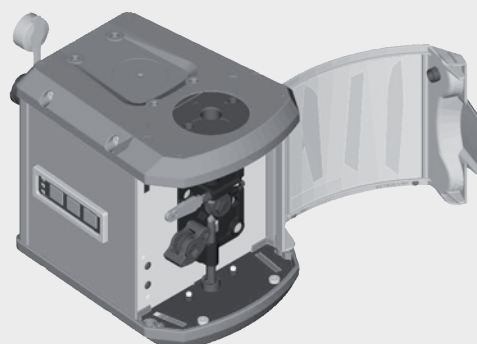


WF 25i REEL R /SA/2R/G/W

EN

Operating instructions

Wire-feed unit



42,0426,0160,EN 017-11092020

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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 wirespool, 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 touch the electrode when the power source is switched on.

Double the open circuit voltage of a power source can occur between the welding electrodes of two power sources. 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, appoint a second person to 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
- Irreparable 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, e.g. Insulation against conductive floor or insulation to conductive racks.

If 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
 - Power, 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 correct mains connection, additional measures are necessary (e.g. use a suitable line filter).
2. Welding power leads
 - must be kept as short as possible
 - must run 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. Shielding, if necessary
 - Shield off other nearby devices
 - Shield off entire welding installation

EMF measures

Electromagnetic fields may pose as yet unknown risks to health:

- effects on the health of others in the vicinity, e.g. wearers of pacemakers and hearing aids
- wearers of pacemakers must seek advice from their doctor before approaching the device or any welding that is in progress
- for safety reasons, keep distances between the welding cables and the welder's head/torso as large as possible
- do not carry welding cables 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
- Wirespools 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 away from the body (devices with wire-feed unit) 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.

Power sources for work in areas with increased electric risk (e.g. near boilers) must carry the "Safety" sign. However, the power source 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 and/or ropes onto all suspension points provided on the load-carrying equipment.
 - Chains and ropes must be at the smallest angle possible to the vertical.
 - Remove gas cylinder and wire-feed unit (MIG/MAG and TIG devices).
-

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

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, counterbalanced lift truck or other mechanical hoist.

All lifting accessories (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 devices 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 is performed at least once every 12 months.

The manufacturer recommends that the power source 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 has been 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 on request with any documents you may require.

Disposal Do not dispose of this device with normal domestic waste! To comply with the European Directive on Waste Electrical and Electronic Equipment and its implementation as national law, electrical equipment that has reached the end of its life must be collected separately and returned to an approved recycling facility. Any device that you no longer require must either be returned to your dealer or given to one of the approved collection and recycling facilities in your area. Ignoring this European Directive may have potentially adverse effects on the environment and your health!

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 protection The user is responsible for the safekeeping of any changes made to the factory settings. The manufacturer accepts no liability for any deleted personal settings.

Copyright Copyright of these operating instructions remains with the manufacturer.

The text and illustrations are all technically correct at the time of printing. We reserve the right to make changes. The contents of the operating instructions shall not provide the basis for any claims whatsoever on the part of the purchaser. If you have any suggestions for improvement, or can point out any mistakes that you have found in the instructions, we will be most grateful for your comments.

General

Safety



WARNING!

Incorrect operation or shoddy workmanship can cause serious injury and damage.

- ▶ The following documents must be completely read and understood before commissioning the unreeling wirefeeder:
 - these Operating Instructions
 - the Operating Instructions of the power source in use
 - the Operating Instructions of all other system components
 - the safety rules and safety instructions in the above-mentioned documents.
-



CAUTION!

Risk of injury from rotating drive parts if covers are open.

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

Device concept

The WF 25i REEL sa / 2R unreeling wire-feed unit is an extra drive unit that is not synchronised with the power source 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 wire-feed unit.

The unreeling wire-feed unit is equipped with a 2-roller drive. Power is supplied through a separate mains cable, and the unit is controlled either manually or optionally by means of robot control.

Application area

All indoor and automated MIG/MAG applications.

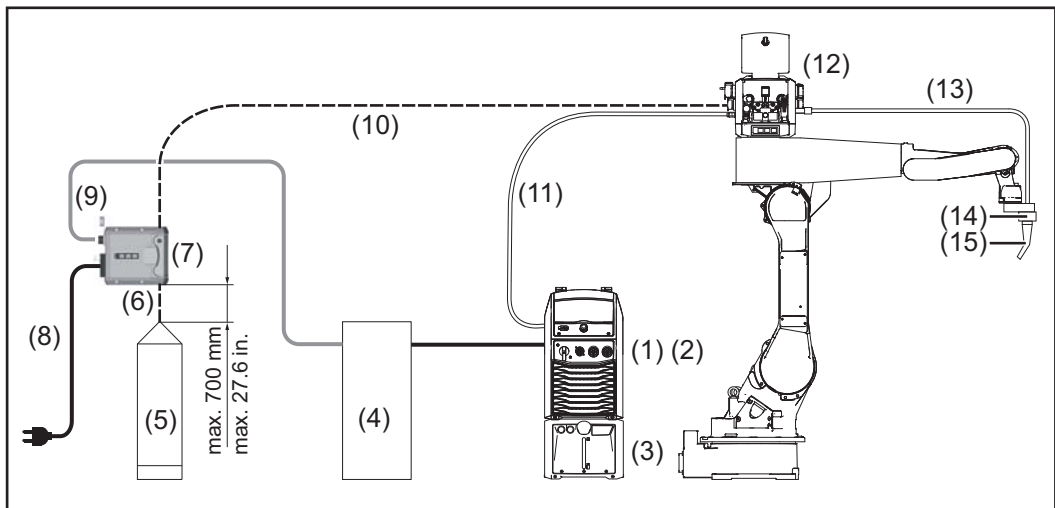
Proper use

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

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.

40.0006.3038

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	
	U ₁	I ₁	
1~ 50/60 Hz	100 - 240 V	1.7 - 0.7 A	⌀ 3,15 A
	1 - 25 m/min	40 - 984 ipm	
CE			
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 Protection 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 wire-feed unit and the welding process



Do not use the functions described here until you have thoroughly 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
- Wirespools 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.

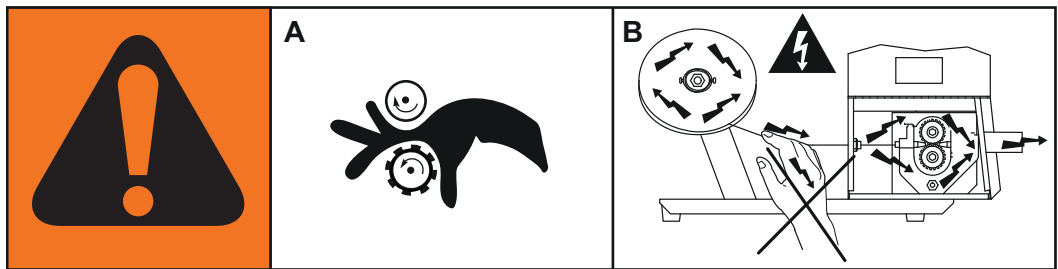


Wear eye protection

Description of Warning Notices on the Device

On certain device versions, warning notices are attached to the device.

The arrangement of the symbols may vary.

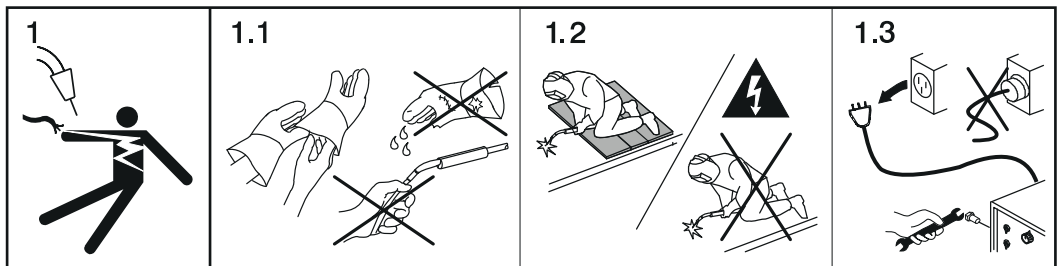


Warning! Watch Out!

There are possible hazards as shown by the symbols.

A Drive rolls can injure fingers.

B Welding wire and drive parts are at welding voltage during operation
Keep hands and metal objects away.

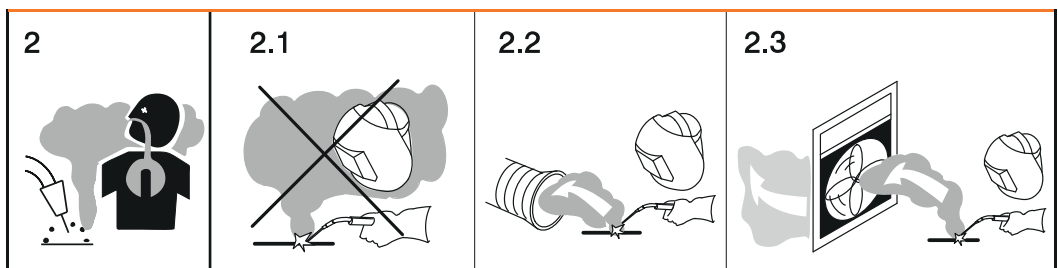


1. Electric shock can kill.

1.1 Wear dry insulating gloves. Do not touch electrode with bare hand. Do not wear wet or damaged gloves.

1.2 Protect yourself from electric shock by insulating yourself from work and ground.

1.3 Disconnect input plug or power before working on machine

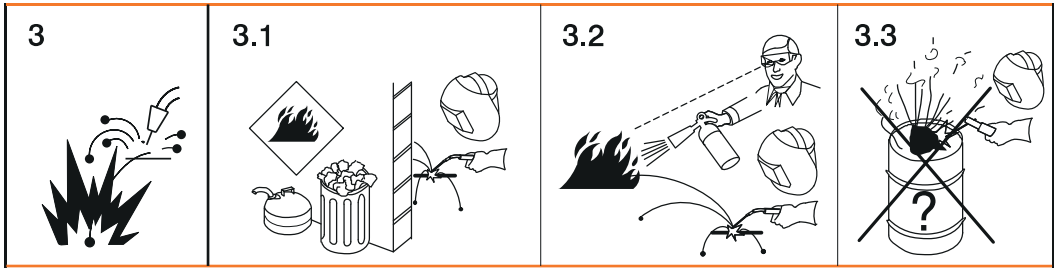


2. Breathing welding fumes can be hazardous to your health.

2.1 Keep your head out of the fumes.

2.2 Use forced ventilation or local exhaust to remove the fumes.

2.3 Use ventilating fan to remove fumes.

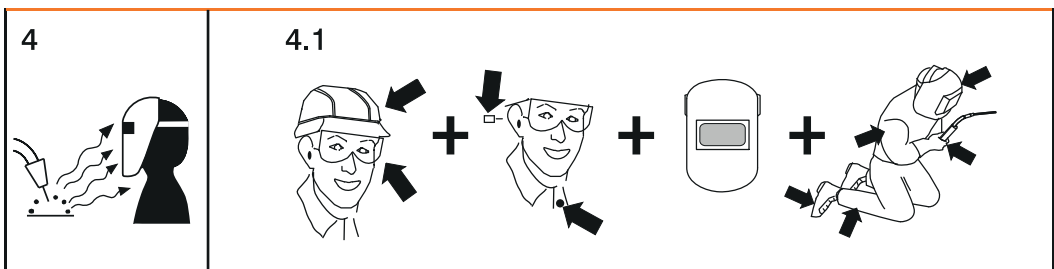


3 Welding sparks can cause explosion or fire.

3.1 Keep flammables away from welding. Don't weld near flammables.

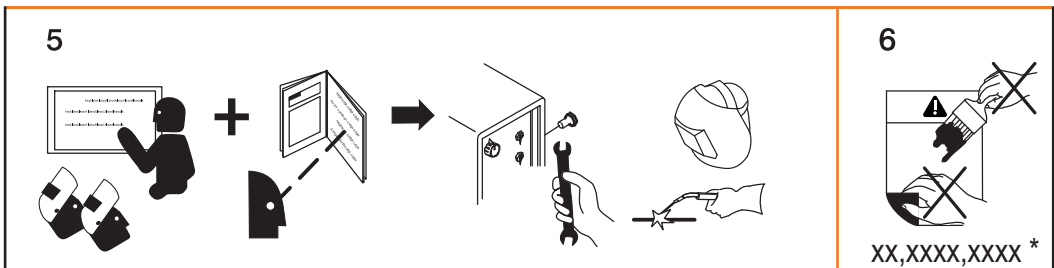
3.2 Welding sparks can cause fires. Have a fire extinguisher nearby and have a watchperson ready to use it.

3.3 Do not weld on drums or any closed containers.



4. Arc rays can burn eyes and injure skin.

4.1 Wear hat and safety glasses. Use ear protection and button shirt collar. Use welding helmet with correct shade of filter. Wear complete body protection.



5. Become trained and read the instructions before working on the machine or welding.

6. Do not remove or paint over (cover) the label.

* identifying number to order label from manufacturer

Controls, connections and mechanical components

Safety



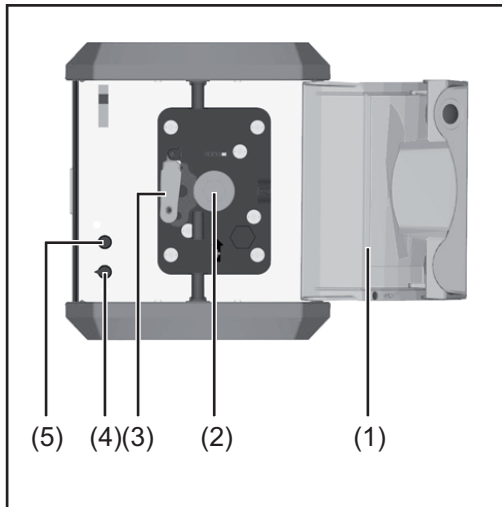
WARNING!

Danger from incorrect operation.

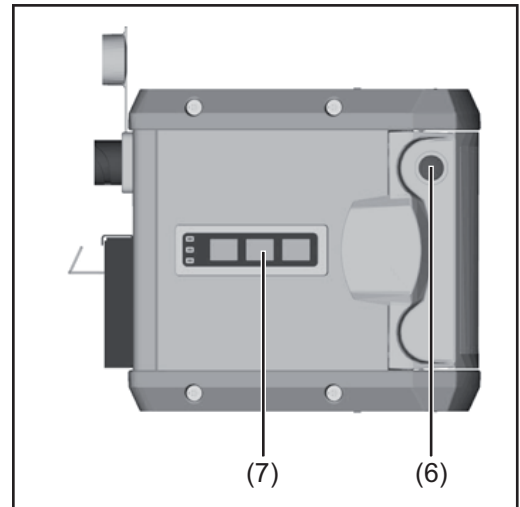
This can result in severe personal injury and damage to property.

- ▶ All the functions described may only be used by trained and qualified personnel.
- ▶ Fully read and understand this document.
- ▶ Fully read and understand all the Operating Instructions for the system components, especially the safety rules.

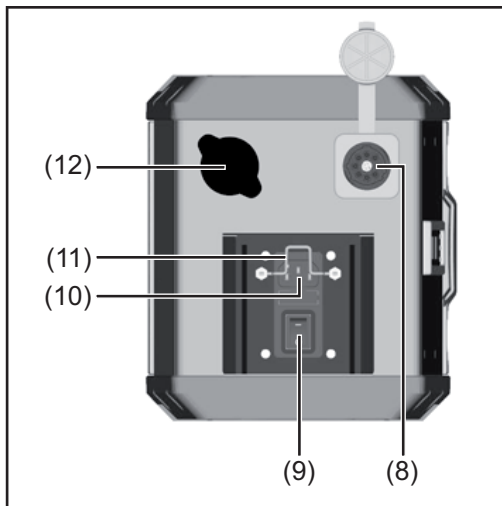
Controls, connections and mechanical components



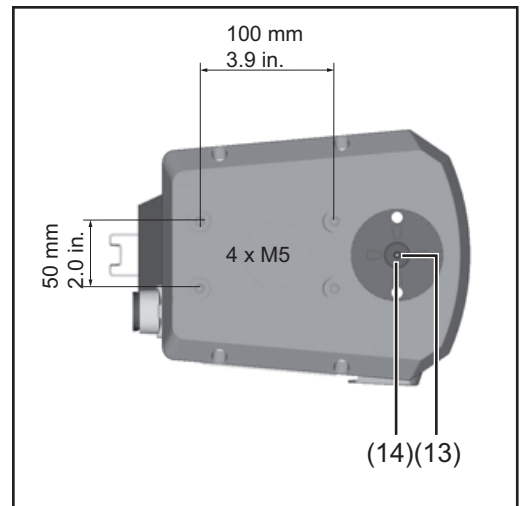
Front



Left side



Rear

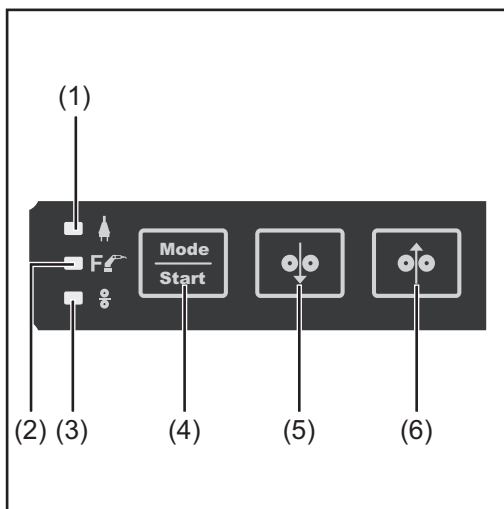


Top/underside

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 light up green and red or can flash.

Functional description of the LEDs according to the sections "LED indicators" on page [32](#) and "LED indicators in the event of a fault" on page [35](#)

No.	Function
(4)	Mode / Start button

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

No.	Function
-----	----------

(5)	Wire retract button
-----	----------------------------

retraction of wire electrode without accompanying flow of gas or current

- Press and hold the button
- After about 0.1 seconds, the wirefeeder reaches the wire feed speed value set on the wire feed speed potentiometer which 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 wirepool or the welding wire drum when retracted.

(6)	Wire threading button
-----	------------------------------

to thread 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 feed speed value set on the wire feed speed potentiometer, and this value is then used for wire threading

Fitting the wire-feed unit

Fitting the wire-feed unit



WARNING!

An electric shock can be fatal.

If the power source is connected to the mains supply while the work described below is being carried out, there is a high risk of very serious injury and damage. Only carry out the work described below when:

- ▶ the power source mains switch is in the "O" position
- ▶ the power source is unplugged from the mains
- ▶ all system components are disconnected from the mains

The unreeling wire-feed unit is designed exclusively to be fitted vertically on the following mounts:

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

- 1** Following the fitting instructions, mount the unreeling wire-feed unit onto the wall bracket or the wire drum mount
- 2** Use the optional QuickConnect to connect the wirefeeding hose to the unreeling wire-feed unit
- 3** If available:
use the optional robot control to connect the unreeling wire-feed unit to the robot control
- 4** Connect the mains cable to the unreeling wire-feed unit

Inserting/replacing feed rollers

Safety

WARNING!

An electric shock can be fatal.

If the power source is connected to the mains supply while the work described below is being carried out, there is a high risk of very serious injury and damage. Only carry out the work described below when:

- ▶ the power source mains switch is in the "O" position
- ▶ the power source is unplugged from the mains
- ▶ all system components are disconnected from the mains

General

The feed rollers are not installed in the device when it is first delivered.

In order to achieve optimum wire electrode feed, the feed rollers must be suitable for the diameter and alloy of the wire being welded.

NOTE!

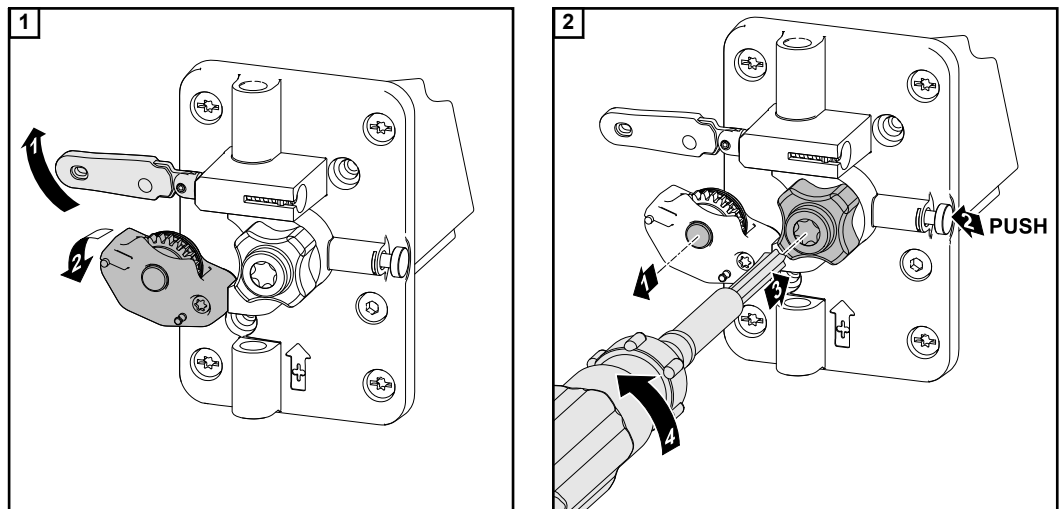
Risk from inadequate feed rollers.

This can result in poor weld properties.

- ▶ Only use feed rollers that match the wire electrode.

An overview of the feed rollers available and their possible areas of use can be found in the Spare Parts Lists.

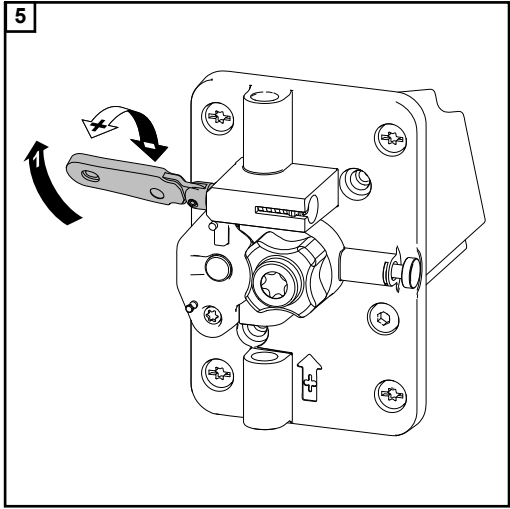
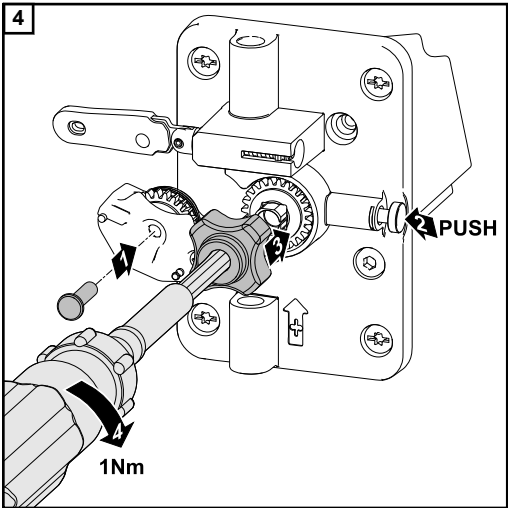
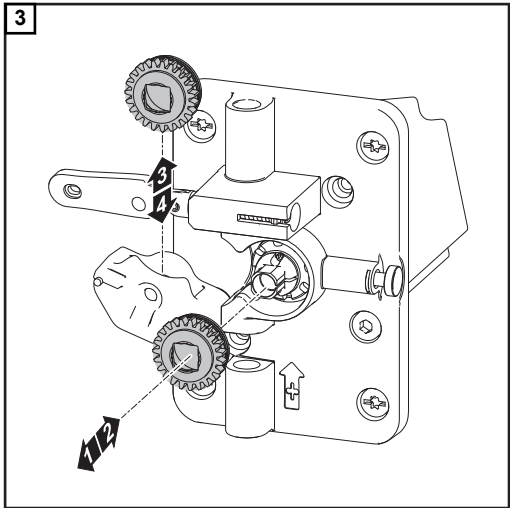
2-roller drive: Inserting/replacing feed rollers



CAUTION!

Risk of crushing due to exposed feed rollers.

- ▶ 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



WARNING!

Risk of serious injury and damage or an inferior weld as a result of earth contact or short-circuit of a non-insulated wire electrode.

- ▶ In the case of automated applications, ensure that only an insulated wire electrode is routed from the welding wire drum, large wirefeeder spool or wirepool 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 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!

Risk of injury by rotating drive components if the cover is opened for maintenance or set-up work.

Make sure that the drive components of the unreeling wire-feed unit cannot be started at the power source, the unreeling wire-feed unit itself or other system add-ons.



CAUTION!

Risk of damage to wirefeeding hose and welding torch from sharp end of wire electrode.

Deburr the end of the wire electrode well before feeding in.



CAUTION!

Risk of injury from springiness of spooled wire electrode.

When inserting the wire electrode into the wirefeeding hose, hold the end of the wire electrode firmly to avoid injuries caused by the wire springing back.

Feeding in the wire electrode

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

The green mains supply LED flashes rapidly, then 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!

Risk of injury from wire electrode emerging at speed.

A wire jam may lead to the wire electrode protruding, especially with thin or soft wire electrodes.

Keep your face and body well away from the 4-roller drive on the robot wirefeeder. Use suitable protective goggles.

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



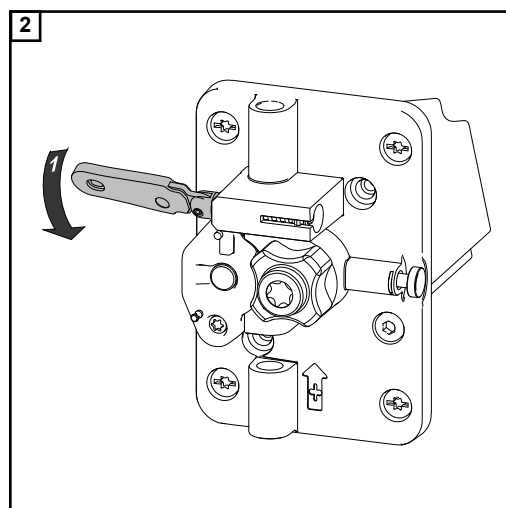
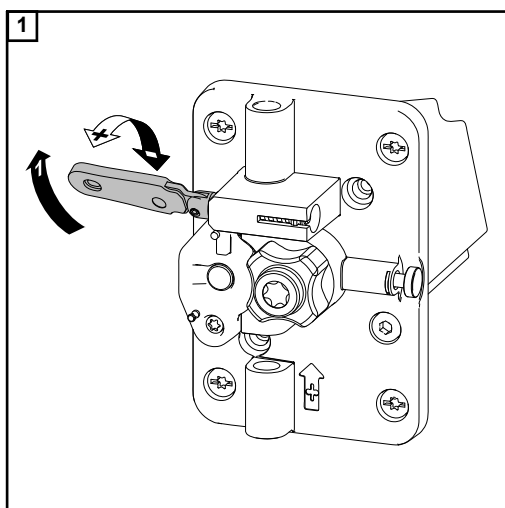
- The feed rollers will continue to turn for as long as the "Wire threading" button is kept pressed and the wire threading LED flashes green.
- Feed the wire electrode into the wirefeeding hose between the unreeling wirefeeder and the robot wirefeeder until the wire electrode arrives at the feed rollers of the robot wirefeeder.
- The feeder inching speed can be adjusted using the wire feed 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 contact 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

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 selected on the unreeling wirefeeder, however torque mode is not active.

The robot signal for the optional OPT/i WF ext. start signal is LOW.



Torque mode selected on the unreeling wirefeeder, torque mode is active.

The robot signal for the optional OPT/i WF ext. start signal is HIGH.

Torque mode

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!

An electric shock can be fatal.

Before opening the device

- ▶ Turn the mains switch to the "O" position
 - ▶ Unplug the device from the mains
 - ▶ Ensure the device cannot be switched back on
 - ▶ Using a suitable measuring instrument, check to make sure that electrically charged components (e.g. capacitors) have been discharged
-



WARNING!

Work that is carried out incorrectly can cause serious injury and damage.

- ▶ The following activities must only be carried out by trained and qualified personnel.
 - ▶ All instructions in the section headed "Safety rules" must be observed.
-

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.

Safety



WARNING!

Work that is carried out incorrectly can cause serious injury or damage.

The activities described below must only be carried out by trained and qualified personnel. Read the safety rules in the wire-feed unit operating instructions.



WARNING!

An electric shock can be fatal.

Before opening the unit

- ▶ Turn the mains switch to the "O" position
- ▶ Unplug the device from the mains
- ▶ Put up an easy-to-understand warning sign to stop anybody inadvertently switching it back on again
- ▶ Using a suitable measuring device, check to make sure that electrically charged components (e.g. capacitors) have 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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