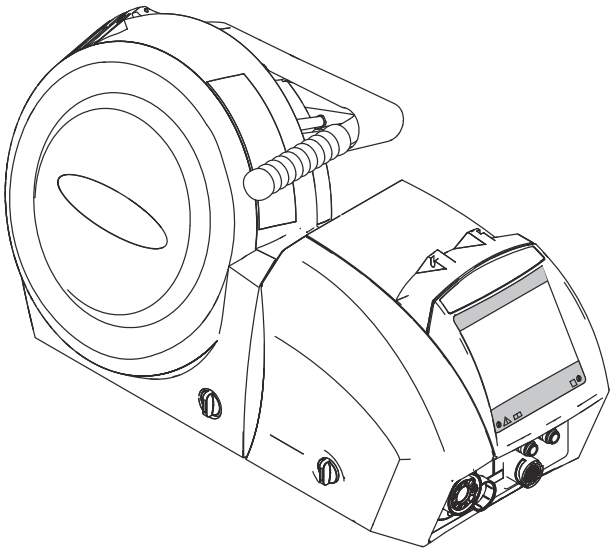
Operating Instructions

WF 15i
WF 15i n.S.
WF 25i
WF 30i



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 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
- 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
- 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 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.

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 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 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).

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 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 m^3/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 conductibility, 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. Proper disposal of the old device promotes sustainable recycling of material resources. Ignoring this may lead to potential health/environmental impacts.

Packaging materials
Collected separately. Check your municipality's regulations. Reduce the volume of the box.

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

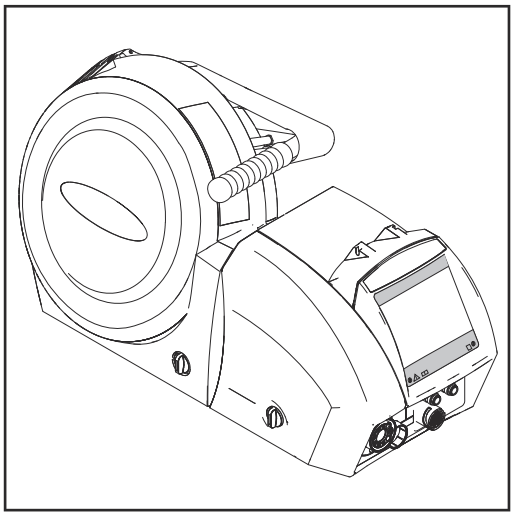
The text and illustrations are all technically correct at the time of printing. We reserve the right to make changes. The contents of the operating instructions shall not provide the basis for any claims whatsoever on the part of the pur-

chaser. 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

General

Device concept



The wire-feed units WF 15i, WF 25i, WF 30i are fitted with a cover for wirespools with an outer diameter of up to 300 mm (11.81 in).

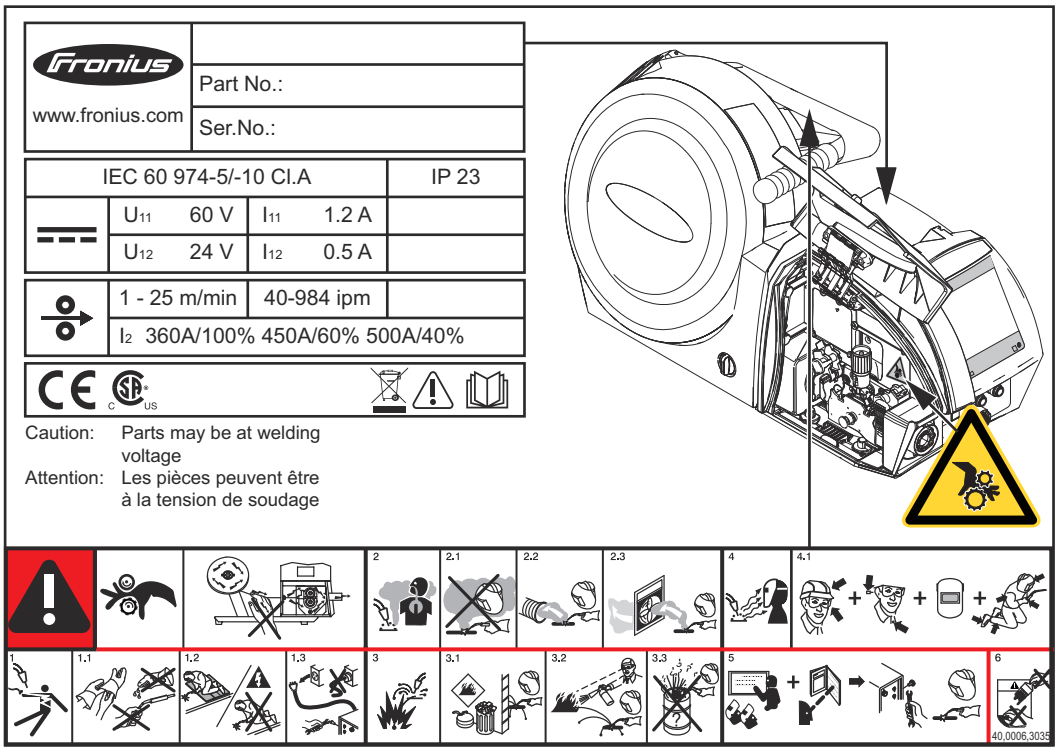
Also available is the WF 15i n.S. (no Spool) variant without an integrated wirespool holder. The WF 15i n.S. (no Spool) variant is particularly suitable for robot and automated applications with an external wire feeder.

The standard 4-roller drive has excellent wirefeeding properties. The wire-feed units are also suitable for long hosepacks.

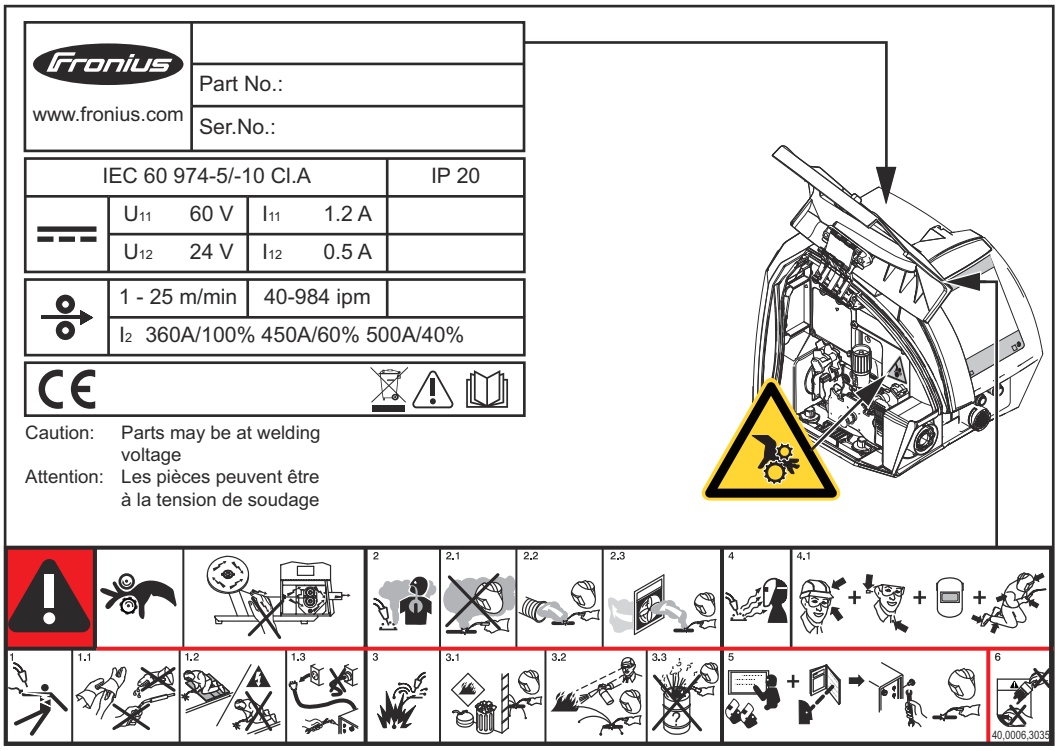
Due to their compact size, the wire-feed units can be used in many different ways.

Warning notices on the device

The wire-feed unit 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.



WF 15i, WF 25i, WF 30i



WF 15i n.S.

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

Welding is dangerous. The following basic requirements must be met to ensure the equipment is used properly:
- Welders 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 dispose of used devices with domestic waste. Dispose of them according to the safety rules.

Keep hands, hair, clothing and tools away from moving parts. For example:
- Cogs
- Feed rollers
- Wirespools and wire electrodes

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.

Controls, connections and mechanical components

Controls, connections and mechanical components

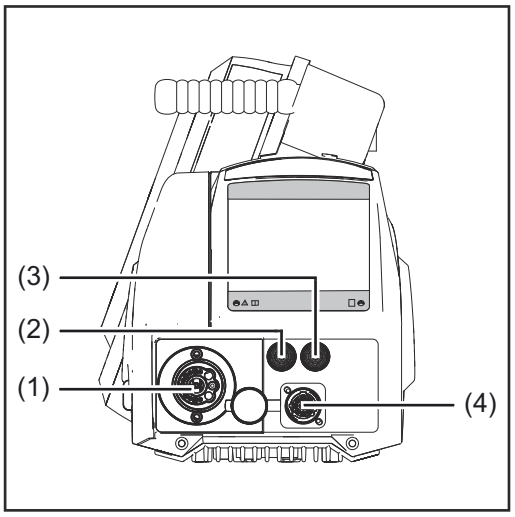
Safety

⚠ WARNING!

Danger from incorrect operation and work that is not carried out properly.
This can result in serious personal injury and damage to property.

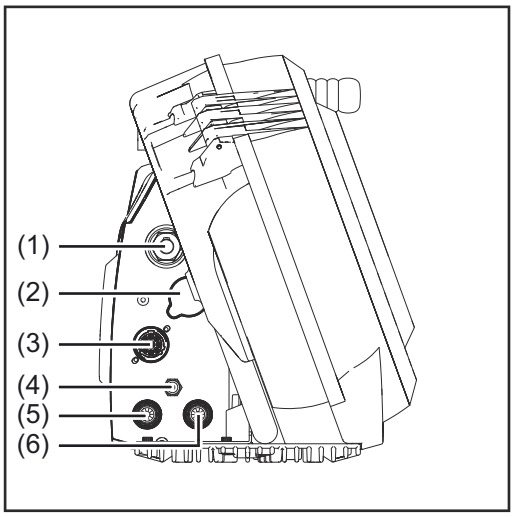
- ▶ All the work and functions described in this document must only be carried out by technically trained and qualified personnel.
- ▶ Read and understand this document in full.
- ▶ Read and understand all safety rules and user documentation for this device and all system components.

Front of wire-feed unit



No.	Function
(1)	**Welding torch connection** for connecting the welding torch
(2)	**Coolant flow connection (blue) - is fitted as standard on WF 15i, WF 15i n.S., WF 30i, as an option for WF 25i** for connecting the coolant hose from the welding torch hosepack
(3)	**Coolant return connection (red) - is fitted as standard on WF 15i, WF 15i n.S., WF 30i, as an option for WF 25i** for connecting the coolant hose from the welding torch hosepack
(4)	**SpeedNet connection** for connecting system add-ons - for example, a remote control unit

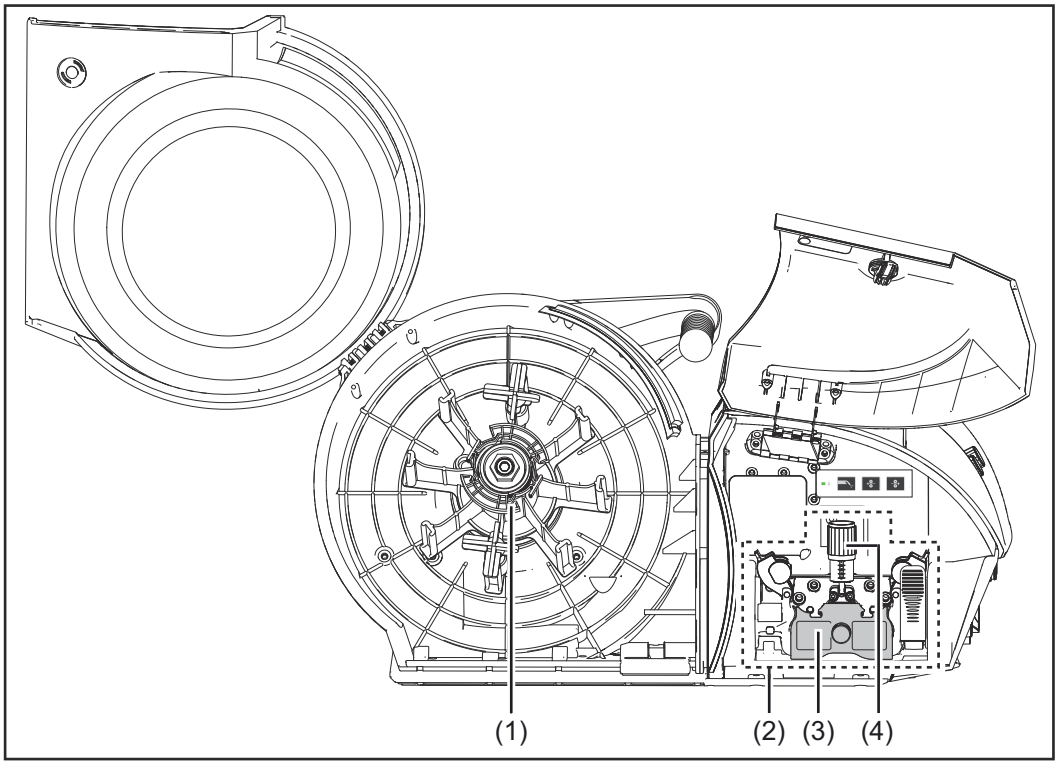
Rear of wire-feed unit



No.	Function
(1)	**(+) - current socket with fine-pitch thread** for connecting the interconnecting hosepack power cable
(2)	**Blanking cover**
(3)	**SpeedNet connection** for connecting the interconnecting hosepack SpeedNet cable
(4)	**Shielding gas connection**

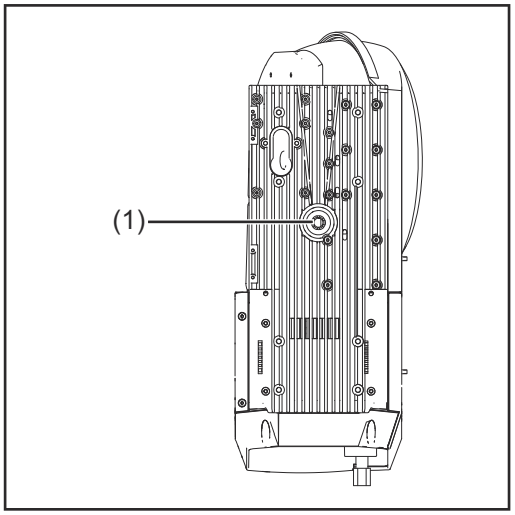
No.	Function
(5)	**Coolant return connection (red) - is fitted as standard on WF 15i, WF 15i n.S., WF 30i, as an option for WF 25i** for connecting the coolant hose from the interconnecting hosepack
(6)	**Coolant flow connection (blue) - is fitted as standard on WF 15i, WF 15i n.S., WF 30i, as an option for WF 25i** for connecting the coolant hose from the interconnecting hosepack

Wire-feed unit side



No.	Function
(1)	**Wirespool holder (not in the case of WF 15i n.S.)** for holding standard wirespools with a max. outer diameter of 300 mm (11.81 in) and max. weight of 19 kg (41.89 lbs.)
(2)	**4-roller drive**
(3)	**Protective cover for the 4-roller drive**
(4)	**Clamping lever** for setting the contact pressure of the feed rollers

Wire-feed unit underside



No.	Function
(1)	**Socket for swivel pin (not in the case of WF 15i n.S.)** for placing the wire-feed unit on the swivel pin in the swivel pin holder

Optional control panels

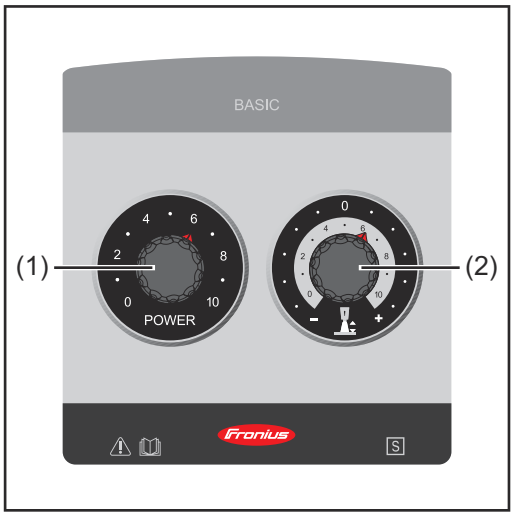
Safety

⚠ 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.

OPT/i WF POT control panel



The adjusters perform different functions depending on the application.

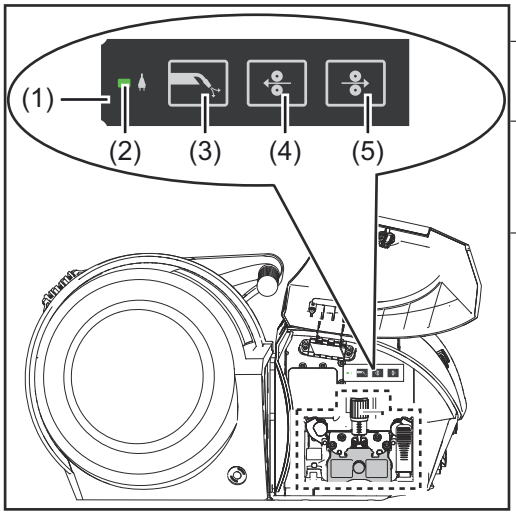
No.	Adjuster function during MIG/MAG welding (the remote control performs different functions depending on the welding process)
(1)	- **Setting the welding power** (during MIG/MAG synergic welding - Standard, Pulse, PMC, LSC) - **Setting the wire speed** (during MIG/MAG standard manual welding)
(2)	- **Correcting the arc length** (during MIG/MAG synergic welding - Standard, Pulse, PMC, LSC) - = shorter arc length 0 = neutral arc length + = longer arc length - **Setting the welding voltage** (during MIG/MAG standard manual welding)

No.	Adjuster functions during electrode welding
(1)	**Setting the welding current**

No.	Adjuster functions during electrode welding
(2)	**Influencing the arc-force dynamic:** - 0 = soft, low-spatter arc - 10 = harder, more stable arc

No.	Adjuster functions during TIG welding
(1)	**Setting the welding current**
(2)	**Not active**

OPT/i WF gas test & wire threading



No.	Function
(1)	**OPT/i WF gas test & wire threading**
(2)	**Operating status LED** lights up green when the device is ready for use
(3)	**Gas-test button** for setting the required gas flow rate on the pressure regulator - Gas will flow out for 30 seconds after the gas-test button is pressed. Press the button again to stop the gas flow prematurely

No.	Function
(4)	**Wire retract button** to retract the wire electrode with no accompanying flow of gas or current The wire electrode can be retracted using one of two methods: **Method 1** Retracting the wire electrode using the preset wire retract speed: - Press and hold the wire retract button - The wire electrode will be retracted 1 mm (0.039 in.) after the wire retract button is pressed - After a short pause, the wirefeeder continues to retract the wire electrode. If the wire retract button remains pressed, the speed will increase every second at a rate of 10 m/min (393.70 ipm) until the preset wire retract speed is reached **Method 2** Retracting the wire electrode in 1 mm increments (0.039 in. increments) – always press the wire retract button for less than one second (tap)

NOTE!

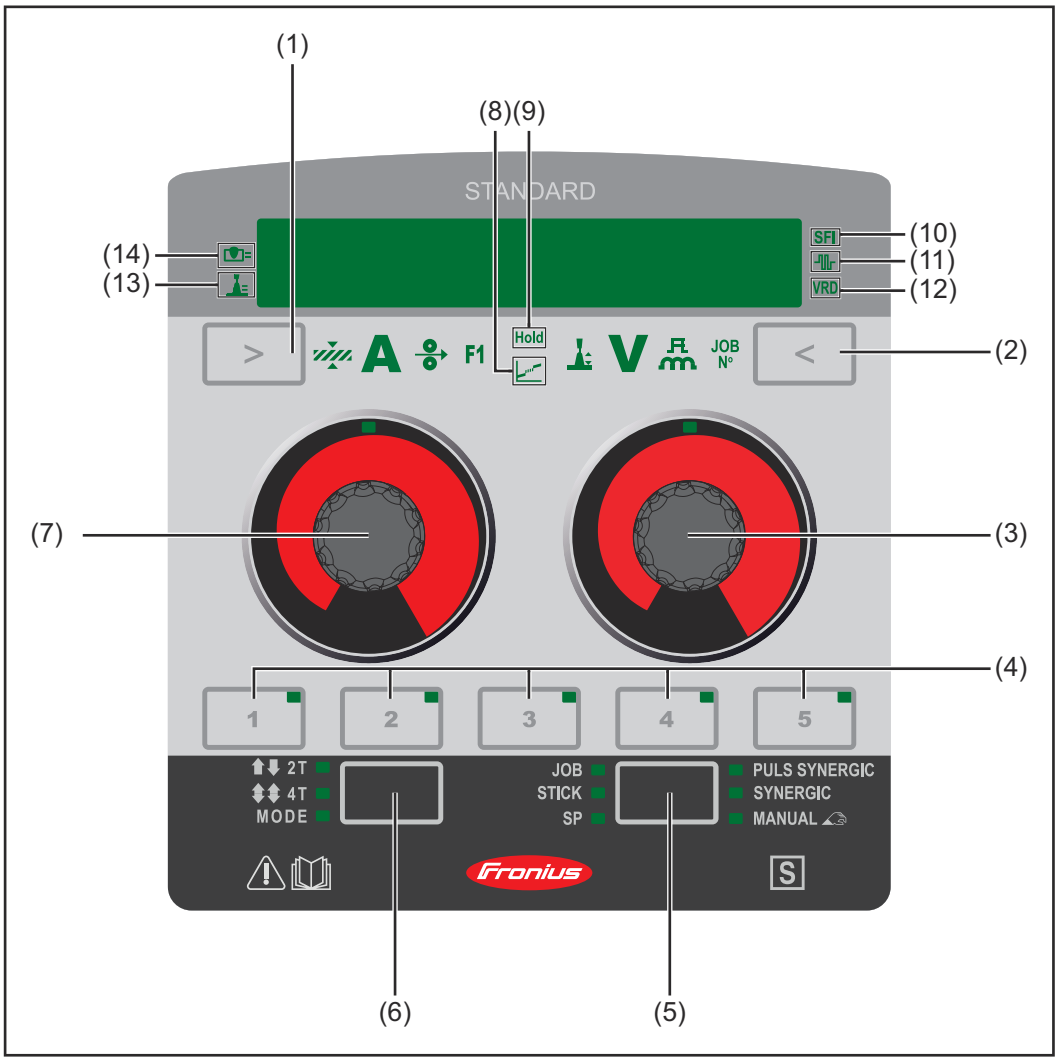
Risk when retracting the wire electrode.
No winding onto the wirespool.
▶ Do not allow long lengths of wire electrode to be retracted, as the wire electrode is not wound onto the wirespool when retracted.

If there was a ground earth connection with the contact tip before the wire retract button was pressed, the wire electrode will be retracted when the button is pressed until it is short-circuit-free - it retracts by no more than 10 mm (0.39 in.) with each press of the button.
If the wire electrode still needs to be retracted further, press the wire retract button again.

No.	Function
(5)	**Wire threading button** to thread the wire electrode into the torch hosepack with no accompanying flow of gas or current Wire threading can be performed using one of two methods: **Method 1** Threading the wire electrode using the preset feeder inching speed: - Press and hold the wire threading button - The wire electrode will be threaded 1 mm (0.039 in.) after the wire threading button is pressed - After a short pause, the wirefeeder continues to thread the wire electrode. If the wire threading button remains pressed, the speed will increase every second at a rate of 10 m/min (393.70 ipm) until the preset feeder inching speed is reached - If the wire electrode comes into contact with a ground earth connection, the wirefeeding will be stopped and the wire electrode will be retracted again by 1 mm (0.039 in.) **Method 2** Threading the wire electrode in 1 mm increments (0.039 in. increments) – always press the wire threading button for less than one second (tap) - If the wire electrode comes into contact with a ground earth connection, the wirefeeding will be stopped and the wire electrode will be retracted again by 1 mm (0.039 in.)

If there was a ground earth connection with the contact tip before the wire threading button was pressed, the wire electrode will be retracted when the button is pressed until it is short-circuit-free – it retracts by no more than 10 mm (0.39 in.) with each press of the button.
If there is still a ground earth connection with the contact tip after 10 mm (0.39 in.) of wire retraction, pressing the wire threading button again will cause the wire electrode to be retracted again by a maximum of 10 mm (0.39 in.). The process will be repeated until there is no longer a ground earth connection with the contact tip.

OPT/i WF Standard control panel



Number	Control	Indicator	Function
(1)	>		**Parameter selection button (left)** for selecting the parameters listed below. The corresponding indicator lights up when a parameter is selected.
			Material thickness *) in mm or inches
		A	**Current *)** current in A Before the start of welding, the machine automatically displays a standard value based on the programmed parameters. During welding, the actual value is displayed.
			Wire feed speed *) in m/min or ipm
		F1	**Special function** can only be selected if the SP welding process and the LSC or PMC special program has first been selected using the "Welding process" button (5). The following process control parameters can be selected and adjusted on all devices: - Penetration stabiliser - Arc length stabiliser As soon as F1 is selected, the current adjustable process control parameter is marked with an arrow on the display. Press the "Parameter selection" button (left) (1) again to select the second process control parameter. The following special functions can be selected depending on the configuration. *) = Synergic parameter When a synergic parameter is changed, the synergic function automatically changes all other synergic parameters to match.

Number	Control	Indicator	Function
(2)	<		**Parameter selection button (right)** for selecting the parameters listed below. The corresponding indicator lights up when a parameter is selected.
			Arc length correction for correcting the arc length - ... shorter arc length o ... neutral arc length + ... longer arc length
		V	**Voltage *)** in V Before the start of welding, the machine automatically displays a standard value based on the programmed parameters. During welding, the actual value is displayed.
			Pulse/dynamic correction for correcting the pulse energy during pulsed arc welding - ... lower droplet detachment force o ... neutral droplet detachment force + ... increased droplet detachment force
		JOB N°	**Job number** (can only be selected if the JOB welding process has first been selected using the "Welding process" button (5)) for selecting a job number *) = Synergic parameter When a synergic parameter is changed, the synergic function automatically changes all other synergic parameters to match.

Number	Control	Indicator	Function
(3)			**Adjusting dial with turn/press function** - for changing the arc length correction, voltage, pulse/ dynamic correction parameters - for selecting the job number
(4)			**EasyJob button** for saving, opening and deleting EasyJobs. The LED in the button indicates that EasyJob is selected How it works: - Press and hold the button for 3 seconds = save EasyJob (all current settings are saved). After saving, the LED in the button lights up and 'Store' is shown on the display - Press and hold the button for 5 seconds = delete EasyJob. 'Store' is shown on the display after 3 seconds, 'Clear' is shown after 5 seconds and the LED in the button goes out - Press the button = select the saved EasyJob
(5)			**Welding process button** for selecting the welding process - PULS SYNERGIC - MIG/MAG pulse synergic welding - SYNERGIC - MIG/MAG standard synergic welding - MANUAL - MIG/MAG standard manual welding - JOB - Job Mode - STICK - Manual metal arc welding - SP (SP = special programs: LSC, PMC, TIG, etc.) - Depending on which package of functions is enabled, various welding processes can be selected. Press the button to see the available welding processes shown on the display one after the other
(6)			**Mode button** for selecting the operating mode
		2T	2-step mode
		4T	4-step mode
		MODE	Depending on the function package, various special operating modes can be selected. Press the button to see the available operating modes shown on the display one after the other
(7)			**Adjusting dial with turn/press function** - for changing the material thickness, current, wire feed speed and special function parameters - for selecting and changing parameters in the Setup menu

Number	Indicator	Function
(8)	Hold	**Hold indicator** the actual values are displayed automatically at the end of each welding operation (current, voltage, wire feed speed, etc.). The actual values are displayed through the HOLD indicator lighting up.
(9)		**Intermediate arc indicator** a spatter-prone intermediate arc occurs between the short arc and the spray arc. The intermediate arc indicator lights up to draw attention to this critical area.
(10)	SFI	**SFI (Spatter Free Ignition) indicator** lights up when the Spatter Free Ignition function is active
(11)		**SynchroPuls indicator** lights up when the SynchroPuls function is active
(12)	VRD	**VRD (Voltage Reduction Device) indicator** lights up when the voltage reduction device (VRD) is active
(13)		**Penetration stabiliser indicator** lights up when the penetration stabiliser function is active
(14)		**Arc length stabiliser indicator** lights up when the arc length stabiliser function is active

Installation and commissioning

Before installation and commissioning

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.

Proper use

The device is intended exclusively for wire feeding in MIG/MAG welding in conjunction with Fronius system components.
Utilisation for any other purpose, or in any other manner, shall be deemed to be not in accordance with the intended purpose.
The manufacturer shall not be held liable for any damages arising from such usage.

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

Setup regulations

⚠ WARNING!

Danger from machines falling or toppling over.
This can result in severe personal injury and damage to property.
- ▶ Place all system components, upright consoles and trolleys on a solid, level surface in such a way that they remain stable.
- ▶ If a swivel pin holder is being used, make sure that the wirefeeder is seated securely.

The WF 15i, WF 25i and WF 30i wirefeeders are tested to IP23 protection, meaning:
- protection against penetration by solid foreign bodies with diameters exceeding 12.5 mm (0.49 in.)
- protection against spraywater at any angle up to 60° to the vertical

The WF 15i, WF 25i and WF 30i wirefeeders can be set up and operated outdoors in accordance with degree of protection IP23. Avoid direct wetting (e.g. from rain).

The WF 15i n.S. wirefeeder without an integrated wirespool holder is tested to IP20 protection, meaning:
- protection against penetration by solid foreign bodies with diameters exceeding 12.5 mm (0.49 in.)
- no protection against water

The WF 15i n.S. wirefeeder without an integrated wirespool holder may only be set up and operated in closed areas.

Placing wire-feed unit on swivel pin holder

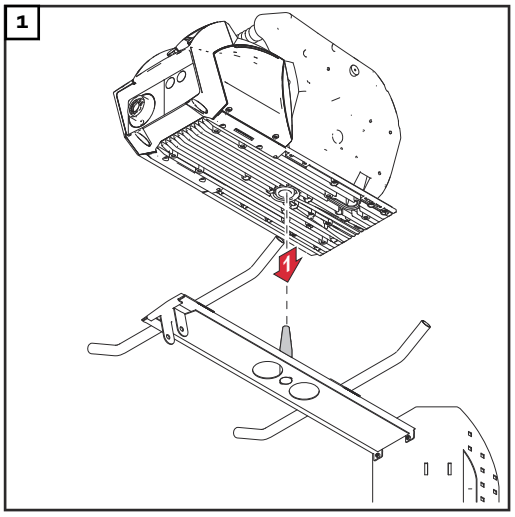
Safety

⚠ WARNING!

Danger from electrical current.
This can result in serious personal injury and damage to property.

- ▶ Before starting work, switch off all devices and components involved and disconnect them from the grid.
- ▶ Secure all devices and components involved so they cannot be switched back on.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

Placing wire-feed unit on swivel pin holder



Connecting wire-feed unit to power source

Safety

⚠ WARNING!

Danger from electrical current.
This can result in serious personal injury and damage to property.
- ▶ Before starting work, switch off all devices and components involved and disconnect them from the grid.
- ▶ Secure all devices and components involved so they cannot be switched back on.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

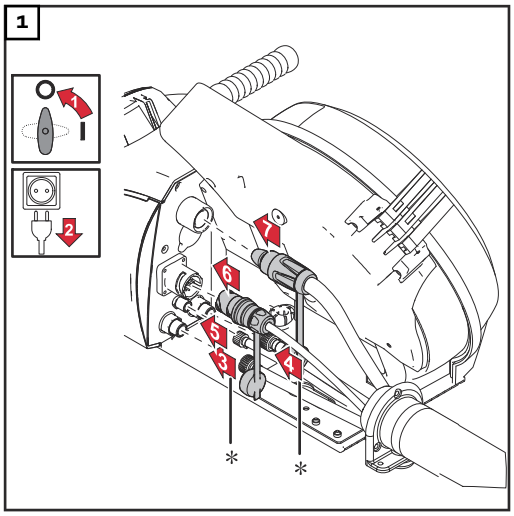
General information

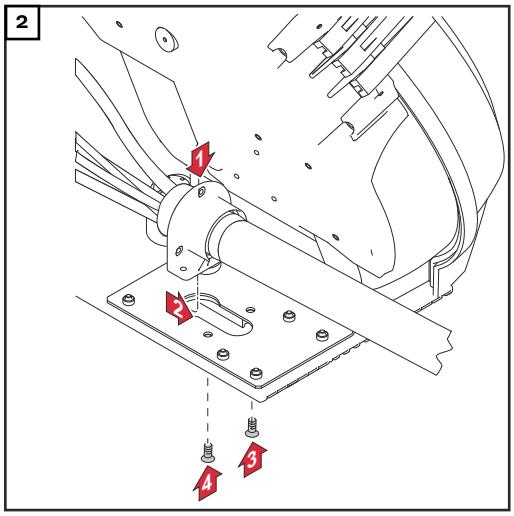
The wire-feed unit is connected to the power source using the interconnecting hosepack.

Connecting the wirefeeder to the power source

⚠ WARNING!

Danger from electric current due to defective system components and incorrect operation.
This can result in serious personal injury and damage to property.
- ▶ All cables, leads and hosepacks must always be securely connected, undamaged and correctly insulated.
- ▶ Only use adequately dimensioned cables, leads and hosepacks.



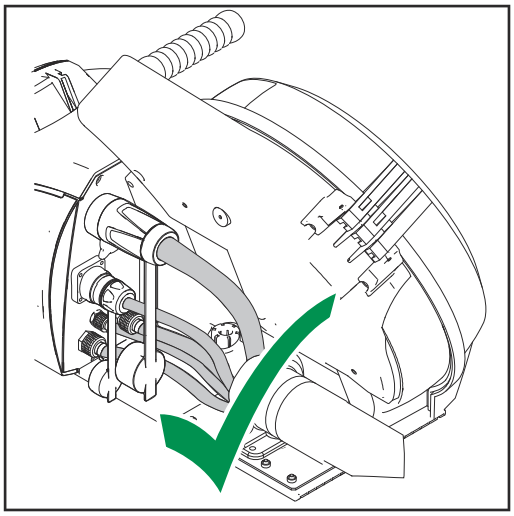


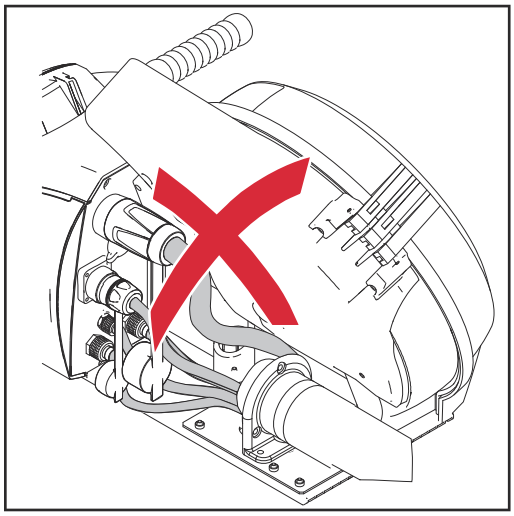
* only if the coolant connections are fitted in the wirefeeder and there is a water-cooled interconnecting hosepack

NOTE!

Risk due to damaged connections.
This can result in serious damage to property.

- ▶ A strain-relief device is not provided for 1.2 m (3 ft 11.24 in.) interconnecting hosepacks.
- ▶ During installation, make sure that the cables form a loop towards the inside (to the wirefeeder) to avoid damage.



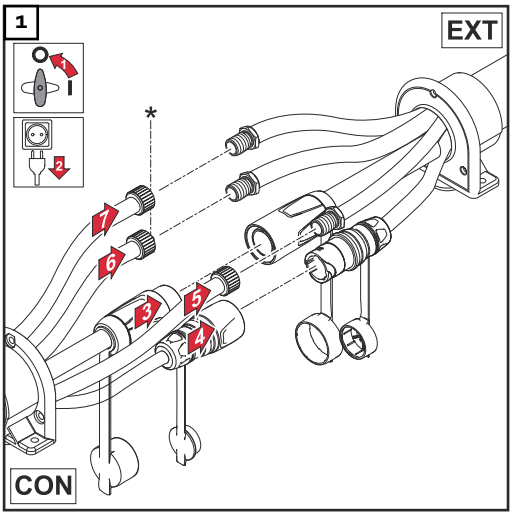


Connecting the extension hosepack

⚠ **WARNING!**

Danger from electric current due to defective system components and incorrect operation.
This can result in serious personal injury and damage to property.

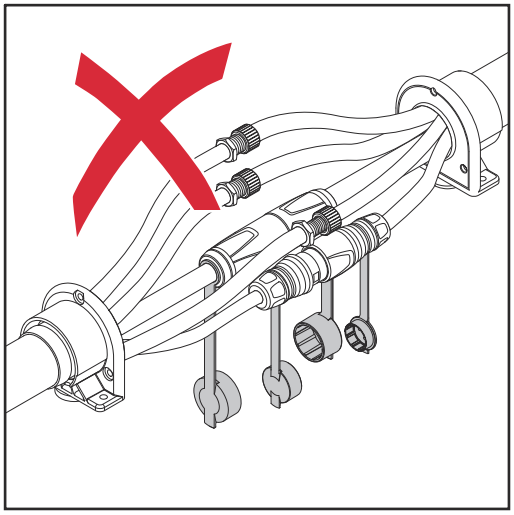
- ▶ All cables, leads and hosepacks must always be securely connected, undamaged and correctly insulated.
- ▶ Only use adequately dimensioned cables, leads and hosepacks.

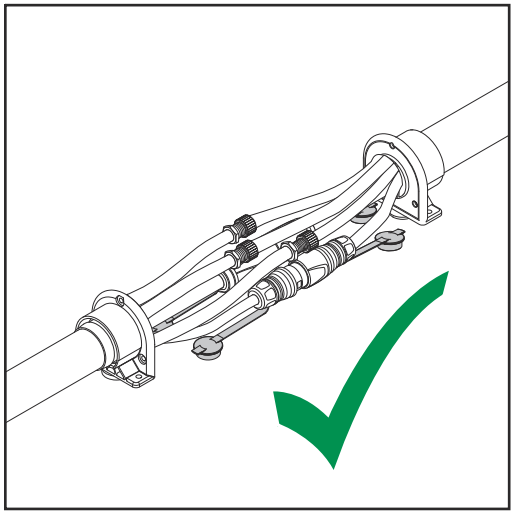


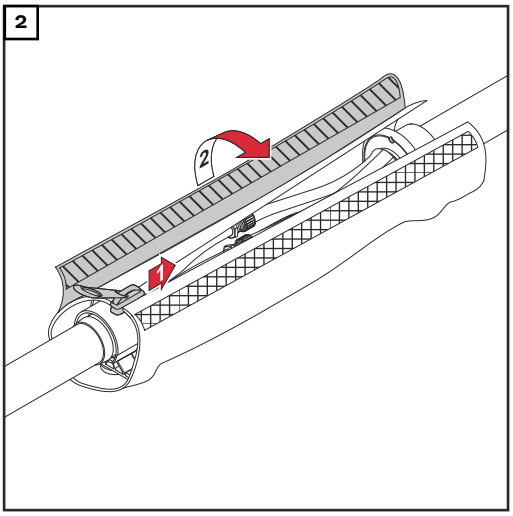
* Only on water-cooled hosepack

CON = Interconnecting hosepack

EXT = Extension hosepack







Connecting the welding torch

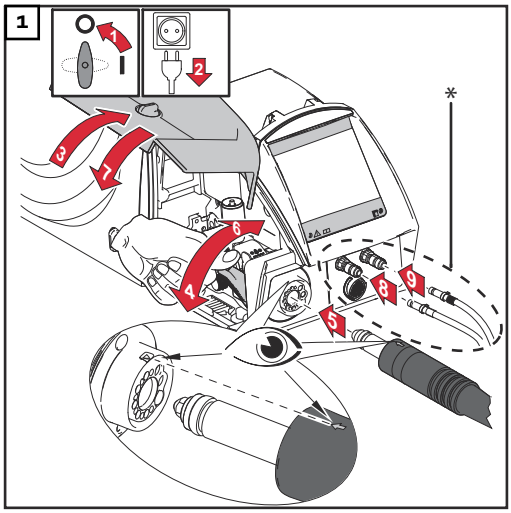
Safety

⚠ WARNING!

Danger from electrical current.
This can result in serious personal injury and damage to property.

- ▶ Before starting work, switch off all devices and components involved and disconnect them from the grid.
- ▶ Secure all devices and components involved so they cannot be switched back on.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

Connecting MIG/MAG welding torches



⚠ CAUTION!

Danger from electric current due to inadequate connections.
This can result in severe personal injury and damage to property.

- ▶ All cables, leads and hosepacks must be properly connected, undamaged, correctly insulated and adequately dimensioned.

* Only if the coolant connections are fitted in the wirefeeder and when using a water-cooled welding torch

Inserting/replacing feed rollers

Safety

⚠ WARNING!

Danger from electrical current.
This can result in serious personal injury and damage to property.
- ▶ Before starting work, switch off all devices and components involved and disconnect them from the grid.
- ▶ Secure all devices and components involved so they cannot be switched back on.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

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.

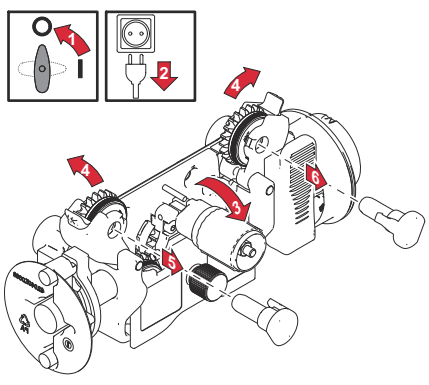
An overview of the feed rollers available and their possible areas of use can be found in the Spare Parts Lists.

Inserting/replacing feed rollers

⚠ CAUTION!

Danger from feed roller holders flying upwards.
This can result in injuries.
- ▶ When unlocking the clamping lever, keep fingers away from the area to the left and right of the lever.

1



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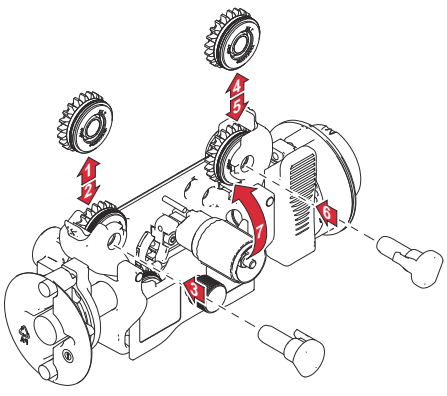
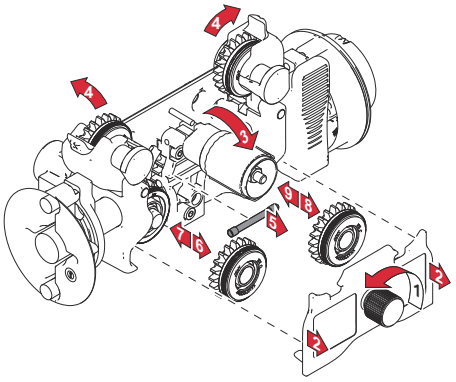


⚠ CAUTION!

Danger from exposed feed rollers.
This can result in injuries.

▶ Always fit the protective cover of the 4-roller drive after inserting or replacing a feed roller.

3



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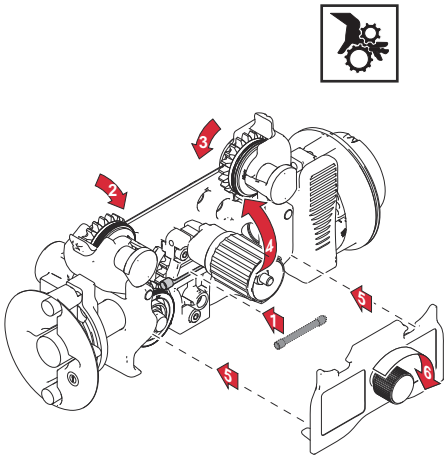


Inserting the wirespool, inserting the basket-type spool

Safety

⚠ WARNING!

Danger from electrical current.
This can result in serious personal injury and damage to property.
- ▶ Before starting work, switch off all devices and components involved and disconnect them from the grid.
- ▶ Secure all devices and components involved so they cannot be switched back on.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

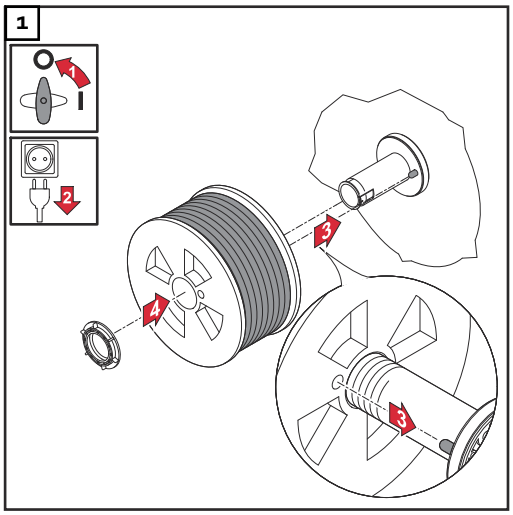
⚠ WARNING!

Danger from springiness of spooled wire electrode.
This can result in serious personal injuries.
- ▶ Wear safety goggles.
- ▶ When inserting the wirespool/basket-type spool, hold the end of the wire electrode firmly to avoid injuries caused by the wire electrode springing back.

⚠ WARNING!

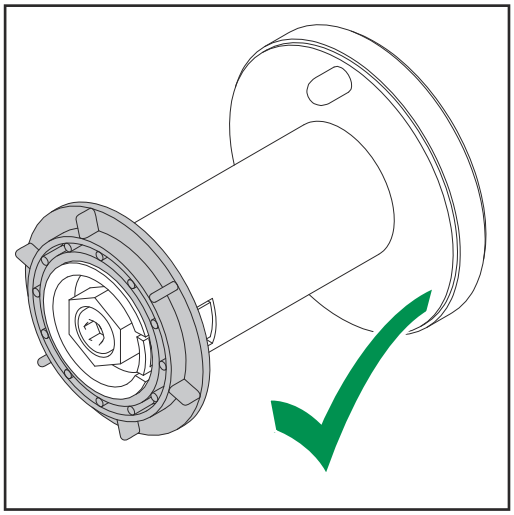
Danger from falling wirespool/basket-type spool.
This can result in serious personal injury and damage to property.
- ▶ Ensure that the wirespool/basket-type spool including basket-type spool adapter is always firmly seated on the wirespool holder.

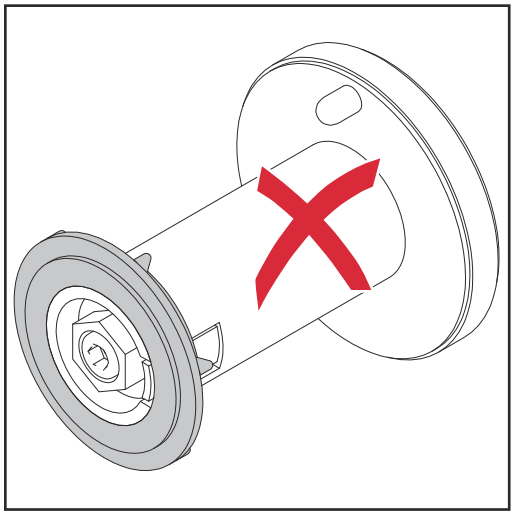
Inserting the wirespool



⚠ WARNING!

Danger from the wirespool falling because the locking ring has been placed the wrong way around.
This can result in severe personal injury and damage to property.
▶ Always position the locking ring as shown in the diagram on the left.





Installing the basket-type spool

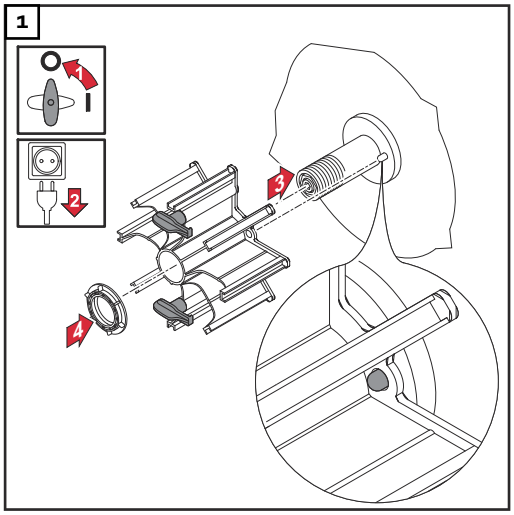
⚠ WARNING!

Danger from falling basket-type spool due to missing basket-type spool adapter.
This can result in severe personal injury and damage to property.
▶ When working with basket-type spools, only use the basket-type spool adapter included in the scope of supply.

⚠ WARNING!

Danger from falling basket-type spool.
This can result in severe personal injury and damage to property.
▶ Place the basket-type spool on the adapter provided in such a way that the bars on the spool are inside the adapter guideways.

1



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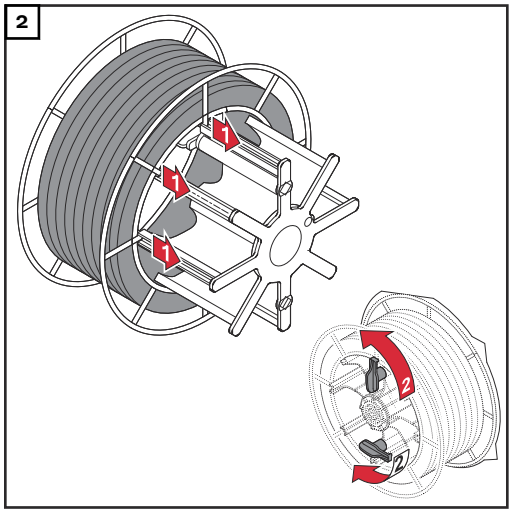
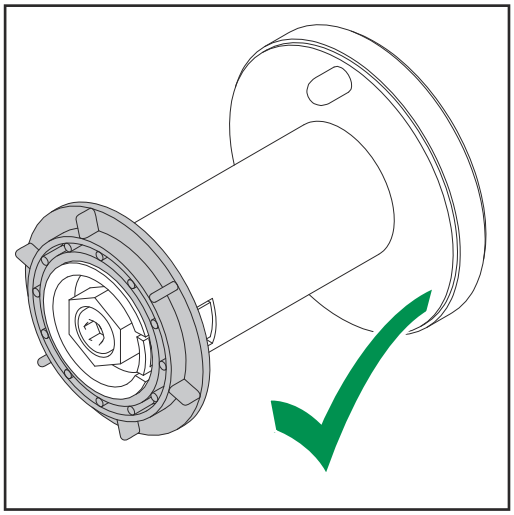


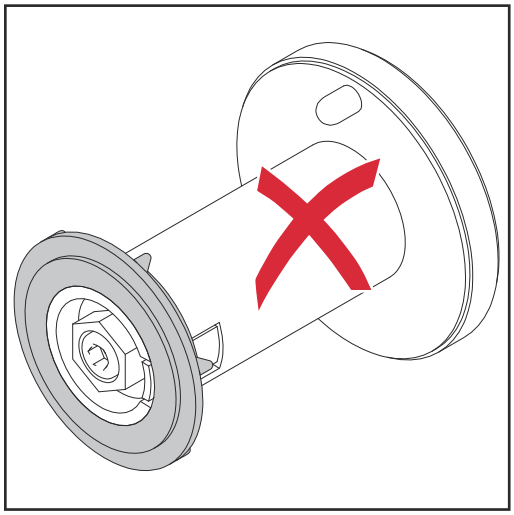
⚠ WARNING!

Gefahr durch herabfallende Korbspule bei seitenverkehrt aufgesetztem Sicherungsring.

Schwerwiegende Personen- und Sachschäden können die Folge sein.

▶ Den Sicherungsring immer wie nachfolgend dargestellt aufsetzen.





Threading the wire electrode

General

NOTE!

If there is no wire threading button on the wire-feed unit, use the wire threading button of another of the manufacturer's system components to thread the wire, for example the power source wire threading button.
The wire threading button functions in the same way for all system components from the manufacturer.

NOTE!

Further details on the function of the wire threading button can be found in its description ("Optional control panels" section, "OPT/i WF gas test & wire threading" sub-section).

Preparatory work

⚠ **CAUTION!**

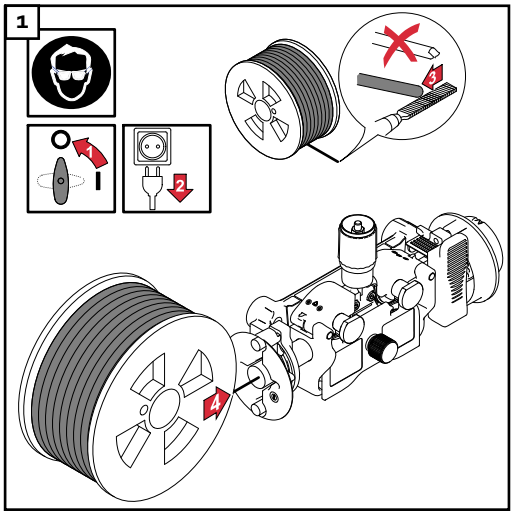
Danger from welding current and accidental ignition of an arc.
This can result in severe personal injury and damage to property.
▶ Before starting work, disconnect the ground earth connection between the welding system and the workpiece.

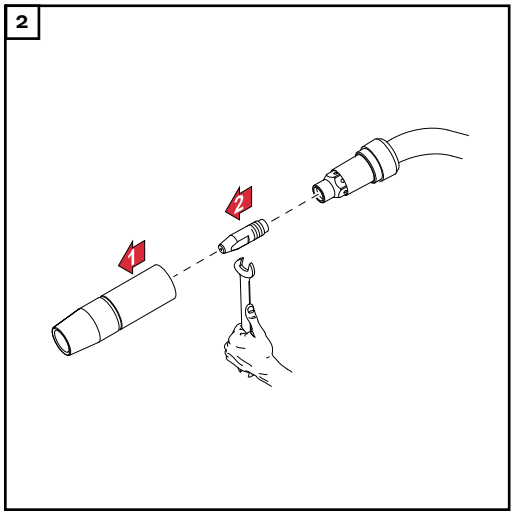
⚠ **CAUTION!**

Danger from sharp end of wire electrode.
This can result in severe personal injury and damage to property.
▶ Deburr the end of the wire electrode well before threading in.

⚠ **CAUTION!**

Danger from elasticity of the spooled wire electrode.
This can result in severe personal injury and damage to property.
▶ When inserting the wire electrode into the 4-roller drive, hold the end of the wire electrode firmly to avoid injuries caused by the wire springing back.





Threading the wire electrode

⚠ CAUTION!

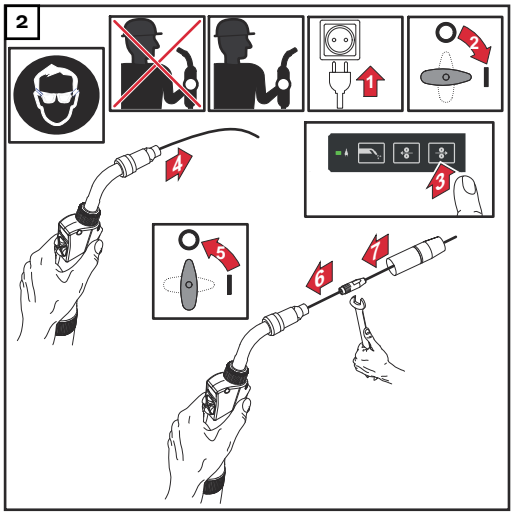
Danger from welding current and accidental ignition of an arc.
This can result in severe personal injury and damage to property.
- ▶ Before starting work, disconnect the ground earth connection between the welding system and the workpiece.

⚠ CAUTION!

Danger from emerging wire electrode.
This can result in severe personal injury and damage to property.
- ▶ 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.
- ▶ Make sure that the wire electrode does not touch any conductive or earthed parts (e.g. housing).

1 Lay the torch hosepack out straight

2



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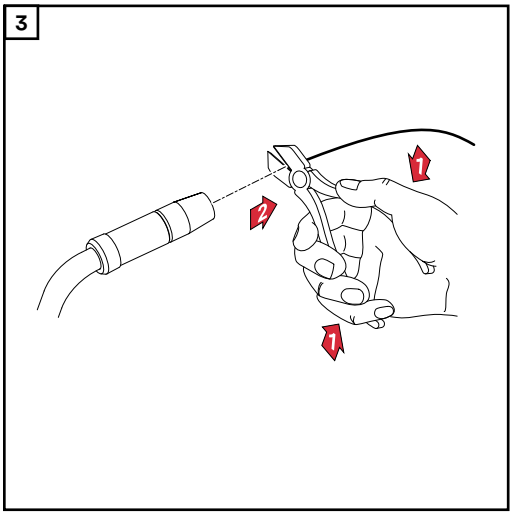
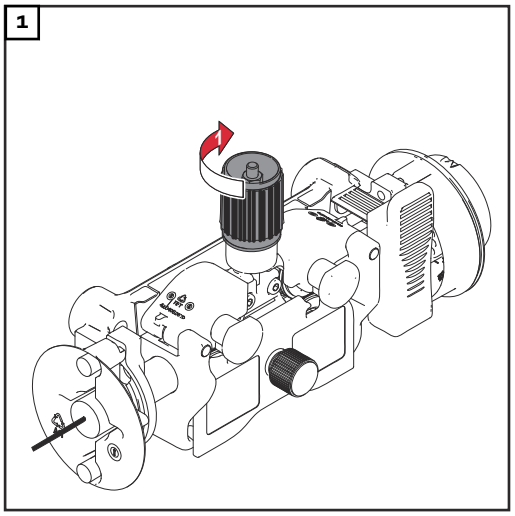


Setting the contact pressure

⚠ CAUTION!

Risk from excessive contact pressure.
This can result in severe damage to property and poor weld properties.
- ▶ Set the contact pressure in such a way that the wire electrode is not deformed but nevertheless ensures proper wirefeeding.



Contact pressure preferred values for U-groove rollers:

Steel: 4 - 5

CrNi: 4 - 5

Tubular cored electrodes: 2 - 3

Adjust the brake

General

NOTE!

Overrunning of the brake can result in damage to property.

- ▶ After releasing the torch trigger / wire threading button the wirespool must stop unreeling.
- ▶ If it continues unreeling, readjust the brake.

Adjusting the brake

⚠ CAUTION!

Danger from welding current and accidental ignition of an arc.
This can result in severe personal injury and damage to property.

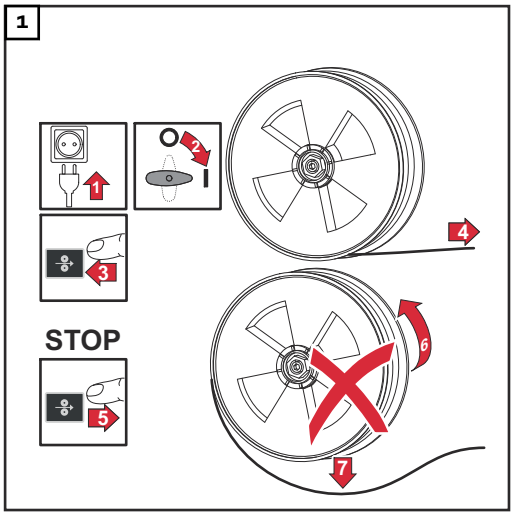
- ▶ Before starting work, disconnect the ground earth connection between the welding system and the workpiece.

⚠ CAUTION!

Danger from emerging wire electrode.
This can result in severe personal injury and damage to property.

- ▶ 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.
- ▶ Make sure that the wire electrode does not touch any conductive or earthed parts (e.g. housing).

1



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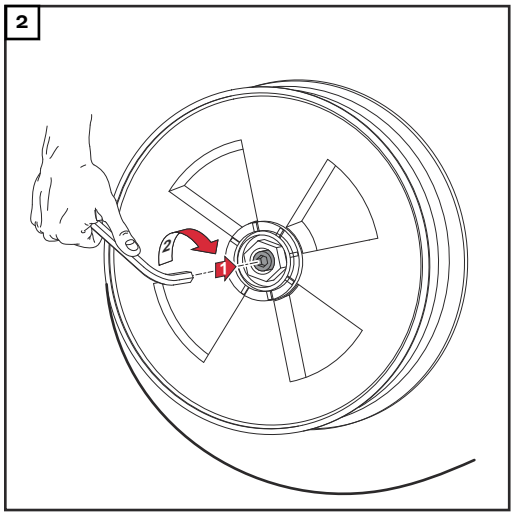
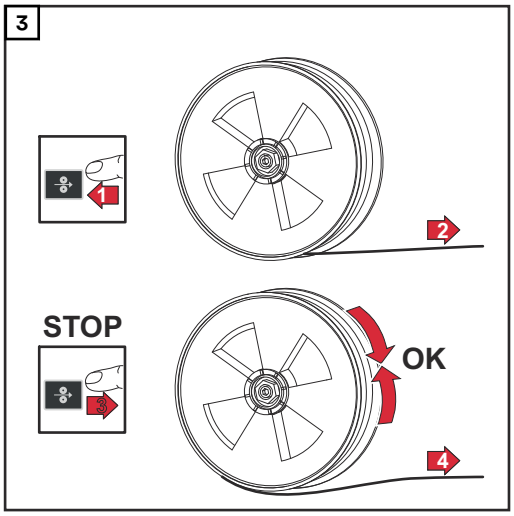
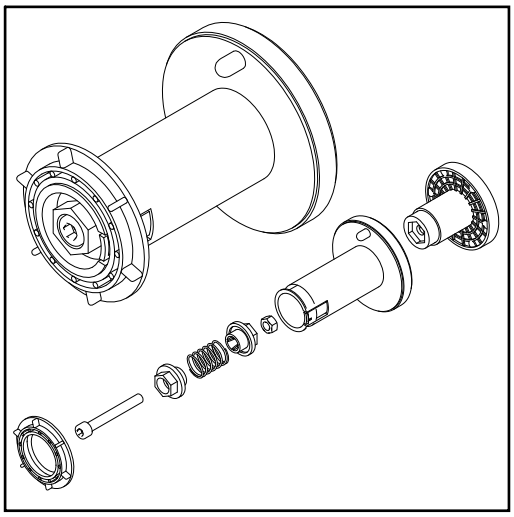




Design of the brake



⚠ WARNING!

Danger from incorrect installation.
This can result in severe personal injury and damage to property.

- ▶ Do not dismantle the brake.
- ▶ Maintenance and servicing of brakes is to be carried out by trained, qualified personnel only.

The brake is only available as a complete unit.
This illustration of the brake is for information purposes only.

Start-up

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.

Prerequisites

When commissioning the wire-feed unit, the following requirements must be met:

- Wire-feed unit connected to the power source using the interconnecting hosepack
- Welding torch connected to the wire-feed unit
- Feed rollers inserted into the wire-feed unit
- Wirespool/basket-type spool with basket-type spool adapter inserted into wire-feed unit (not for WF 15i n.S.)
- Wire electrode threaded in
- Feed roller contact pressure set
- Brake set (not for WF 15i n.S.)
- All covers closed, all side panels in place, all protection devices intact and in their proper place

General

The wire-feed unit is started by pressing the torch trigger (for manual applications) or by means of a welding start-up signal (for automatic applications).

Troubleshooting, maintenance and disposal

Troubleshooting

Safety

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- ▶ Read and understand this document in full.
- ▶ Read and understand all safety rules and user documentation for this device and all system components.

⚠ WARNING!

Danger from electrical current.
This can result in serious personal injury and damage to property.
- ▶ Before starting work, switch off all devices and components involved and disconnect them from the grid.
- ▶ Secure all devices and components involved so they cannot be switched back on.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

⚠ WARNING!

Danger due to hot system components and/or equipment.
Can result in serious burns or scalding.
- ▶ Before starting work, allow all hot system components and/or equipment to cool to +25°C/+77°F (e.g., coolant, water-cooled system components, wirefeeder drive motor, etc.)
- ▶ Wear suitable protective equipment (e.g., heat-resistant gloves, safety goggles, etc.) if cooling down is not possible.

Troubleshooting

Make a note of the serial number and configuration of the device and contact our After-Sales Service team with a detailed description of the error, if
- errors occur that are not listed below
- the troubleshooting measures listed are unsuccessful

Power source does not function

Mains switch is on, but indicators are not lit up

Cause: There is a break in the mains lead; the mains plug is not plugged in
Remedy: Check the mains lead, ensure that the mains plug is plugged in

Cause: Mains socket or mains plug faulty
Remedy: Replace faulty parts

Cause: Mains fuse protection
Remedy: Change the mains fuse protection

Cause: Short circuit on the 24 V supply of SpeedNet connection socket or external sensor
Remedy: Unplug connected components

Nothing happens when the torch trigger is pressed

Power source mains switch is ON and indicators are lit up

Cause: Only for welding torches with an external control plug: The control plug is not plugged in
Remedy: Plug in the control plug

Cause: Welding torch or welding torch control line is faulty
Remedy: Replace welding torch

No welding current

Mains switch is ON and indicators are lit up

Cause: Grounding (earthing) connection is incorrect
Remedy: Check the grounding (earthing) connection for correct polarity

Cause: There is a break in the power cable in the welding torch
Remedy: Replace the welding torch

No protective gas shield

All other functions are OK

Cause: Gas cylinder is empty
Remedy: Change the gas cylinder

Cause: The gas pressure regulator is faulty
Remedy: Replace the gas pressure regulator

Cause: Gas hose is not fitted or is damaged
Remedy: Fit or change the gas hose

Cause: Welding torch is faulty
Remedy: Change the welding torch

Cause: Gas solenoid valve is faulty
Remedy: Contact After-Sales Service

Irregular wire feed speed

Cause: Braking force has been set too high

Remedy: Loosen the brake

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. and replace if necessary

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

Welding torch becomes very hot

Cause: Welding torch is inadequately dimensioned

Remedy: Observe the duty cycle and loading limits

Cause: Only on water-cooled systems: inadequate coolant flow

Remedy: Check coolant level, coolant flow, for coolant contamination, etc. For further information refer to the cooling unit Operating Instructions

Poor weld properties

Cause:	Incorrect welding parameters
Remedy:	Check the settings
Cause:	Poor ground earth connection
Remedy:	Ensure good contact to workpiece
Cause:	Inadequate or no protective gas shield
Remedy:	Check the pressure regulator, gas hose, gas solenoid valve, torch gas connection, etc.
Cause:	Welding torch is leaking
Remedy:	Change the welding torch
Cause:	Wrong contact tip, or contact tip is worn out
Remedy:	Replace the contact tip
Cause:	Wrong wire alloy or wrong wire diameter
Remedy:	Check the wire electrode that has been inserted
Cause:	Wrong wire alloy or wrong wire diameter
Remedy:	Check weldability of the base material
Cause:	The shielding gas is not suitable for this wire alloy
Remedy:	Use the correct shielding gas

Care, maintenance and disposal

General

Under normal operating conditions, the device 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

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- ▶ Read and understand this document in full.
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- ▶ Secure all devices and components involved so they cannot be switched back on.
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Can result in serious burns or scalding.
- ▶ Before starting work, allow all hot system components and/or equipment to cool to +25°C/+77°F (e.g., coolant, water-cooled system components, wirefeeder drive motor, etc.)
- ▶ Wear suitable protective equipment (e.g., heat-resistant gloves, safety goggles, etc.) if cooling down is not possible.

Every start-up

- Check all hosepacks and the ground earth connection for 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.

Every 6 months

⚠ CAUTION!

Danger from compressed air at close range.
Electronic components may be damaged.
- ▶ Do not bring the air nozzle too close to electronic components.

- Open covers, remove device side panels and clean inside of device with dry reduced compressed air. After cleaning, restore device to its original state.

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. Proper disposal of the old device promotes sustainable recycling of material resources. Ignoring this may lead to potential health/environmental impacts.

Packaging materials
Collected separately. Check your municipality's regulations. Reduce the volume of the box.

Technical data

Technical data

WF 15i

Supply voltage	24 V DC / 60 V DC		
Nominal current	0,5 A / 1 A		
Welding current at 10 min / 40 °C (104 °F)	40 % D.C.*	60 % D.C.*	100 % D.C.*
	650 A	600 A	500 A
Maximum shielding gas pressure	7 bar 101.53 psi		
Coolant	Original Fronius		
Maximum coolant pressure	5 bar 72.53 psi		
Wire feed speed	0,5 - 15 m/min 19.68 - 590.55 ipm		
Wire drive	4-roller drive		
Wire diameter	0,8 - 2,4 mm .03 - .09 in.		
Wirespool diameter	max. 300 mm max. 11.81 in.		
Wirespool weight	max. 19 kg max. 41.89 Ib.		
Degree of protection	IP 23		
Mark of conformity	S / CE		
Dimensions l x w x h	658 x 282 x 362 mm 25.91 x 11.10 x 14.25 in.		
Weight	13 kg 28.66 Ib.		

*) D.C. = duty cycle

WF 15i n.S.

Supply voltage	24 V DC / 60 V DC		
Nominal current	0,5 A / 1 A		
Welding current at 10 min / 40 °C (104 °F)	40 % D.C.*	60 % D.C.*	100 % D.C.*
	650 A	600 A	500 A
Maximum shielding gas pressure	7 bar 101.53 psi		
Coolant	Original Fronius		
Maximum coolant pressure	5 bar 72.53 psi		
Wire feed speed	0,5 - 15 m/min 19.68 - 590.55 ipm		
Wire drive	4-roller drive		

Wire diameter	0,8 - 2,4 mm .03 - .09 in.		
Degree of protection	IP 20		
Mark of conformity	S / CE		
Dimensions l x w x h	280 x 260 x 275 mm 11.02 x 10.24 x 10.83 in.		
Weight	6 kg 13.23 Ib.		

*) D.C. = duty cycle

WF 25i

Supply voltage	24 V DC / 60 V DC		
Nominal current	0,5 A / 1,2 A		
Welding current at 10 min / 40 °C (104 °F)	40 % D.C.*	60 % D.C.*	100 % D.C.*
	500 A	450 A	360 A
Maximum shielding gas pressure	7 bar 101.53 psi		
Coolant	Original Fronius		
Maximum coolant pressure	5 bar 72.53 psi		
Wire feed speed	1 - 25 m/min 39.37 - 984.25 ipm		
Wire drive	4-roller drive		
Wire diameter	0,8 - 1,6 mm .03 - .06 in.		
Wirespool diameter	max. 300 mm max. 11.81 in.		
Wirespool weight	max. 19 kg max. 41.89 Ib.		
Degree of protection	IP 23		
Mark of conformity	S / CE / CSA		
Dimensions l x w x h	658 x 282 x 362 mm 25.91 x 11.10 x 14.25 in.		
Weight	12.9 kg 28.44 Ib.		

*) D.C. = duty cycle

WF 30i

Supply voltage	24 V DC / 60 V DC		
Nominal current	0,5 A / 1,4 A		
Welding current at 10 min / 40 °C (104 °F)	40 % D.C.*	60 % D.C.*	100 % D.C.*

	650 A	600 A	500 A
Maximum shielding gas pressure	7 bar 101.53 psi		
Coolant	Original Fronius		
Maximum coolant pressure	5 bar 72.53 psi		
Wire feed speed	1 - 30 m/min 39.37 - 1181.10 ipm		
Wire drive	4-roller drive		
Wire diameter	0,8 - 1,6 mm .03 - .06 in.		
Wirespool diameter	max. 300 mm max. 11.81 in.		
Wirespool weight	max. 19 kg max. 41.89 Ib.		
Degree of protection	IP 23		
Mark of conformity	S / CE		
Dimensions l x w x h	658 x 282 x 362 mm 25.91 x 11.10 x 14.25 in.		
Weight	13 kg 28.66 Ib.		

*) D.C. = duty cycle

HP 70i

Welding current at 10 min/40 °C (104 °F)	40% ED* / 400 A 60% ED* / 365 A 100% ED* / 320 A

* ED = Duty cycle

HP 95i

Welding current at 10 min/40 °C (104 °F)	40% ED* / 500 A 60% ED* / 450 A 100% ED* / 360 A

* ED = Duty cycle

HP 120i

Welding current at 10 min/40 °C (104 °F)	40% ED* / 600 A 60% ED* / 530 A 100% ED* / 430 A

* ED = Duty cycle

HP 70i, HP PC Cable HD 70	Welding current at 10 min/40 °C (104 °F)	60% ED* / 600 A 100% ED* / 500 A

* ED = Duty cycle

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At www.fronius.com/contact you will find the contact details of all Fronius subsidiaries and Sales & Service Partners.