 ft. 8.16 in.)

Obligations of the operator

The operator must only allow persons to work with the device who:

- are familiar with the fundamental instructions regarding safety at work and accident prevention and have been instructed in how to use the device
- have read and understood these operating instructions, especially the section "safety rules", and have confirmed as much with their signatures
- are trained to produce the required results.

Checks must be carried out at regular intervals to ensure that operators are working in a safety-conscious manner.

Obligations of personnel

Before using the device, all persons instructed to do so undertake:

- to observe the basic instructions regarding safety at work and accident prevention
 - to read these operating instructions, especially the "Safety rules" section and sign to confirm that they have understood them and will follow them.
-

Before leaving the workplace, ensure that people or property cannot come to any harm in your absence.

Mains connection

Devices with a higher rating may affect the energy quality of the mains due to their current consumption.

This may affect a number device types in terms of:

- Connection restrictions
- Criteria with regard to the maximum permissible mains impedance ^{*)}
- Criteria with regard to the minimum short-circuit power requirement ^{*)}

^{*)} at the interface with the public grid
see "Technical data"

In this case, the plant operator or the person using the device should check whether the device may be connected, where appropriate by discussing the matter with the power supply company.

IMPORTANT! Ensure that the mains connection is earthed properly

Protecting yourself and others

Anyone working with the device exposes themselves to numerous risks, e.g.

- flying sparks and hot pieces of metal
- Arc radiation, which can damage eyes and skin
- Hazardous electromagnetic fields, which can endanger the lives of those using cardiac pacemakers
- Risk of electrocution from mains current and welding current
- Greater noise pollution
- Harmful welding fumes and gases

Suitable protective clothing must be worn when working with the device. The protective clothing must have the following properties:

- Flame-resistant
- Insulating and dry
- Covers the whole body, is undamaged and in good condition
- Safety helmet
- Trousers with no turn-ups

Protective clothing refers to a variety of different items. Operators should:

- Protect eyes and face from UV rays, heat and sparks using a protective visor and regulation filter
- Wear regulation protective goggles with side protection behind the protective visor
- Wear stout footwear that provides insulation even in wet conditions
- Protect the hands with suitable gloves (electrically insulated and providing protection against heat)
- Wear ear protection to reduce the harmful effects of noise and to prevent injury

Keep all persons, especially children, out of the working area while any devices are in operation or welding is in progress. If, however, there are people in the vicinity:

- Make them aware of all the dangers (risk of dazzling by the arc, injury from flying sparks, harmful welding fumes, noise, possible risks from mains current and welding current, etc.)
- Provide suitable protective equipment
- Alternatively, erect suitable safety screens/curtains.

Danger from toxic gases and vapours

The fumes produced during welding contain harmful gases and vapours.

Welding fumes contain substances that cause cancer, as stated in Monograph 118 of the International Agency for Research on Cancer.

Use at-source extraction and a room extraction system.
If necessary, use a welding torch with an integrated extraction device.

Keep your face away from welding fumes and gases.

Fumes and hazardous gases

- must not be breathed in
- must be extracted from the working area using appropriate methods.

Ensure an adequate supply of fresh air. Ensure that there is a ventilation rate of at least 20 m³ per hour at all times.

Otherwise, a welding helmet with an air supply must be worn.

If there is any doubt about whether the extraction capacity is sufficient, the measured toxic emission values should be compared with the permissible limit values.

The following components are responsible, amongst other things, for the degree of toxicity of welding fumes:

- Metals used for the workpiece
- Electrodes
- Coatings
- Cleaners, degreasers, etc.
- Welding process used

The relevant material safety data sheets and manufacturer's specifications for the listed components should therefore be studied carefully.

Recommendations for trade fair scenarios, risk management measures and for identifying working conditions can be found on the European Welding Association website under Health & Safety (<https://european-welding.org>).

Flammable vapours (e.g. solvent fumes) should be kept away from the arc's radiation area.

Close the shielding gas cylinder valve or main gas supply if no welding is taking place.

Danger from flying sparks

Flying sparks may cause fires or explosions.

Never weld close to flammable materials.

Flammable materials must be at least 11 metres (36 ft. 1.07 in.) away from the arc, or alternatively covered with an approved cover.

A suitable, tested fire extinguisher must be available and ready for use.

Sparks and pieces of hot metal may also get into adjacent areas through small gaps or openings. Take appropriate precautions to prevent any danger of injury or fire.

Welding must not be performed in areas that are subject to fire or explosion or near sealed tanks, vessels or pipes unless these have been prepared in accordance with the relevant national and international standards.

Do not carry out welding on containers that are being or have been used to store gases, propellants, mineral oils or similar products. Residues pose an explosive hazard.

Risks from mains current and welding current

An electric shock is potentially life threatening and can be fatal.

Do not touch live parts either inside or outside the device.

During MIG/MAG welding and TIG welding, the welding wire, the wire spool, the feed rollers and all pieces of metal that are in contact with the welding wire are live.

Always set the wirefeeder up on a sufficiently insulated surface or use a suitable, insulated wirefeeder holder.

Make sure that you and others are protected with an adequately insulated, dry base or cover for the earth or ground potential. This base or cover must extend over the entire area between the body and the earth or ground potential.

All cables and leads must be secured, undamaged, insulated and adequately dimensioned. Replace loose connections and scorched, damaged, or inadequately dimensioned cables and leads immediately.

Use the handle to ensure the power connections are tight before every use.

In the case of power cables with a bayonet connector, rotate the power cable around the longitudinal axis by at least 180° and pretension.

Do not wrap cables or leads around the body or parts of the body.

The electrode (rod electrode, tungsten electrode, welding wire, etc.) must

- never be immersed in liquid for cooling
- never be touched when the welding system is switched on.

Double the open circuit voltage of a welding system can occur between the welding electrodes of two welding systems. Touching the potentials of both electrodes at the same time may be fatal under certain circumstances.

Arrange for the mains cable to be checked regularly by a qualified electrician to ensure the ground conductor is functioning properly.

Protection class I devices require a mains supply with ground conductor and a connector system with ground conductor contact for proper operation.

Operation of the device on a mains supply without ground conductor and on a socket without ground conductor contact is only permitted if all national regulations for protective separation are observed.

Otherwise, this is considered gross negligence. The manufacturer shall not be held liable for any damage arising from such usage.

If necessary, provide adequate earthing for the workpiece.

Switch off unused devices.

Wear a safety harness if working at height.

Before working on the device, switch it off and pull out the mains plug.

Attach a clearly legible and easy-to-understand warning sign to the device to prevent anyone from plugging the mains plug back in and switching it on again.

After opening the device:

- Discharge all live components
 - Ensure that all components in the device are de-energised.
-

If work on live parts is required, have a second person switch off the main switch at the right moment.

Meandering welding currents

If the following instructions are ignored, meandering welding currents can develop with the following consequences:

- Fire hazard
- Overheating of parts connected to the workpiece
- Damage to ground conductors
- Damage to device and other electrical equipment

Ensure that the workpiece is held securely by the workpiece clamp.

Attach the workpiece clamp as close as possible to the area that is to be welded.

Position the device with sufficient insulation against electrically conductive environments, such as insulation against conductive floor or insulation to conductive racks.

If power distribution boards, twin-head mounts, etc., are being used, note the following: The electrode of the welding torch / electrode holder that is not used is also live. Make sure that the welding torch / electrode holder that is not used is kept sufficiently insulated.

In the case of automated MIG/MAG applications, ensure that only an insulated wire electrode is routed from the welding wire drum, large wirefeeder spool or wirespool to the wirefeeder.

EMC Device Classifications

Devices in emission class A:

- Are only designed for use in industrial settings
- Can cause line-bound and radiated interference in other areas

Devices in emission class B:

- Satisfy the emissions criteria for residential and industrial areas. This is also true for residential areas in which the energy is supplied from the public low-voltage mains.

EMC device classification as per the rating plate or technical data.

EMC measures

In certain cases, even though a device complies with the standard limit values for emissions, it may affect the application area for which it was designed (e.g. when there is sensitive equipment at the same location, or if the site where the device is installed is close to either radio or television receivers).

If this is the case, then the operator is obliged to take appropriate action to rectify the situation.

Check and evaluate the immunity to interference of nearby devices according to national and international regulations. Examples of equipment that may be susceptible to interference from the device include:

- Safety devices
 - Network, signal and data transfer lines
 - IT and telecommunications devices
 - Measuring and calibrating devices
-

Supporting measures for avoidance of EMC problems:

1. Mains supply
 - If electromagnetic interference arises despite the correct mains connection, additional measures are necessary (e.g. use of a suitable line filter)
2. Welding power-leads
 - must be kept as short as possible
 - must be laid close together (to avoid EMF problems)
 - must be kept well apart from other leads
3. Equipotential bonding
4. Earthing of the workpiece
 - If necessary, establish an earth connection using suitable capacitors.
5. Shield, if necessary
 - Shield other devices nearby
 - Shield the entire welding installation

EMF measures

Electromagnetic fields may pose as yet unknown risks to health:

- Effects on the health of persons in the vicinity, e.g. those with pacemakers and hearing aids
- Individuals with pacemakers must seek advice from their doctor before approaching the device or any welding that is in progress
- For safety reasons, maintain as large a distance as possible between the welding power-leads and the head/torso of the welder
- Do not carry welding power-leads and hosepacks over the shoulders or wind them around any part of the body

Specific hazards

Keep hands, hair, clothing and tools away from moving parts. For example:

- Fans
- Cogs
- Rollers
- Shafts
- Wire spools and welding wires

Do not reach into the rotating cogs of the wire drive or into rotating drive components.

Covers and side panels may only be opened/removed while maintenance or repair work is being carried out.

During operation

- Ensure that all covers are closed and all side panels are fitted properly.
- Keep all covers and side panels closed.

The welding wire emerging from the welding torch poses a high risk of injury (piercing of the hand, injuries to the face and eyes, etc.).

Therefore, always keep the welding torch facing away from the body (devices with wirefeeder) and wear suitable protective goggles.

Never touch the workpiece during or after welding - risk of burns.

Slag can jump off cooling workpieces. The specified protective equipment must therefore also be worn when reworking workpieces, and steps must be taken to ensure that other people are also adequately protected.

Welding torches and other parts with a high operating temperature must be allowed to cool down before handling.

Special provisions apply in areas at risk of fire or explosion

- observe relevant national and international regulations.
-

Welding machines for work in areas with increased electrical risk (e.g. near boilers) must carry the 'Safety' sign. However, the welding machine must not be located in such areas.

Risk of scalding from escaping coolant. Switch off cooling unit before disconnecting coolant flow or return lines.

Observe the information on the coolant safety data sheet when handling coolant. The coolant safety data sheet may be obtained from your service centre or downloaded from the manufacturer's website.

Use only suitable load-carrying equipment supplied by the manufacturer when transporting devices by crane.

- Hook chains or ropes onto all suspension points provided on the suitable load-carrying equipment.
 - Chains or ropes must be at the smallest angle possible to the vertical.
 - Remove gas cylinder and wirefeeder (MIG/MAG and TIG devices).
-

If the wirefeeder is attached to a crane holder during welding, always use a suitable, insulated wirefeeder hoisting attachment (MIG/MAG and TIG devices).

Welding with the device during crane transport is only permitted if this is clearly stated in the intended use of the device.

If the device has a carrying strap or handle, this is intended solely for carrying by hand. The carrying strap is not to be used if transporting with a crane, counter-balanced lift truck or other mechanical hoist.

All lifting tackle (straps, handles, chains, etc.) used in connection with the device or its components must be tested regularly (e.g. for mechanical damage, corrosion or changes caused by other environmental factors).

The testing interval and scope of testing must comply with applicable national standards and directives as a minimum.

Odourless and colourless shielding gas may escape unnoticed if an adapter is used for the shielding gas connection. Prior to assembly, seal the device-side thread of the adapter for the shielding gas connection using suitable Teflon tape.

Requirement for the shielding gas

Especially with ring lines, contaminated shielding gas can cause damage to equipment and reduce welding quality.

Meet the following requirements regarding shielding gas quality:

- Solid particle size < 40 µm
 - Pressure condensation point < -20 °C
 - Max. oil content < 25 mg/m³
-

Use filters if necessary.

Danger from shielding gas cylinders

Shielding gas cylinders contain gas under pressure and can explode if damaged. As the shielding gas cylinders are part of the welding equipment, they must be handled with the greatest of care.

Protect shielding gas cylinders containing compressed gas from excessive heat, mechanical impact, slag, naked flames, sparks and arcs.

Mount the shielding gas cylinders vertically and secure according to instructions to prevent them falling over.

Keep the shielding gas cylinders well away from any welding or other electrical circuits.

Never hang a welding torch on a shielding gas cylinder.

Never touch a shielding gas cylinder with an electrode.

Risk of explosion - never attempt to weld a pressurised shielding gas cylinder.

Only use shielding gas cylinders suitable for the application in hand, along with the correct and appropriate accessories (regulator, hoses and fittings). Only use shielding gas cylinders and accessories that are in good condition.

Turn your face to one side when opening the valve of a shielding gas cylinder.

Close the shielding gas cylinder valve if no welding is taking place.

If the shielding gas cylinder is not connected, leave the valve cap in place on the cylinder.

The manufacturer's instructions must be observed as well as applicable national and international regulations for shielding gas cylinders and accessories.

Danger from escaping shielding gas

Risk of suffocation from the uncontrolled escape of shielding gas

Shielding gas is colourless and odourless and, in the event of a leak, can displace the oxygen in the ambient air.

- Ensure an adequate supply of fresh air with a ventilation rate of at least 20 m³/hour.
 - Observe safety and maintenance instructions on the shielding gas cylinder or the main gas supply.
 - Close the shielding gas cylinder valve or main gas supply if no welding is taking place.
 - Check the shielding gas cylinder or main gas supply for uncontrolled gas leakage before every start-up.
-

Safety measures at the installation location and during transport

A device toppling over could easily kill someone. Place the device on a solid, level surface such that it remains stable

- The maximum permissible tilt angle is 10°.
-

Special regulations apply in rooms at risk of fire or explosion

- Observe relevant national and international regulations.
-

Use internal directives and checks to ensure that the workplace environment is always clean and clearly laid out.

Only set up and operate the device in accordance with the degree of protection shown on the rating plate.

When setting up the device, ensure there is an all-round clearance of 0.5 m (1 ft. 7.69 in.) to ensure that cooling air can flow in and out freely.

When transporting the device, observe the relevant national and local guidelines and accident prevention regulations. This applies especially to guidelines regarding the risks arising during transport.

Do not lift or transport operational devices. Switch off and disconnect devices from the grid before transport or lifting.

Before transporting the device, allow coolant to drain completely and detach the following components:

- Wirefeeder
- Wirespool
- Shielding gas cylinder

After transporting the device, the device must be visually inspected for damage before commissioning. Any damage must be repaired by trained service technicians before commissioning the device.

**Safety measures
in normal operation**

Only operate the device when all safety devices are fully functional. If the safety devices are not fully functional, there is a risk of

- injury or death to the operator or a third party
- damage to the device and other material assets belonging to the operator
- inefficient operation of the device

Any safety devices that are not functioning properly must be repaired before switching on the device.

Never bypass or disable safety devices.

Before switching on the device, ensure that no one is likely to be endangered.

Check the device at least once a week for obvious damage and proper functioning of safety devices.

Always fasten the shielding gas cylinder securely and remove it beforehand if the device is to be transported by crane.

Only the manufacturer's original coolant is suitable for use with our devices due to its properties (electrical conductivity, anti-freeze agent, material compatibility, flammability, etc.).

Only use suitable original coolant from the manufacturer.

Do not mix the manufacturer's original coolant with other coolants.

Only connect the manufacturer's system components to the cooling circuit.

The manufacturer accepts no liability for damage resulting from use of other system components or a different coolant. In addition, all warranty claims will be forfeited.

Cooling Liquid FCL 10/20 does not ignite. The ethanol-based coolant can ignite under certain conditions. Transport the coolant only in its original, sealed containers and keep well away from any sources of ignition.

Used coolant must be disposed of properly in accordance with the relevant national and international regulations. The coolant safety data sheet may be obtained from your service centre or downloaded from the manufacturer's website.

Check the coolant level before starting to weld, while the system is still cool.

**Commissioning,
maintenance and
repair**

It is impossible to guarantee that bought-in parts are designed and manufactured to meet the demands made of them, or that they satisfy safety requirements.

- Use only original spare and wearing parts (also applies to standard parts).
 - Do not carry out any modifications, alterations, etc. to the device without the manufacturer's consent.
 - Components that are not in perfect condition must be replaced immediately.
 - When ordering, please give the exact designation and part number as shown in the spare parts list, as well as the serial number of your device.
-

The housing screws provide the ground conductor connection for earthing the housing parts.

Only use original housing screws in the correct number and tightened to the specified torque.

Safety inspection

The manufacturer recommends that a safety inspection of the device be performed at least once every 12 months.

The manufacturer recommends that the welding system be calibrated during the same 12-month period.

A safety inspection should be carried out by a qualified electrician

- after any changes are made
 - after any additional parts are installed, or after any conversions
 - after repair, care and maintenance are carried out
 - at least every twelve months.
-

For safety inspections, follow the appropriate national and international standards and directives.

Further details on safety inspection and calibration can be obtained from your service centre. They will provide you with any documents you may require, on request.

Disposal

Waste electrical and electronic equipment must be collected separately and recycled in an environmentally responsible manner in accordance with the EU Directive and national law. Used equipment must be returned to the distributor or through a local, authorised collection and disposal system. Correct disposal of the used device promotes sustainable recycling of resources and prevents negative effects on health and the environment.

Packaging materials

- Collect separately
 - Observe locally valid regulations
 - Compress the cardboard box to reduce volume
-

Safety symbols

Devices with the CE mark satisfy the essential requirements of the low-voltage and electromagnetic compatibility directives (e.g. relevant product standards of the EN 60 974 series).

Fronius International GmbH hereby declares that the device is compliant with Directive 2014/53/EU. The full text on the EU Declaration of Conformity can be found at the following address: <http://www.fronius.com>

Devices marked with the CSA test mark satisfy the requirements of the relevant standards for Canada and the USA.

Data security

With regard to data security, the user is responsible for:

- backing up any changes made to the factory settings
 - saving and retaining personal settings
-

Copyright

Copyright of these operating instructions remains with the manufacturer.

Text and illustrations were accurate at the time of printing, subject to change. We are grateful for suggestions for improvement and information regarding any discrepancies in the operating instructions.

General

Safety

WARNING!

Danger due to incorrect operation and incorrectly performed work.

This can result in serious personal injury and damage to property.

- ▶ Fully read and understand these operating instructions before commissioning the unreeling wirefeeder.
 - ▶ Fully read and understand the operating instructions of the welding machine being used.
 - ▶ Fully read and understand the operating instructions for all other system components.
 - ▶ Read and adhere to all safety rules and safety instructions in the above-mentioned documents.
-

CAUTION!

Danger from rotating drive parts if covers are open.

This can result in injuries.

- ▶ When performing maintenance or set-up work, make sure that the drive components of the unreeling wirefeeder cannot be started by the welding machine, by a wirefeeder or by any other system extensions.
-

Device concept

The WF 25i REEL sa / 2R unreeling wirefeeder is an extra drive unit that is not synchronised with the welding machine in the welding system; its purpose is to ensure constant and precision wirefeeding over large wirefeeding distances between the welding wire drum and the robot wirefeeder.

The unreeling wirefeeder is equipped with a 2-roller drive.

It is supplied with power via its own mains cable, and controlled manually or – optionally – via the robot control.

Application area

All indoor and automated MIG/MAG applications.

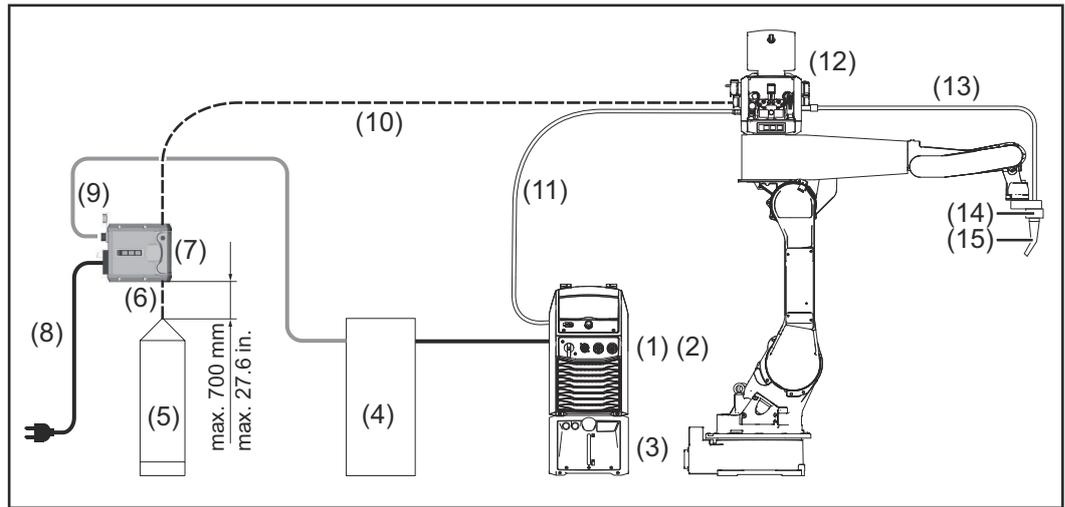
Proper use

The device is designed exclusively for wirefeeding in automated MIG/MAG welding applications in conjunction with Fronius system components. Any use above and beyond this purpose is deemed improper. The manufacturer shall not be held liable for any damage arising from such usage.

Utilisation in accordance with the intended purpose also comprises:

- carefully reading these operating instructions
- following all the instructions and safety rules in these operating instructions
- performing all stipulated inspection and maintenance work

Application example



- | | | | |
|-----|--|------|--|
| (1) | Welding machine | (10) | Wirefeeding hose from unreeling wirefeeder to robot wirefeeder |
| (2) | Robot interface | (11) | Interconnecting hosepack |
| (3) | Cooling unit | (12) | Robot wirefeeder |
| (4) | Robot control | (13) | Torch hosepack |
| (5) | Welding wire drum | (14) | CrashBox |
| (6) | Wirefeeding hose to the unreeling wirefeeder | (15) | Robot welding torch |
| (7) | Unreeling wirefeeder | | |
| (8) | Mains cable | | |
| (9) | Unreeling wirefeeder control line (option) | | |

Warning notices on the device

The device is fitted with safety symbols and a rating plate. The safety symbols and rating plate must not be removed or painted over. The safety symbols warn against operating the equipment incorrectly, as this may result in serious injury and damage.

Fronius		WF 25i REEL R /sa/2R/G/W	
www.fronius.com		Part No.:	4,049,039,850
		Ser.No.:	24060701
IEC 60 974-5/-10 Cl.A		IP 21	
 1- 50/60 Hz	U ₁	I ₁	 3,15 A
	100 - 240 V	1.7 - 0.7 A	
	1 - 25 m/min		40 - 984 ipm
Caution: Parts may be at welding voltage Attention: Les pièces peuvent être à la tension de soudage			

WF 25i REEL R /SA/2R/G/W



The device conforms to safety class II



Do not dispose of used devices with domestic waste. Dispose of them according to the safety rules.



Welding is dangerous. The following basic requirements must be met to ensure the equipment is used properly:

- Anyone performing automated welding must be sufficiently qualified
- Suitable protective equipment must be used
- All persons not involved must be kept at a safe distance from the wirefeeder and the welding process



Do not use the functions described here until you have fully read and understood the following documents:

- These operating instructions
- All the operating instructions for the system components, especially the safety rules



Keep hands, hair, clothing and tools away from moving parts. For example:

- Cogs
- Feed rollers
- Wire spools and welding wires

Do not reach into the rotating cogs of the wire drive or into rotating drive components.

Covers and side panels may only be opened/removed while maintenance or repair work is being carried out.

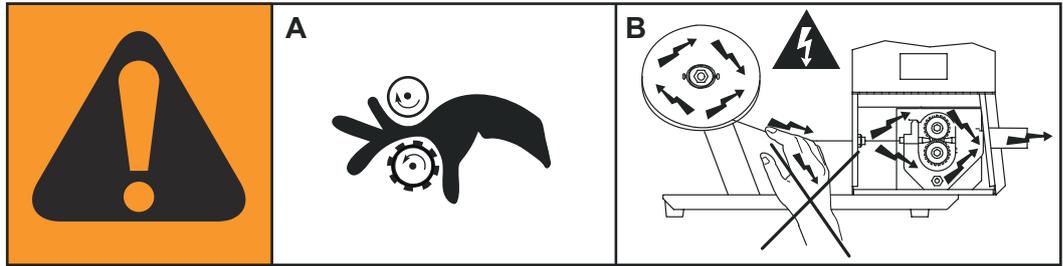


Wear eye protection

Description of the warning notices on the device

For certain device versions, warning notices are affixed to the device.

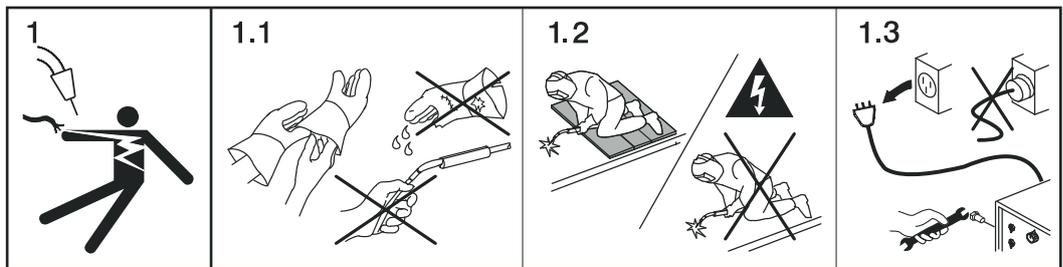
The arrangement of the symbols may vary.



! **Warning! Attention!**
The symbols represent possible dangers.

A Drive rollers can injure fingers.

B The welding wire and drive parts are live during operation.
 Keep hands and metal objects away!

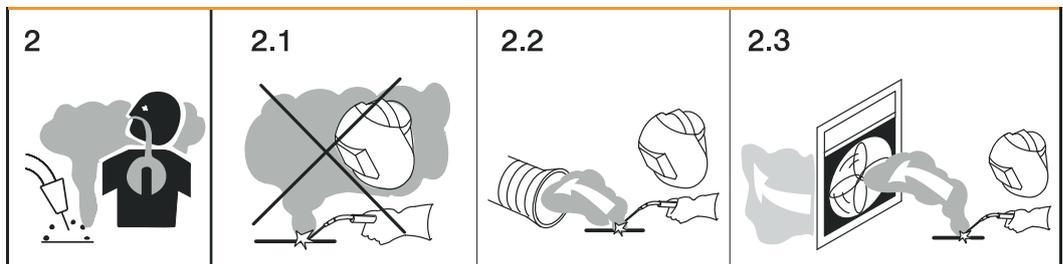


1. An electric shock can be fatal.

1.1 Wear dry, insulating gloves. Do not touch the wire electrode with bare hands. Do not wear wet or damaged gloves.

1.2 Use a base that is insulated from the floor and work area to protect against electric shock.

1.3 Before working on the device, switch off the device and pull out the mains plug or disconnect it from the power supply.

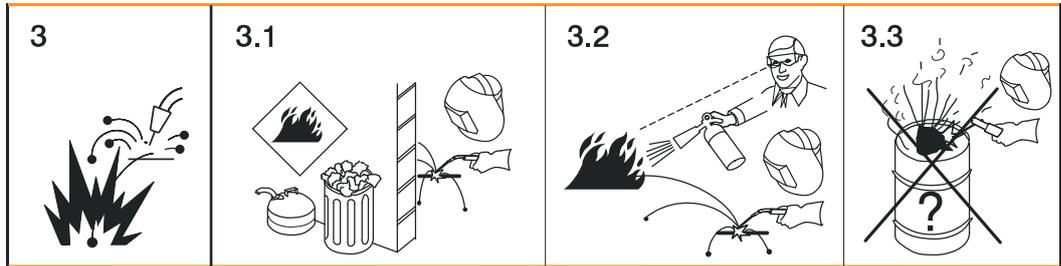


2. Inhalation of welding fumes can be harmful to health.

2.1 Keep your face away from any welding fumes.

2.2 Use forced-air ventilation or a local extraction system to remove welding fumes.

2.3 Remove welding fumes with a fan.

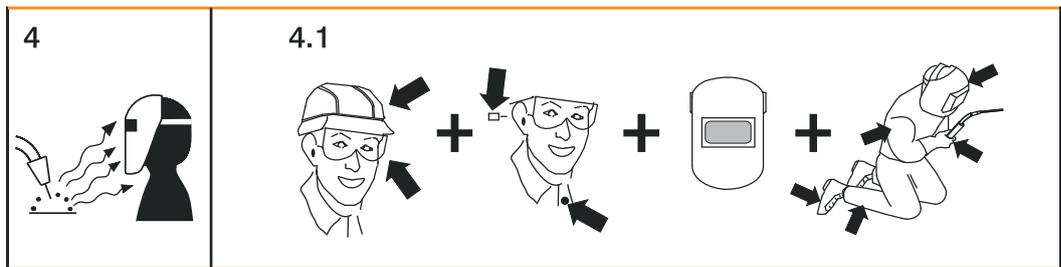


3 Welding sparks can cause an explosion or fire.

3.1 Keep flammable materials away from the welding process. Never weld close to flammable materials.

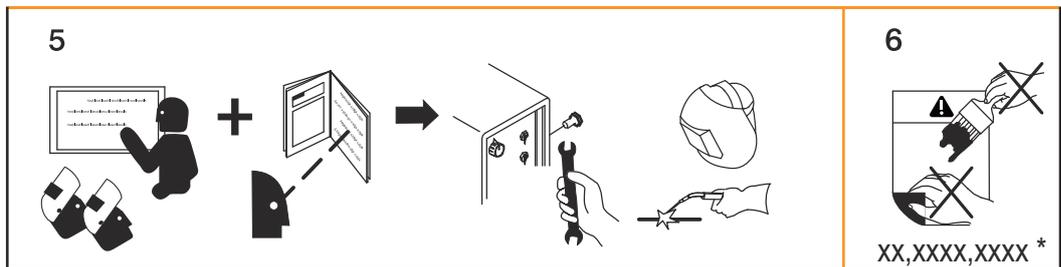
3.2 Welding sparks can cause a fire. Have fire extinguishers to hand. If necessary, have a supervisor ready who can operate the fire extinguisher.

3.3 Do not weld on drums or closed containers.



4. Arc rays can burn the eyes and injure the skin.

4.1 Wear headgear and protective goggles. Use ear protection and a shirt collar with button. Use a welding helmet with the correct tinting. Wear suitable protective clothing over the entire body.



5. Before working on the system or welding:
undertake training on the device and read the instructions!

6. Do not remove or paint over the warning sticker.

* Manufacturer order number of the sticker

Controls, connections and mechanical components

Safety

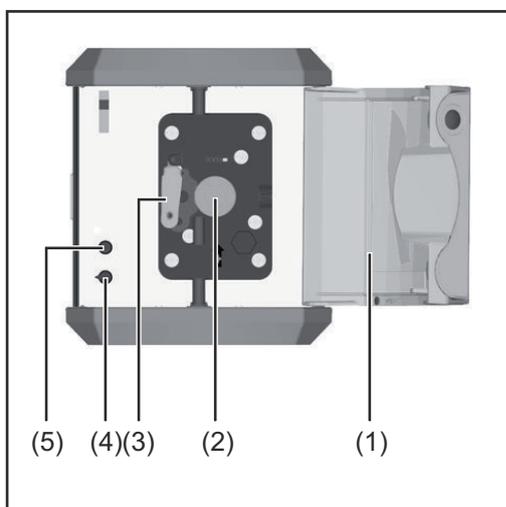
WARNING!

Danger from incorrect operation and work that is not carried out properly.

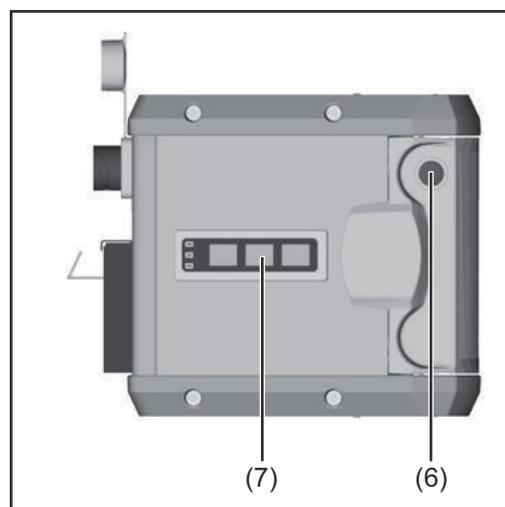
This can result in serious personal injury and damage to property.

- ▶ All the work and functions described in this document must only be carried out by technically trained and qualified personnel.
- ▶ Read and understand this document in full.
- ▶ Read and understand all safety rules and user documentation for this device and all system components.

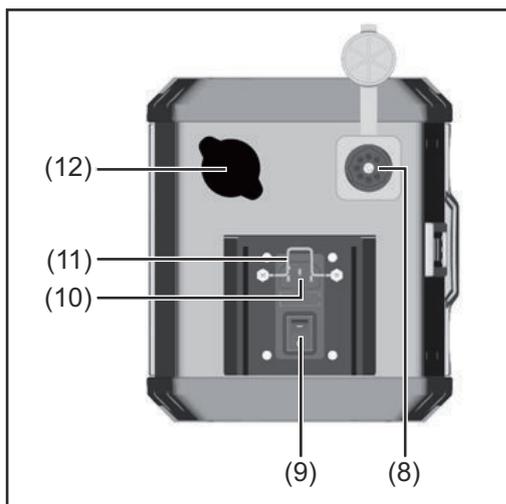
Controls, connections and mechanical components



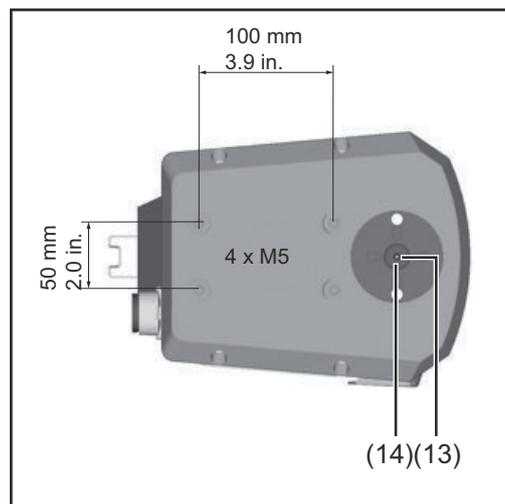
Front



Left side



Rear

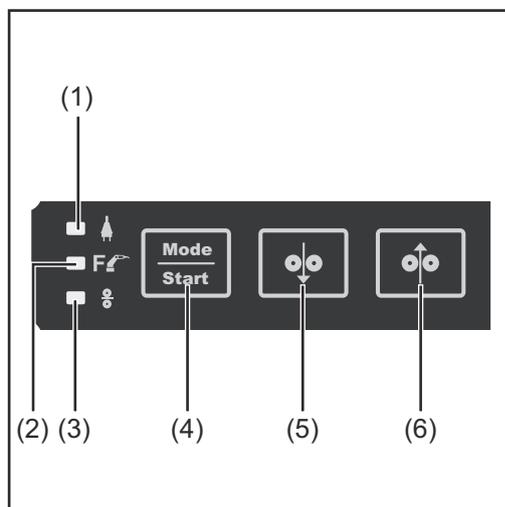


Top/underside

No.	Function
(1)	Cover
(2)	Protective cover for the 2-roller drive

-
- (3) **2-roller drive**
-
- (4) **Wire feed speed potentiometer**
1 - 15 m/min (39.4 - 590.6 ipm.) for wire threading and wire retraction
-
- (5) **Torque potentiometer**
10 - 100% (10% = 5 N, 100% = 50 N)
Factory setting: 40%
-
- (6) **Opening for optional sash lock**
-
- (7) **Control panel**
-
- (8) **Robot control connection**
(option)
-
- (9) **Mains switch**
-
- (10) **Mains cable connection**
-
- (11) **Strain-relief device for the mains cable**
-
- (12) **Blanking cover for optional component**
-
- (13) **Wire infeed/outfeed tube**
Wire infeed (underside)
Wire outfeed (top)
-
- (14) **M20 thread**
for connecting QuickConnect option
-

Control panel



Gas test / wire threading control panel

No.	Function
(1)	Mains supply LED
(2)	Torque mode LED
(3)	Wire threading mode LED

The LEDs are dual LEDs, which can light up green and red or flash.

A functional description of the LEDs can be found in the sections:
"LED indicators" on page [34](#)
and
"LED indicators in the event of a fault" on page [37](#)

(4) **Mode / Start button**

- for switching between torque mode and wire threading mode
- for starting torque mode

(5) **Wire retract button**

For retracting the wire electrode with no accompanying flow of gas or current

- Press and hold the button
 - After about 0.1 seconds, the wirefeeder reaches the wire speed value set on the wire speed potentiometer, and this value is then used for wire retraction
-

NOTE!

Do not allow long lengths of wire electrode to be retracted, as the wire electrode is not wound onto the wire spool or the welding wire drum when retracted.

- (6) Wire threading button
For threading the wire electrode into the torch hosepack with no accompanying flow of gas or current
- Press and hold the button
 - After about 0.1 seconds, the wirefeeder reaches the wire speed value set on the wire speed potentiometer, and this value is then used for wire threading
-

Fitting the wire-feed unit

Fitting the wirefeeder

WARNING!

Danger from electric current.

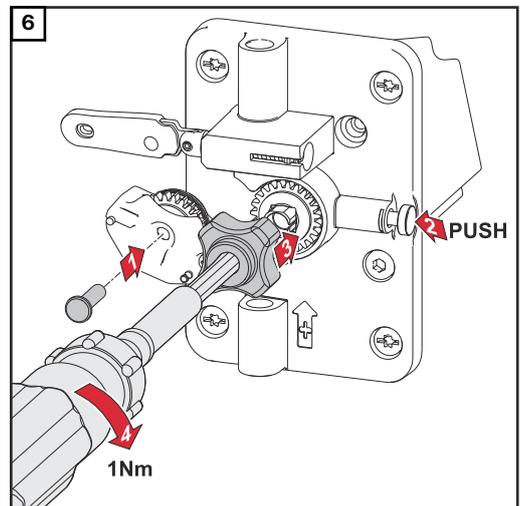
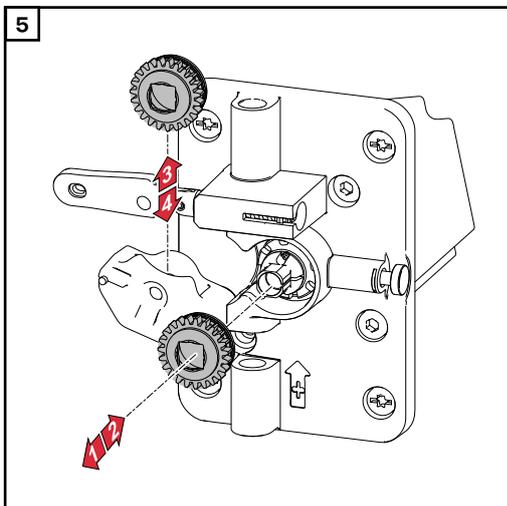
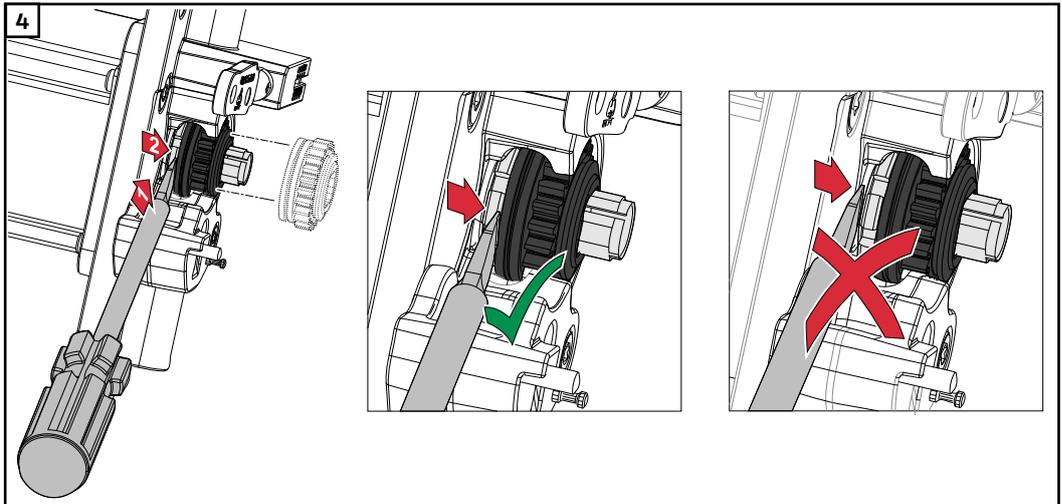
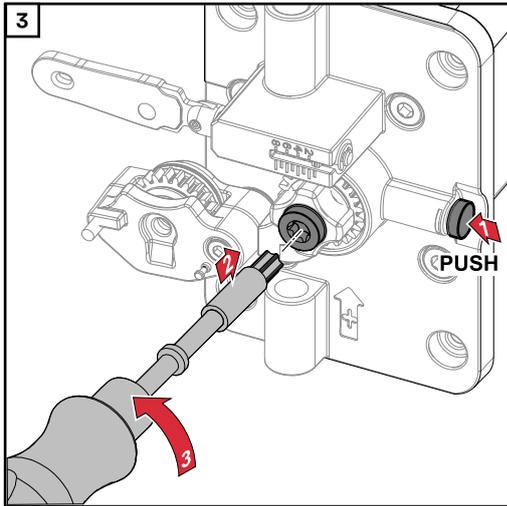
This can result in serious personal injury and damage to property.

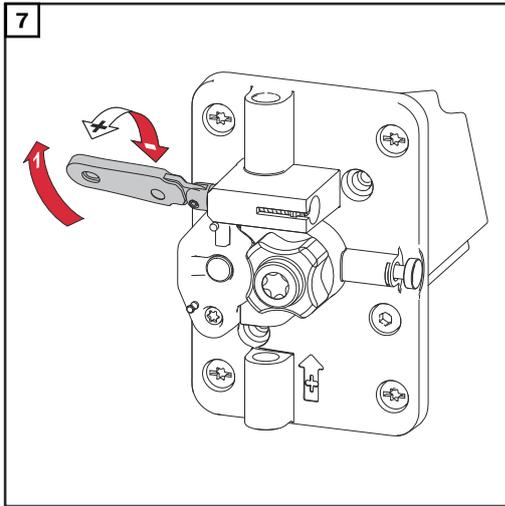
- ▶ Before starting work, switch off all the devices and components involved and disconnect them from the grid.
- ▶ Secure all the devices and components involved to prevent unintentional re-starting.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

The unreeling wirefeeder is designed exclusively for vertical installation on the following mounts:

- WF Mounting WALL 4,100,846
- WF Mounting Drum 4,100,845

- 1** In accordance with the installation instructions, mount the unreeling wirefeeder onto the wall bracket or the wire drum mount
- 2** Use the optional QuickConnect to connect the wirefeeding hose to the unreeling wirefeeder
- 3** If available:
Use the robot control option to connect the unreeling wirefeeder to the robot control
- 4** Connect the mains cable to the unreeling wirefeeder





⚠ CAUTION!

Danger from exposed feed rollers.

Risk of crushing.

- ▶ Always fit the protective cover of the 2-roller drive after changing feed rollers.

Feeding in the wire electrode

Insulated routing of wire electrode to wirefeeder

CAUTION!

Danger due to uninsulated wire electrode.

This can result in personal injury, damage to property and impaired welding results.

- ▶ In the case of automated applications, ensure that only an insulated wire electrode is routed from the welding wire drum, large wirefeeder spool or wire spool to the wirefeeder (e.g. by using a wirefeeding hose).
-

An earth contact or short-circuit can be caused by:

- a non-insulated, exposed length of wire electrode coming into contact with a conductive object during the welding process
- missing insulation between the wire electrode and the earthed enclosure of a robot cell
- chafed wirefeeding hoses, exposing the wire electrode

To avoid earth contact or short-circuit:

- Use wirefeeding hoses for insulated routing of wire electrode to the wirefeeder
 - To prevent chafing, do not route the wirefeeding hoses over sharp edges
 - Use hose holders or hose protectors where necessary
 - Coupling pieces and hoods for welding wire drums are recommended to ensure safe transport of the wire electrode
-

Safety

CAUTION!

Danger from rotating drive components if the cover is opened for maintenance or set-up work.

This can result in injuries.

- ▶ Make sure that the drive components of the unreeling wirefeeder cannot be started on the welding machine, the unreeling wirefeeder itself or other system extensions.
-

CAUTION!

Danger from sharp end of wire electrode.

This can result in damage to wirefeeding hose and welding torch.

- ▶ Properly deburr the end of the wire electrode before threading in.
-

CAUTION!

Danger from springiness of spooled wire electrode.

This can result in personal injury.

- ▶ Wear safety goggles.
 - ▶ When inserting the wire spool/basket-type spool, hold the end of the wire electrode firmly to avoid injuries caused by the wire electrode springing back.
-

Feeding in the wire electrode

- 1 Connect the mains cable of the unreeling wirefeeder to the mains
- 2 Switch on the mains switch

The green mains supply LED flashes rapidly, the mains supply and wire threading mode LEDs light up green.
Wire threading mode is activated.

- 3 Slide the wire electrode from the welding wire drum through the wirefeeding hose and up to the feed rollers on the unreeling wirefeeder

CAUTION!

Danger from emerging wire electrode.

This can result in personal injury.

- ▶ Hold the welding torch with the end directed away from the face and body.
- ▶ Wear suitable protective goggles.
- ▶ Do not point the welding torch at people.
- ▶ Ensure that the wire electrode can only intentionally make contact with electrically conductive objects.

-
- 4 Press the "Wire threading" button on the unreeling wirefeeder



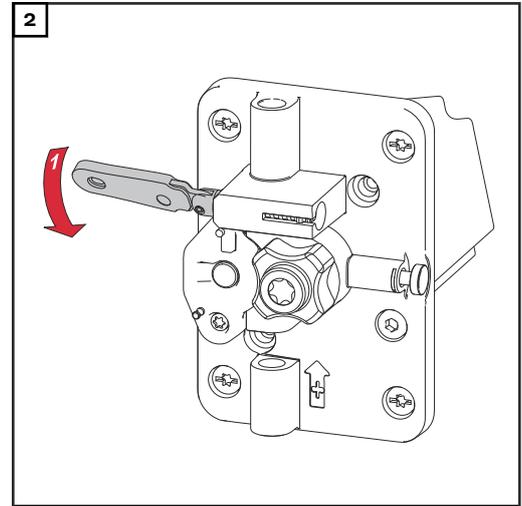
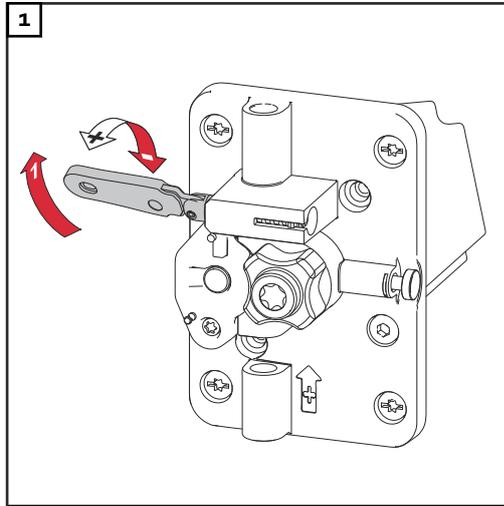
- As long as the wire threading button remains pressed, the feed rollers rotate and the wire threading LED flashes green.
- Feed the wire electrode into the wirefeeding hose between the unreeling wirefeeder and the robot wirefeeder until the wire electrode arrives at the feed rollers of the robot wirefeeder.
- The feeder inching speed can be changed using the wire speed potentiometer.

- 5 Thread the wire electrode into the torch hosepack as described in the operating instructions for the robot wirefeeder

**2-roller drive -
setting the con-
tact pressure**

NOTE!

Set the contact pressure in such a way that the wire electrode is not deformed but nevertheless ensures proper wirefeeding.



Contact pressure standard values	U-groove rollers
Steel	4-6
CrNi	4-6
AlMg	3-5
Al, AlSi	2-4
Tubular cored electrodes	3-5

Start-up

Commissioning

Once the wire electrode has been threaded, the unreeling wirefeeder is ready to use.

- 1 Press the Mode / Start button



- Torque mode is activated, the mains supply LED lights up green and the torque mode LED flashes green.
- The unreeling wirefeeder starts feeding the wire.
- The wire feed torque can be adjusted using the torque potentiometer: 10 - 100% (10% = 5 N, 100% = 50 N)

- 2 To finish wire feeding, press the Mode / Start button



- The unreeling wirefeeder switches to threading mode, the "Wire retract" and "Wire threading" buttons are active and can be used.

Note on setting the wirefeeding torque

The wirefeeding torque is set to 40% at the factory. This setting is suitable for the majority of applications. If individual adjustments are necessary, observe the following points.

- 1 Disconnect the wirefeeding hose between the unreeling wirefeeder and the robot wirefeeder at the robot wirefeeder

- 2 Thread the wire electrode in at the unreeling wirefeeder until it exits at the end of the wirefeeding hose before the robot wirefeeder

- 3 Activate torque mode:
Press the Mode / Start button



- The mains supply LED lights up green and the torque mode LED flashes green. The unreeling wirefeeder begins wirefeeding.

IMPORTANT! The wire electrode must not exit by itself in torque mode. If this is the case, the wirefeeder torque is too high and must be corrected on the potentiometer.

- 4 Set the wirefeeder torque on the potentiometer:
the wire electrode should be able to be pulled out of the wirefeeding hose by pulling gently with two fingers (equivalent to a pulling force of approx. 3 - 5 N).

5 Feed the wire electrode into the robot wirefeeder

IMPORTANT! The unreeling wirefeeder is in torque mode!

6 Reconnect the wirefeeding hose to the robot wirefeeder

Welding start depending on the application

7 To finish wirefeeding, press the Mode / Start button



- The unreeling wirefeeder switches to threading mode, the "Wire retract" and "Wire threading" buttons are active and can be used.

LED indicators in normal operation

When operating normally, the LEDs will flash green or will show a steady green.

Symbols used:



The LED is off



The LED is on



The LED is flashing



The LED flashes at approx. 2 Hz
The unreeling wirefeeder is not yet ready for use
or
the SR63 PC board is starting up
or
the UI-AVR PC board is in the process of being updated.



The unreeling wirefeeder is in threading mode.



The LED flashes at approx. 0.5 Hz
The unreeling wirefeeder is in threading mode and the "Wire threading" or "Wire retract" button is being pressed.

Threading mode

Only if OPT/i WF ext. installation set provided Start signal:		Torque mode
	<p>Torque mode selected on the unreeling wirefeeder, however torque mode is not active.</p> <p>The robot signal for the optional OPT/i WF ext. start signal is LOW.</p>	
	<p>Torque mode selected on the unreeling wirefeeder, torque mode is active.</p> <p>The robot signal for the optional OPT/i WF ext. start signal is HIGH.</p>	

NOTE!

If the OPT/i WF ext.

start signal installation kit is provided, the unreeling wirefeeder sends a feedback signal regarding its current status to the robot by way of a relay output.

Before an external start is possible with the OPT/i WF ext. start signal option fitted, torque mode must first be selected on the wirefeeder by pressing the Mode button.

Feedback signal from the unreeling wirefeeder to the robot = HIGH:
the unreeling wirefeeder is in torque mode.

Feedback signal from the unreeling wirefeeder to the robot = LOW:
the unreeling wirefeeder is in threading mode or a fault has occurred.

Care, maintenance and disposal

General

Under normal operating conditions, the welding system requires only a minimum of care and maintenance. However, it is vital to observe some important points to ensure the welding system remains in a usable condition for many years.

Safety

WARNING!

Danger from electric current.

This can result in serious personal injury and damage to property.

- ▶ Before starting work, switch off all the devices and components involved and disconnect them from the grid.
 - ▶ Secure all the devices and components involved to prevent unintentional re-starting.
 - ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.
-

WARNING!

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 - ▶ Read and understand this document in full.
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-

Every start-up

- Check torch hosepack, interconnecting hosepack and ground earth connection for signs of damage. Replace any damaged components
 - Check feed rollers and inner liners for signs of damage. Replace any damaged components
 - Check contact pressure of feed rollers and adjust if necessary
 - Check that all screw connections between the robot, wire-feed unit mount and wire-feed unit are secure
 - Check all screw joints on system components and associated mounts for tightness
-

Every 6 months

NOTE!

Risk of damage to electronic components.

Do not bring the air nozzle too close to electronic components.

- Remove the cover from the device and clean the inside with dry reduced compressed air
-

Disposal

Dispose of in accordance with the applicable national and local regulations.

Troubleshooting

General

The devices are equipped with an intelligent safety system. This means that to a large extent it has been possible to dispense with melting-type fuses. Melting-type fuses therefore no longer need to be replaced. After a possible malfunction has been remedied, the device is ready for use again.

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 - ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.
-

LED indicators in the event of a fault

In the event of a fault the LEDs light red.

Symbols used:



The LED is off



The LED is on



Undervoltage on SR63 PC board; the signal can be reset by pressing the Mode / Start button.



Motor overtemperature or motor overcurrent
The signal can be reset by pressing the Mode / Start button.

Remedy	Replace faulty parts
Cause	Mains fuse
Remedy	Change the mains fuse protection

Irregular wire feed speed

Cause	Hole in the contact tip is too narrow
Remedy	Use a suitable contact tip
Cause	Faulty inner liner in welding torch
Remedy	Check the inner liner for kinks, dirt, etc.
Cause	The feed rollers are not suitable for the wire electrode being used
Remedy	Use suitable feed rollers
Cause	Feed rollers have the wrong contact pressure
Remedy	Optimise the contact pressure

Wirefeed problems

when using long hosepacks

Cause	Incorrect arrangement of hosepack
Remedy	Arrange the hosepack in as straight a line as possible, avoid tight bends

Technical data

WF 25i REEL R /SA/2R/G/W

Supply voltage	100 - 240 V AC
Mains voltage tolerance	-10% / +10%
Mains frequency	50/60 Hz
Current input	1.7 - 0.7 A
Fuse	3.15 A slow-blow
Fault current protection device	Type A
Wire feed speed	1 - 25 m/min 39.37 - 984.3 ipm.
Wire drive	2-roller drive
Wire diameter	0.8 - 1.6 mm 0.03 - 0.06 in.
Degree of protection	IP 21
Marks of conformity	CE, CSA
Dimensions l x w x h	250 x 210 x 190 mm 9.8 x 8.3 x 7.5 in.
Weight	5.1 kg 11.24 lb.



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