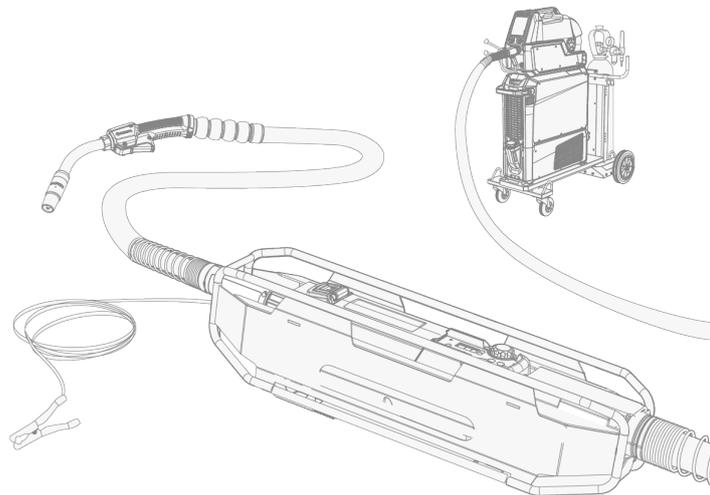


# SuperSnake GTX



Operating manual

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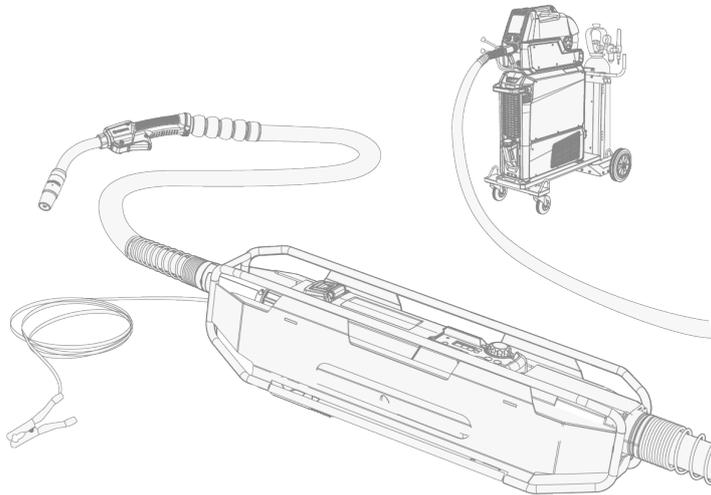
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## 1. GENERAL

Kemppi SuperSnake GTX is a subfeeder device designed for professional use in MIG/MAG welding. When used together with the protective frame, SuperSnake GTX is especially robust and durable in hard-to-reach welding conditions.



SuperSnake GTX compatible equipment:

- X5 FastMig with X5 Wire Feeder 300 Auto+ wire feeder
- Other X5 FastMig wire feeder equipment with dedicated subfeeder installation kit (contact your Kemppi dealer for more information on compatibility).

### Important notes

Read the instructions through carefully. For your own safety, and that of your working environment, pay particular attention to the safety instructions delivered with the equipment.

Items in the manual that require particular attention in order to minimize damage and harm are indicated with the below symbols. Read these sections carefully and follow their instructions.

 *Note: Gives the user a useful piece of information.*

 *Caution: Describes a situation that may result in damage to the equipment or system.*

 *Warning: Describes a potentially dangerous situation. If not avoided, it will result in personal damage or fatal injury.*

Kemppi symbols: [Userdoc](#).

### DISCLAIMER

While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions. Kemppi reserves the right to change the specification of the product described at any time without prior notice. Do not copy, record, reproduce or transmit the contents of this guide without prior permission from Kemppi.

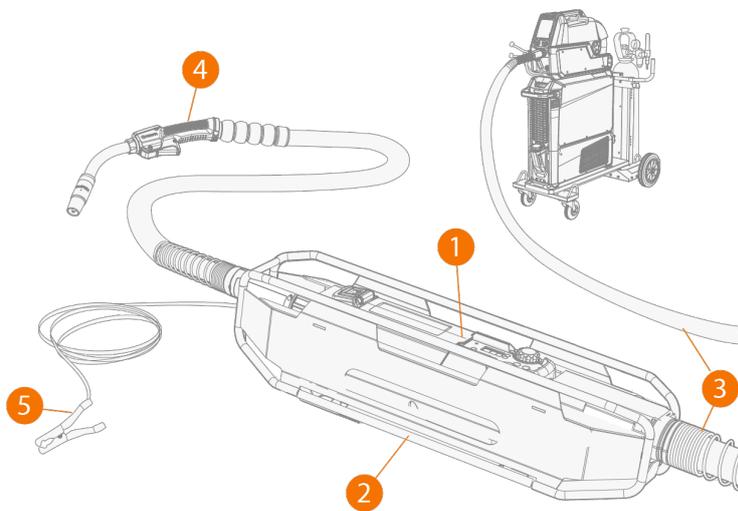
## 1.1 Equipment description

Kemppi SuperSnake GTX subfeeder is a combined solution for distance wire feeding and restricted access welding with or without water cooling. It extends the reach of MIG/MAG welding guns up to 30 meters, providing simple distance wire feeding for a variety of filler wires.

SuperSnake GTX subfeeder is delivered with Kemppi's steel spiral wire liner by default. DL Chili wire liner is available as an option.

 *If the SuperSnake GTX subfeeder is not available in your X5 FastMig welding equipment's subfeeder settings, the equipment firmware must be updated to the latest release version.*

### System



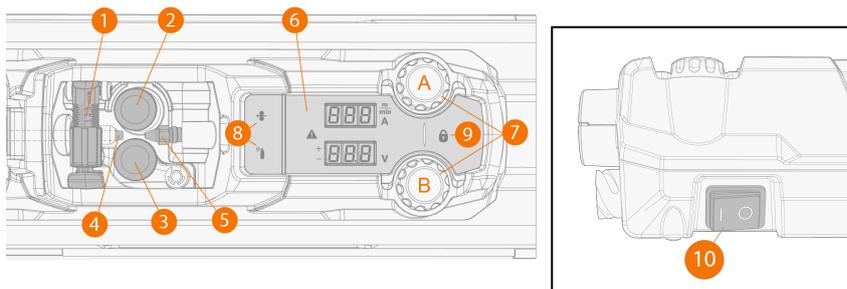
Subfeeder equipment:

1. SuperSnake GTX subfeeder
2. SuperSnake GTX protective frame
3. SuperSnake GTX interconnection cable

Other equipment:

4. MIG/MAG welding gun
5. Voltage sensing cable

### Subfeeder face



1. Pressure arm locking and adjusting mechanism

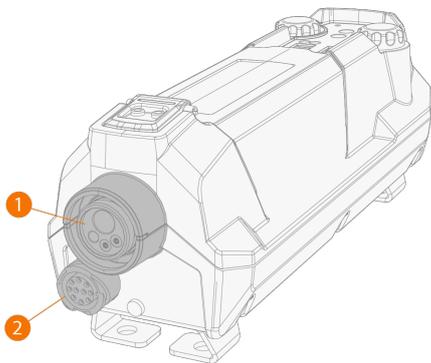
2. Wire feed roll (drive roll)
3. Wire feed roll (pressure roll)
4. Wire outlet guide tube
5. Wire inlet guide tip
6. Subfeeder control panel
  - >> Displays for wire feed speed / welding current and for fine tuning
  - >> Error indicator (red), warning indicator (yellow)
7. Control knobs
  - >> A: Wire feed speed and/or welding current
  - >> B: Fine tuning (e.g. voltage, depending on welding process)

**i** *Automatic control knob activation: When the control knobs are not used, they are automatically deactivated to prevent accidental changing of welding parameters. The control knob functions are activated again by turning either of the control knobs a quarter of a turn. When active, the LED indicator between the control knobs turns green.*

8. Wire inch and Gas test buttons
9. Welding ON/OFF indicator (lock)
  - >> Lock symbol is lit if the welding is turned off from the switch (10)
10. Welding ON/OFF switch
  - >> Prevents welding with the subfeeder if set to OFF.

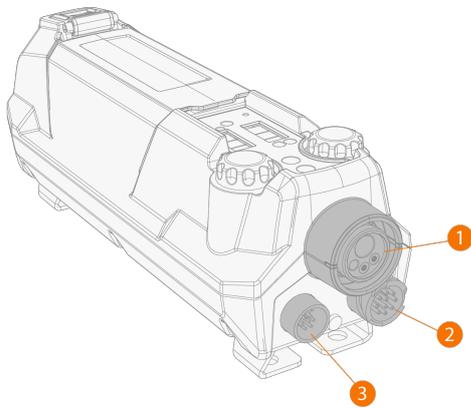
**i** *The welding ON/OFF switch doesn't power down the subfeeder.*

### Subfeeder front connections



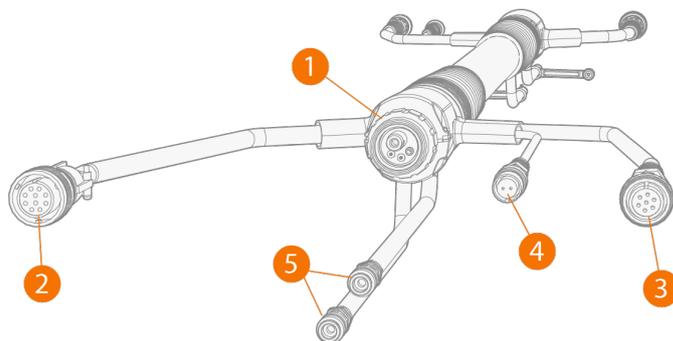
1. Welding cable Euro connector (for welding gun)
2. Control cable connector (e.g. for remote control)

### Subfeeder rear connections



1. Welding cable Euro connector (for interconnection cable from wire feeder)
2. Control cable connector (for interconnection cable from wire feeder)
3. Subfeeder synchronization cable connector (for interconnection cable from wire feeder)

### Interconnection cable



1. Welding cable (with Euro connector)
2. Control cable
3. Subfeeder synchronization cable
4. Voltage sensing cable
5. Coolant hoses

## EQUIPMENT IDENTIFICATION

### **Serial number**

Serial number of the device is marked on the rating plate or in another distinctive location on the device. It is important to make correct reference to the serial number of the product when ordering spare parts or making repairs for example.

### **Quick Response (QR) code**

The serial number and other device-related identification information may also be saved in the form of a QR code (or a barcode) on the device. Such code can be read by a smartphone camera or with a dedicated code reader device providing fast access to the device-specific information.

## 2. INSTALLATION

-  Do not power on the equipment before the mechanical installation is complete.
-  Place the equipment on a stable and clean ground, the subfeeder control panel facing up. Protect the equipment from rain and direct sunshine.

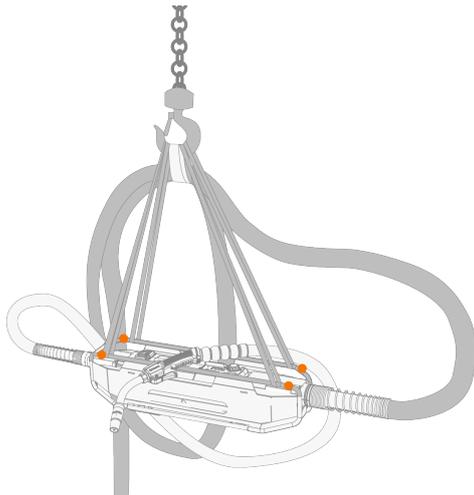
### Before installation and use

-  Disconnect the welding machine from the mains before starting the subfeeder installation.
  -  Always check before use that welding cables, shielding gas hose, earth return cable/clamp and mains cable are in serviceable condition. Ensure that the connectors are correctly fastened. Loose connectors can impair welding performance and damage connectors.
- The product is packed in specially designed transport cartons. However, always before use make sure the products have not been damaged during transportation.
  - Check also that you have received the components you ordered and that the operating manuals are available.
  - Straighten the subfeeder cable by carrying the subfeeder close to the work place.
  - Before loading the filler wire, ensure that there are no tight bends in the cable.
  - Ensure that the correct wire liner is fitted and installed correctly for the intended welding application.
  - Before welding, ensure that the installation as well as the filler wire, shielding gas, cooler and voltage sensing cable preparations are completed.

### Lifting subfeeder

SuperSnake GTX subfeeder can be lifted with a hoist and a 4-legged strap connected to the corners of the protective frame. Without the protective frame, lifting the subfeeder with a hoist is not possible.

For lifting, temporarily coil the cables and tie them to the hoist hook (as applicable) so that the full weight of the cables doesn't rest solely on the subfeeder connectors.

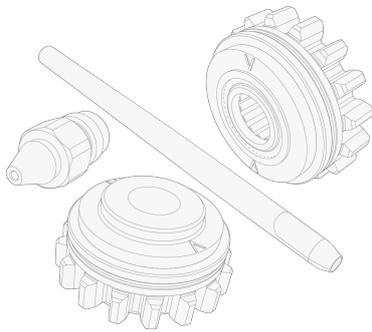


## 2.1 Subfeeder installation

Before connecting or loading the filler wire into the subfeeder, the wire feed rolls must be installed and the mechanism must be set. Ensure that the feed rolls suit the filler wire size and type. Refer to "Feed roll kit selection" on page 33 for more information.

 *It is not recommended to use knurled feed rolls in the main wire feeder unit when using the SuperSnake GTX subfeeder. They may apply too much friction on the filler wire at the wire feeder end preventing the best possible outcome with the SuperSnake GTX subfeeder.*

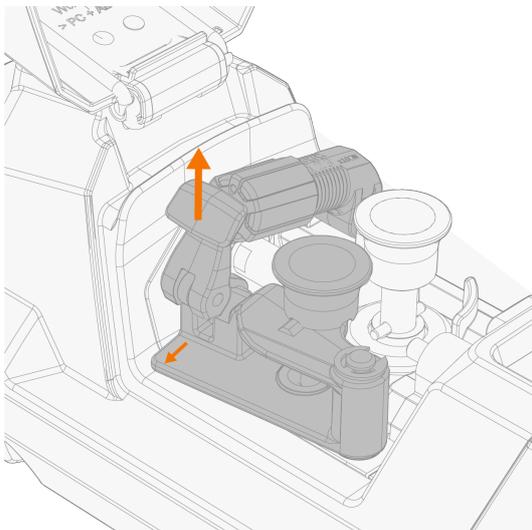
The subfeeder is delivered with a standard wire line component kit and with steel spiral wire liner, if not specified otherwise. Feed rolls are purchased separately. Ensure you have the correct components and feed rolls available and installed.



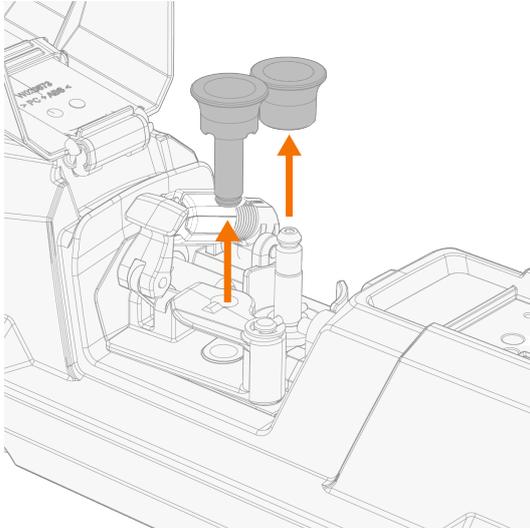
Tools needed:



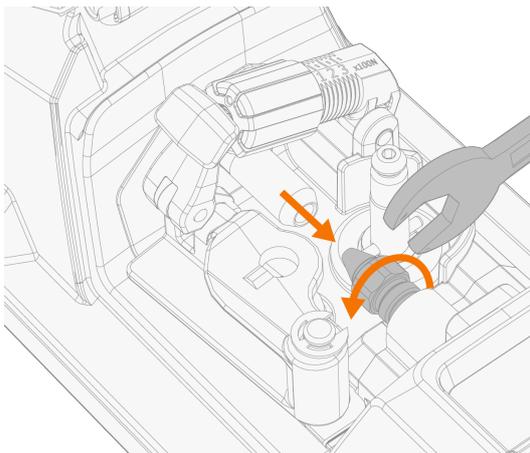
1. Open the feed mechanism door.
2. Release the pressure arm by lifting it up from the end.



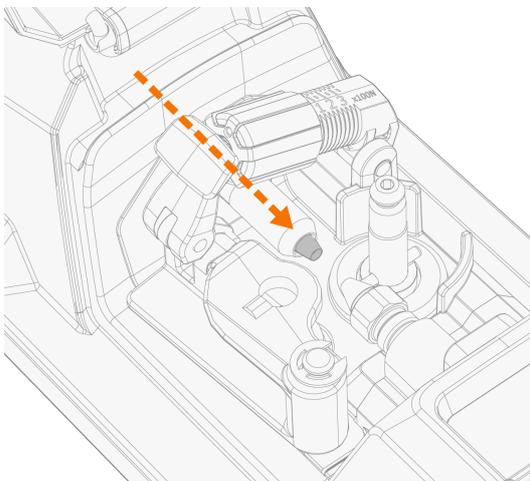
3. Remove the feed roll fixing pins (B) by pulling them up.



4. Install the wire inlet guide tip. Secure the component in place with a spanner.

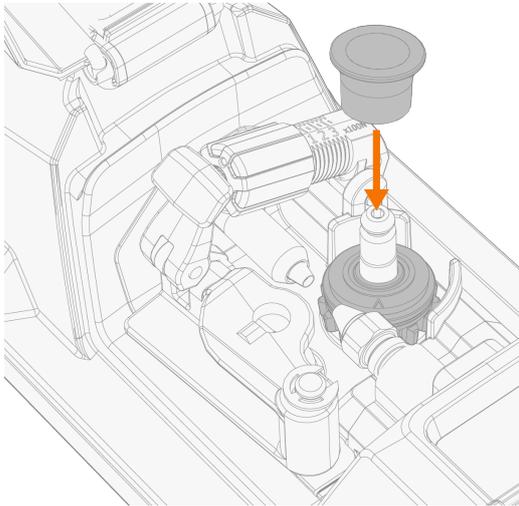


5. Install the wire outlet guide by inserting it from the welding gun end of the subfeeder.

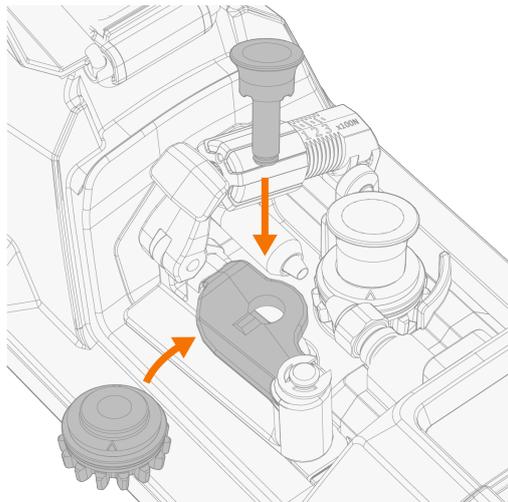


6. Mount the drive roll in place, cogged roll section down, and secure the fixing pin/cap.

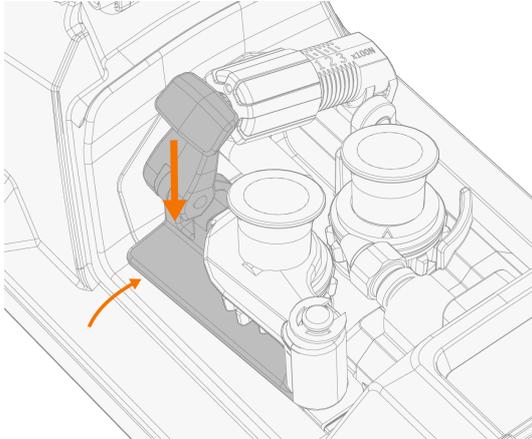
 *Make sure that the groove on the bottom of the roll aligns with the crossing pin on the drive shaft.*



7. Mount the pressure roll in place, cogged roll section down, and secure the fixing pin/cap.



**8.** Close the pressure arm.



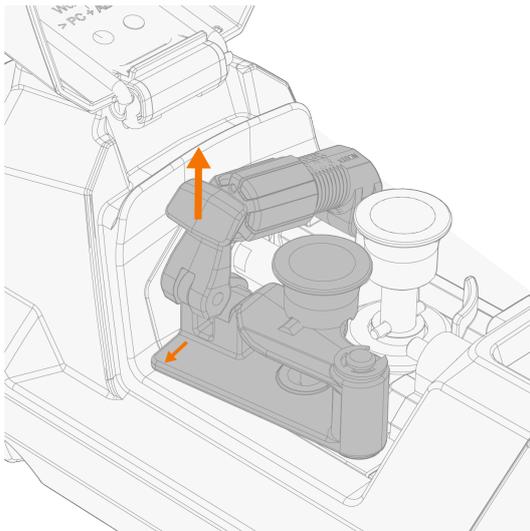
For adjusting the feed roll pressure, refer to "Feed roll pressure adjustment" on the next page.

## 2.2 Feed roll pressure adjustment

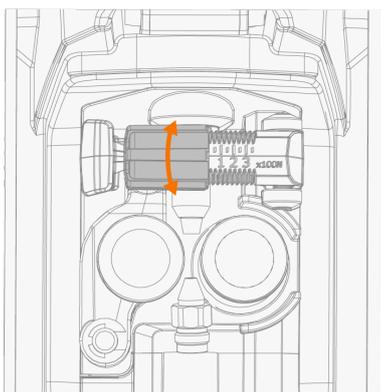
Adjust the feed roll pressure with the adjustment roller mounted on the pressure arm. The load applied should be sufficient to overcome a light braking force applied by hand to the filler wire as it exits the welding gun contact tip.

 For smaller diameter and soft filler wires, less feed pressure is required. Refer to the table in the end of this chapter for further guidance.

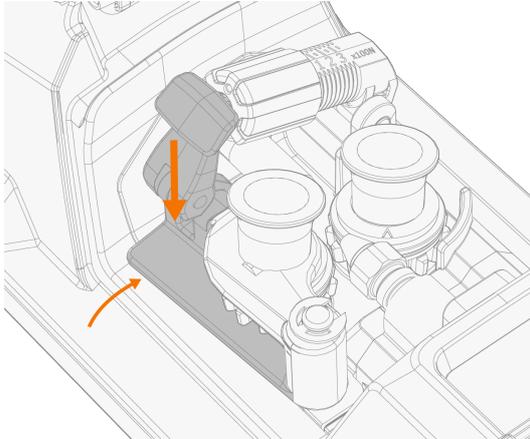
1. Release the pressure arm by lifting it up.



2. If not already in place, install the wire feed rolls as described in "Subfeeder installation" on page 9.
3. Turn the roller adjuster on the pressure arm to adjust the feed roll pressure.
  - >> A graduated scale next to the adjustment roller indicates the pressure load in newtons (N).
  - >> For the correct pressure, refer to the table in the end of this section.



4. Lock the adjustment by closing the pressure arm.



 Excessive pressure flattens the filler wire and may damage coated or cored filler wires. Excessive pressure also unnecessarily wears the feed rolls and increases gearbox load.

 The use of knurled feed rolls in the main wire feeder unit when the SuperSnake GTX subfeeder is in use is not recommended.

 When the SuperSnake GTX subfeeder is selected in the X5 FastMig welding equipment settings, the wire inch feature will feed the wire automatically to the system when the Wire inch button on the wire feeder is pressed.

Filler wire types	Feed roll profile	Filler wire diameter, $\phi$ mm	Interconnection cable*, length m	Adjustment (x100N)
Fe, Ss	V-groove 	1.0...1.4	10...20	2.0
		1.0...1.4	25	2.5
Fe	V-groove, knurled 	1.6	10...25	1.5
Fc, Mc	V-groove, knurled 	1.2...1.6	10...25	1.5
Al	U-groove 	1.2...1.6	10...20	2.0
		1.2...1.6	25	2.5

\* SuperSnake GTX interconnection cable.

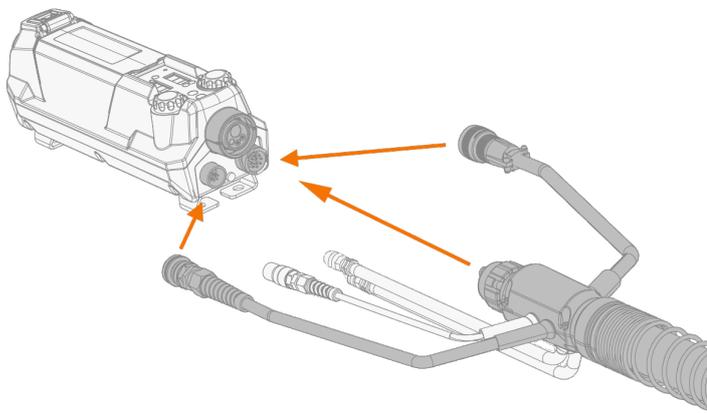
## 2.3 Connecting subfeeder

The welding cable with Euro connector transfers welding power, shielding gas and filler wire. The separate control cable connection is used for additional welding controls (e.g. remote control).

**i** All of the subfeeder cables should be connected before installing the subfeeder into the protective frame. Refer to "Installing subfeeder into protective frame" on page 18.

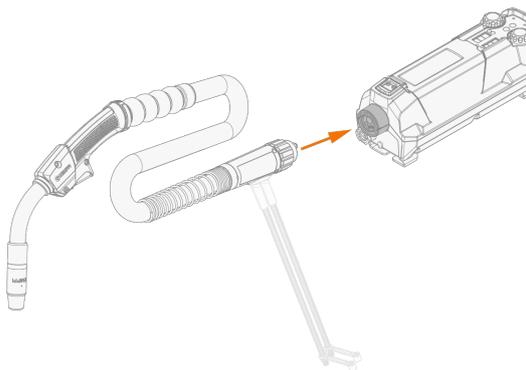
**i** If voltage sensing cable and/or water cooling is used, the subfeeder must be turned upside down for correct cable routing and connections.

1. Connect the subfeeder interconnection cable (welding cable, control cable and synchronization cable) to the subfeeder. Secure the cables by hand tightening the collars.

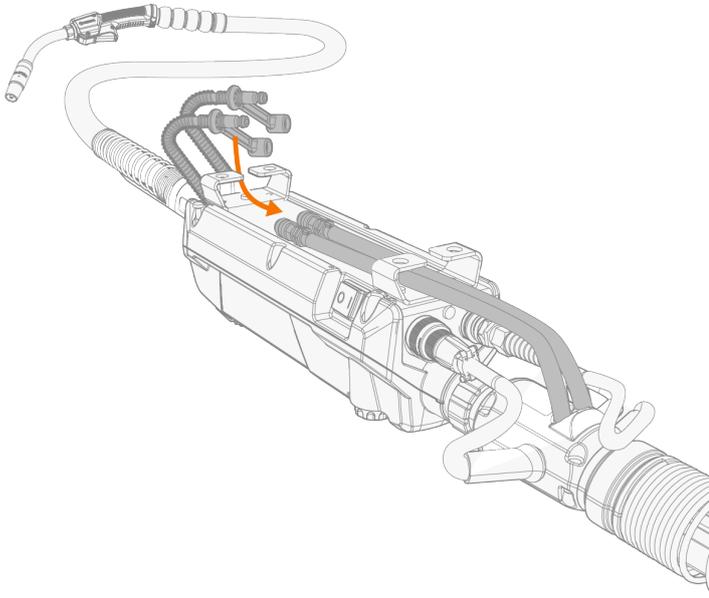


2. Connect the welding gun to the subfeeder. Secure the welding cable by hand tightening the collar.

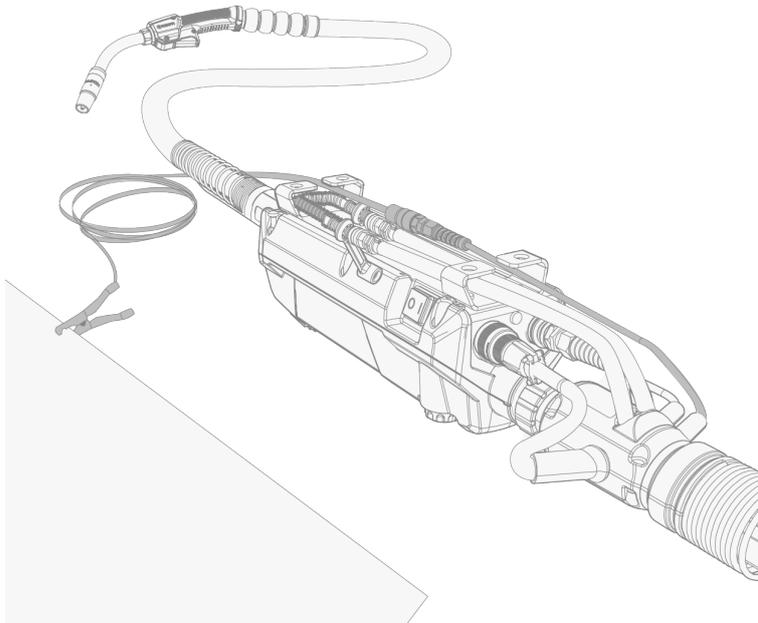
**i** To ensure reliable welding performance, please ensure the gun is suitable for the intended welding application and is in good working order, correctly fitted with suitable wire liner components and contact tip as well as with the water cooling hoses.



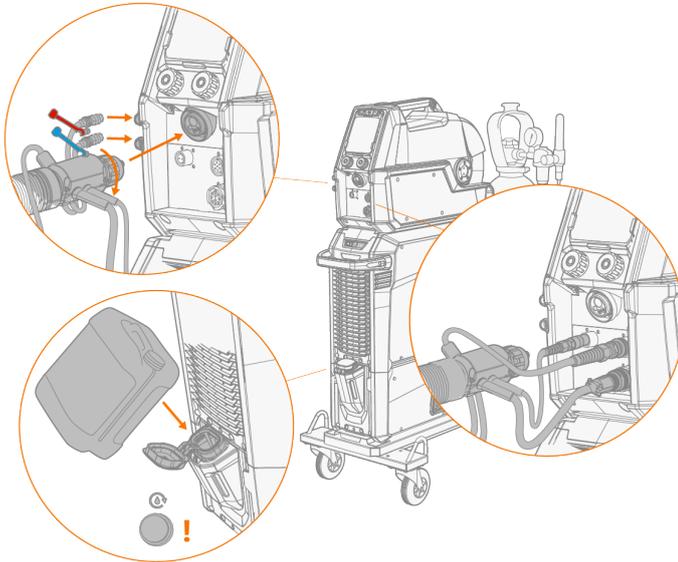
3. If water cooling is used, connect and route the cooling hoses under the brackets on the subfeeder bottom. Cooling hoses are color-coded.



4. If voltage sensing cable is used, connect and route the cable under the brackets on the subfeeder.



5. If the protective frame is used, refer to "Installing subfeeder into protective frame" on the next page.
6. Connect the subfeeder interconnection cable to your welding equipment. Refer to your welding equipment's operating instructions for more details (X5 FastMig: [here](#)).



7. On your wire feeder's user interface, select SuperSnake GTX subfeeder and the subfeeder interconnection cable length. Refer to your welding equipment's operating instructions for more details (X5 FastMig: [here](#)).

If the SuperSnake GTX is not available in the settings, and you're using compatible welding equipment, your welding equipment's firmware must be updated to the latest release version.

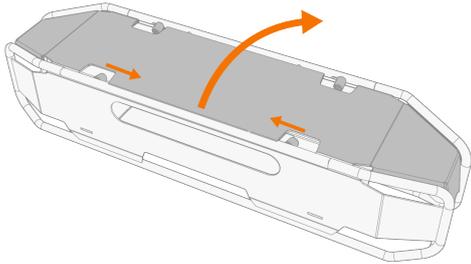
 *When you continue welding without the subfeeder, change the subfeeder setting accordingly.*

## 2.4 Installing subfeeder into protective frame

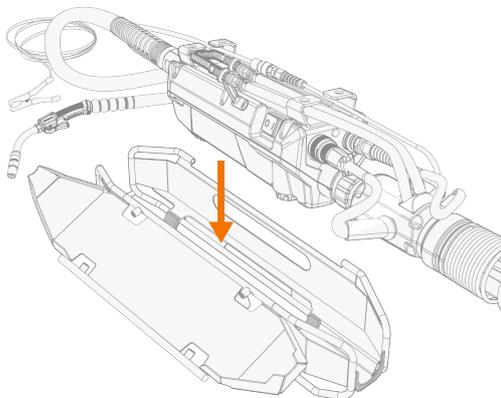
The protective frame provides support and protection for the subfeeder itself as well as for the cables connected.

**i** *All of the subfeeder cables should be connected before installing the subfeeder into the protective frame.*

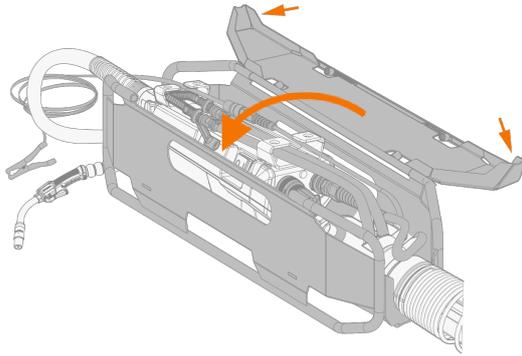
1. Place the protective frame on a flat surface upside down and open the bottom hatch.
  - >> To release the locking mechanism, pull the latches on one side towards the center and lift that side up.



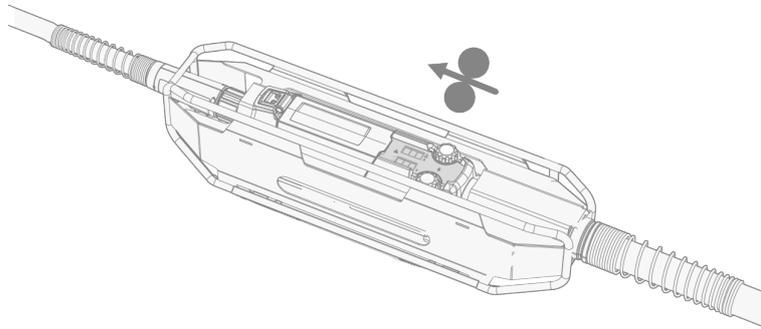
2. Lift the fully connected subfeeder upside down into the protective frame. Ensure that:
  - >> The Euro connector housings in both ends of the subfeeder sits firmly on the pads in the protective frame.
  - >> The groove in the interconnection cable collar aligns with the support bracket in the end of the protective frame.



3. Close the hatch so that the locking mechanism latches lock properly in place. Ensure that:
  - >> The cables are routed properly and don't get caught between the frame and the hatch.
  - >> The supports incorporated in both ends of the hatch provide additional support for the main cables.



4. Turn the subfeeder assembly back the right way around (subfeeder face up).

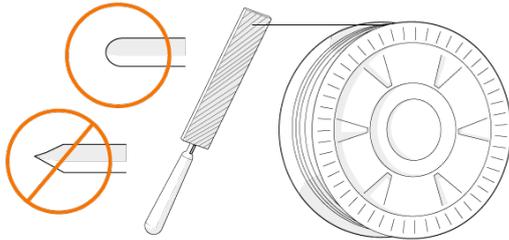


## 2.5 Preparing filler wire

Install the wire spool into the wire feeder according to the wire feeder operating instructions. Note also the following:

 *Sharp edges on the filler wire tip may damage the wire liner.*

Cut off any deformed section and with a fine file or abrasive cloth, remove any sharp edges from the filler wire end, before loading into the subfeeder.

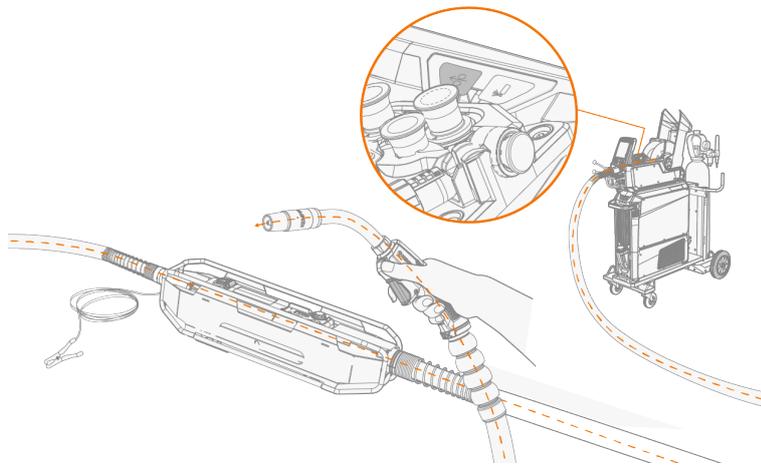


 *Ensure that the end of the filler wire is straight and without any bends or edges.*

## 2.6 Loading filler wire into subfeeder

1. Straighten the subfeeder cable.
2. Ensure that the wire feed mechanism pressure arms are closed and correctly adjusted in both, the wire feeder and the subfeeder.
3. Press the Wire inch button on the wire feeder or directly on the subfeeder.

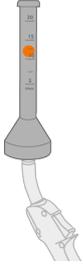
**i** The system will automatically load the filler wire to the subfeeder until the wire hits the feed rolls or when the set subfeeder cable length plus 0.5 meters has been fed from the wire feeder. If you want to stop the automatic filler wire feed, press the Wire inch button again.



**i** Flush the system with shielding gas before welding by pressing the Gas test button on the wire feeder or directly on the subfeeder.

## 2.7 Shielding gas setting

The shielding gas flow rate from the welding gun is set according to the application, weld joint, gas type and gas nozzle shape and size. The flow rate should be measured at the welding gun nozzle via a rotameter before welding. Normally the measure is between 10...20 liters per minute for various welding applications.



*If you have not welded for a while, flush the system with shielding gas before welding by pressing the Gas test button on the wire feeder or directly on the subfeeder.*



*Handle shielding gas bottle with care. Assess the risks associated with handling and using compressed gas. Always use a cylinder transport carriage and secure the cylinder safely.*

## 2.8 Cooling unit preparation

 *The use of a subfeeder increases the cooling liquid consumption. Before welding, ensure that there is enough cooling liquid in the cooler and that also the subfeeder system is filled with coolant. Add cooling liquid, as necessary, and circulate the coolant throughout the system.*

Run the coolant through the system by operating your welding equipment. Refer to your welding equipment's operating instructions for more details (X5 FastMig: [here](#)).

### 3. MAINTENANCE

When considering and planning routine maintenance, please consider the frequency of machine use and the working environment.

Correct operation of the machine and regular maintenance will help you avoid unnecessary downtime and equipment failure.

 *Disconnect the machine from the mains before handling electrical cables.*

#### Daily maintenance

Tools needed:



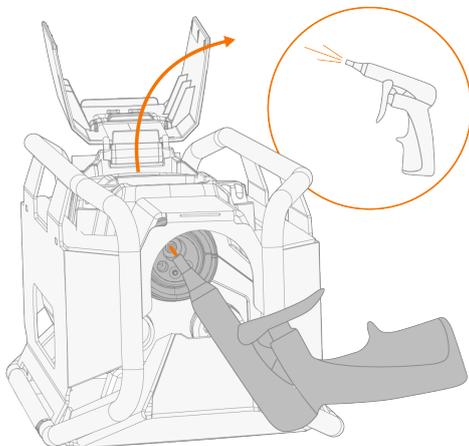
#### Checks:

- Check the overall condition of SuperSnake and the welding gun. Remove welding spatter from the contact tip and clean the gas nozzle. Replace worn or damaged parts. Only use original Kemppi spare parts.
- Check the condition and connection of the welding circuit components: welding gun, earth return cable and clamp, sockets and connectors.
- Check the condition of the feed rolls, needle bearings and shafts. Clean and lubricate bearings and shafts with a small quantity of light machine oil if necessary. Assemble, adjust and test function.

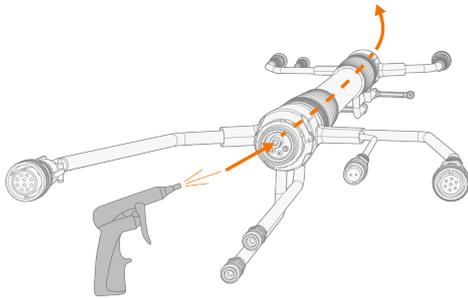
#### Subfeeder cleaning:

 *Clean system with dry compressed air during at least every fifth wire spool change. Keep the subfeeder cover open during the cleaning process.*

1. When the filler wire is not loaded in the subfeeder system, release the cable(s) from the subfeeder and from the wire feeder.
2. Blow the subfeeder clean with compressed air.



3. Blow the cable clean with compressed air.



### Service shop maintenance

Kemppi Service Workshops complete maintenance according to your Kemppi service agreement. Regular preventative maintenance by trained technicians will increase equipment life and ensure reliable operation.

### 3.1 Wire liner replacement

The wire liner is a consumable part, which needs to be changed if worn and when the filler wire material changes. This instruction covers the SuperSnake GTX subfeeder's wire liner replacement. For your welding gun's wire liner replacement, refer to the welding gun operating manual.

 *If you change the filler wire to a different diameter or material, change also the feed rolls and feed roll accessories accordingly.*

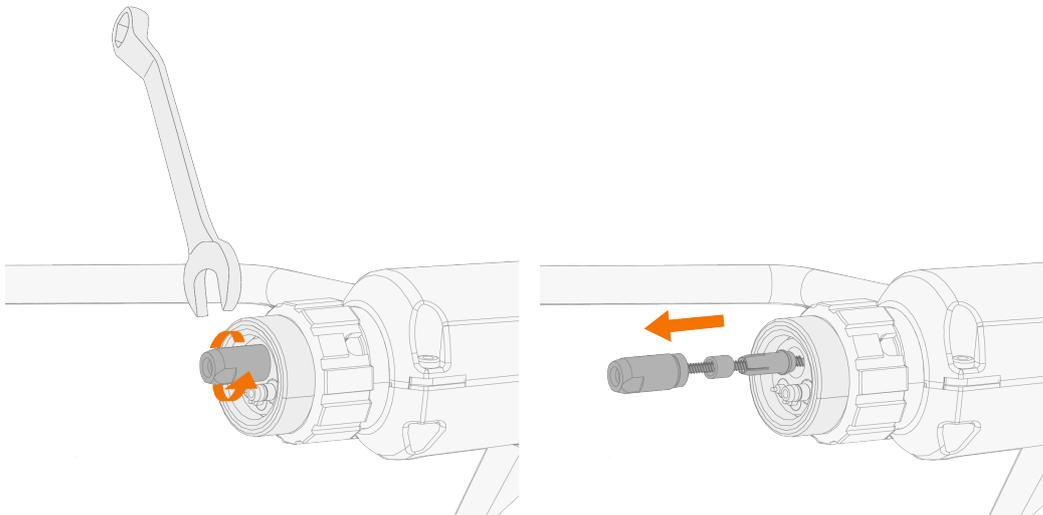
 *The filler wire must be removed from the subfeeder system before the wire liner replacement.*

Tools needed:

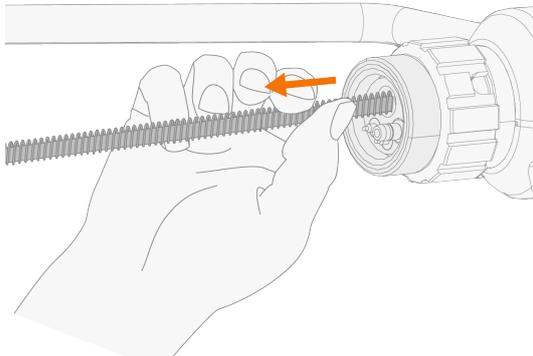


#### Remove old liner:

1. Disconnect the cables from the subfeeder and from the wire feeder.
2. Fully straighten the cable pack and ensure that the cable is not twisted.
3. Remove the liner sleeve along with the sealing ring and cone at both ends of the subfeeder cable.

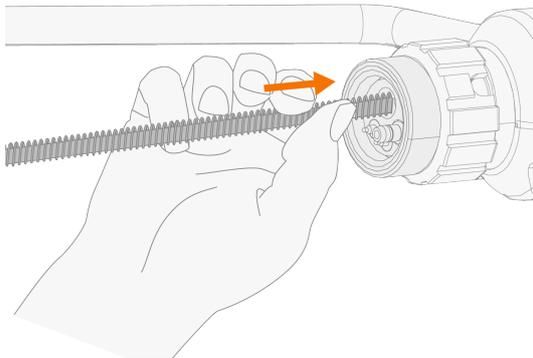


4. Take the old liner out from the hose, pulling from the subfeeder end.



### Install new liner:

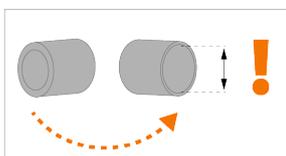
1. Feed the new liner into the hose from the wire feeder end.

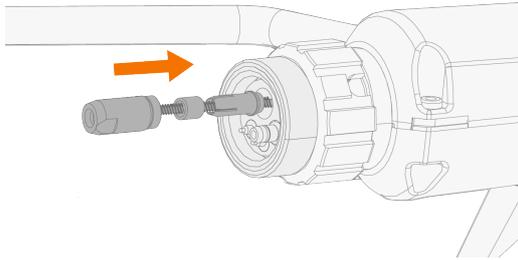


2. Ensure that the wire liner is all the way through and that at least the length of the liner sleeve of wire liner is extruding from the subfeeder end of the cable.
3. Insert the cone, sealing ring and liner sleeve on the wire liner at the subfeeder end.

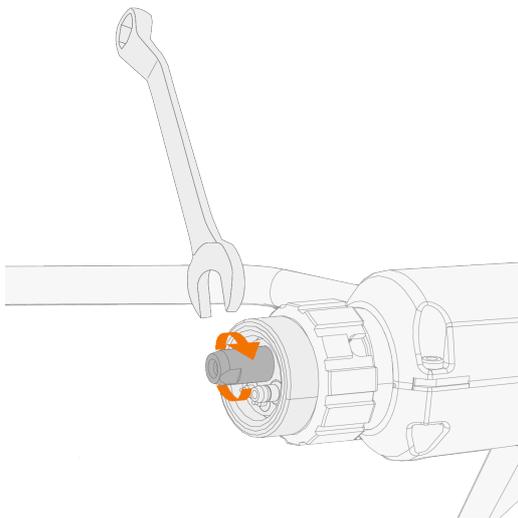
 Use wire liner specific accessories delivered with the new wire liner.

 The sealing ring must be positioned so that the end with the bigger aperture goes in first. When assembled, the sealing ring must go over the edge of the cone. This is needed to secure the wire liner in place.



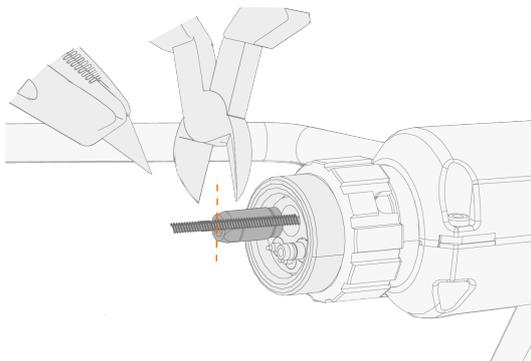


4. At the subfeeder end, push the wire liner into the cable with the liner sleeve. Secure the wire liner installation by tightening the sleeve.



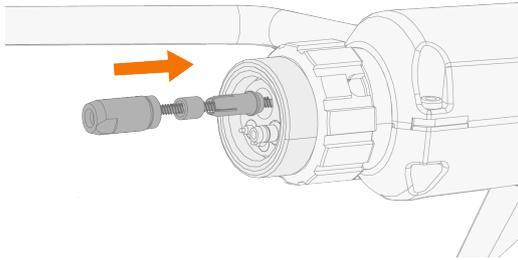
5. At the wire feeder end, cut the excess wire liner by using the liner sleeve as measure.

 *Cut the excess of the steel spiral liner with side cutting pliers and the excess of the Chili liner with a carpet knife.*

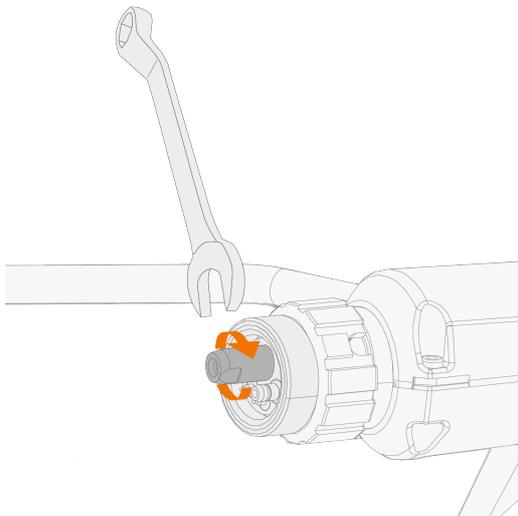


6. Insert the cone and liner sleeve on the wire liner at the wire feeder end.

 *Use the wire liner specific accessories delivered with the new wire liner.*



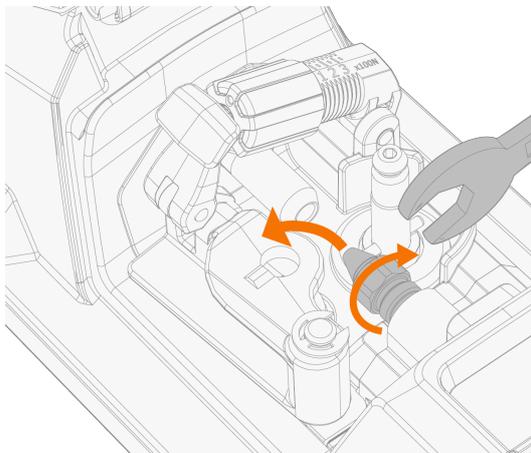
7. Secure the wire liner installation by tightening the liner sleeve in place.



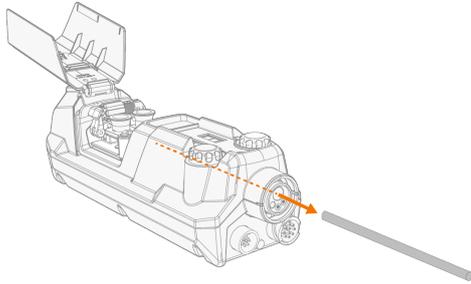
### Replace filler wire inlet guide liner:

 Use the wire liner specific accessories delivered with the new wire liner.

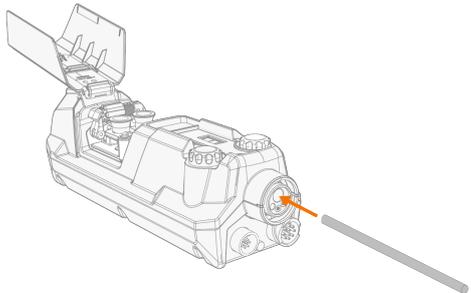
1. Temporarily remove the wire inlet guide tip inside the subfeeder.



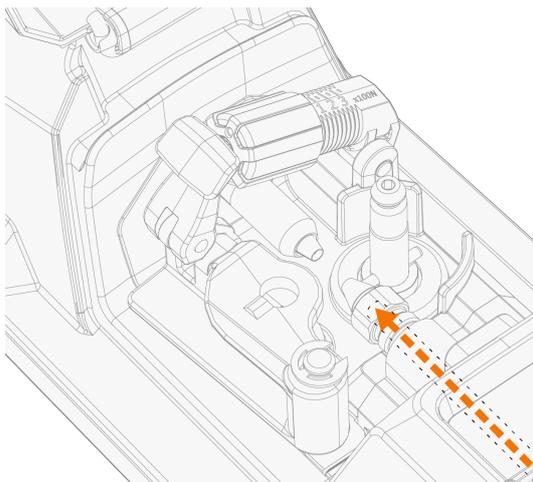
2. Push the old filler wire inlet guide liner from the inside until it can be caught from the outside. Remove the old filler wire inlet guide liner.



3. Install the temporarily removed wire inlet guide tip back in place.
4. Install the new filler wire inlet guide liner.



Once the interconnection cable is also connected, the filler wire inlet guide liner should sit all the way in the wire inlet guide tip.



## 3.2 Disposal



Do not dispose of electrical equipment with normal waste!

In observance of European Directive 2002/96/EC on waste electrical and electronic equipment, and its implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and taken to an appropriate environmentally responsible recycling facility.

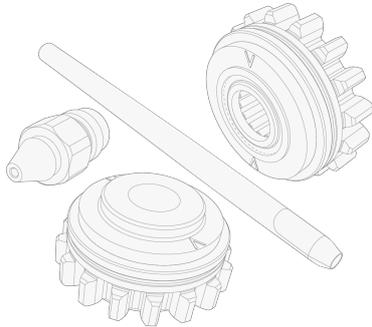
The owner of the equipment is obliged to deliver a decommissioned unit to a regional collection center, as per the instructions of local authorities or a Kemppli representative. By applying this European Directive, you will improve the environment and human health.

## 4. TECHNICAL DATA

### 4.1 SuperSnake GTX technical data

SuperSnake GTX		
Feature / Description		Value
Output 40 °C	60%	350 A
	100%	270 A
Supply voltage	$U_1$	12 V
Supply current	$I_1$	125 mA
Motor voltage	$U_{\text{motor}}$	0...24 V DC
Motor current	$I_{\text{motor}}$	2.5 A
Auxiliary voltage	$U_{\text{aux}}$	48 V
Auxiliary current (max)	$I_{\text{aux max}}$	2 A
Gun connection		Euro
Wire feed mechanism		GT02X, 2-roll, single-motor
Diameter of feed rolls		32 mm
Filler wires	Fe	1.0...1.6 mm
	Ss	1.0...1.6 mm
	Mc/Fc	1.2...1.6 mm
	Al	1.2...1.6 mm
Wire feed speed		1...25 m/min
Shielding gas pressure (max)	$P_{\text{max}}$	0.5 MPa
Operating temperature range		-20...+40 °C
Storage temperature range		-40...+60 °C
EMC class		A
Degree of protection		IP23S
External dimensions without protective frame	L x W x H	400 x 127 x 150 mm
External dimensions with protective frame	L x W x H	682 x 174 x 159 mm
Weight without accessories		3.6 kg
Weight with protective frame		10.1 kg
Standards		EN IEC 60974-5:2019
		EN IEC 60974-10:2020

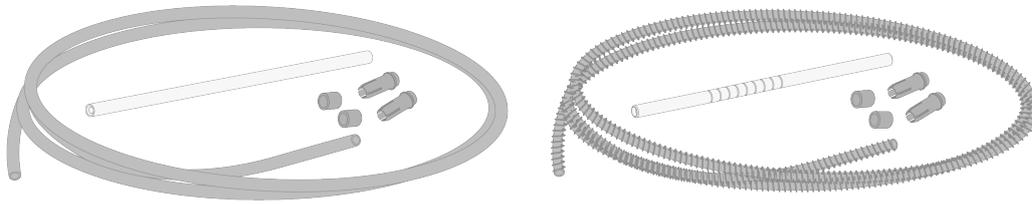
## 4.2 Feed roll kit selection



Kit description		ø mm		Kit code
Fe (Mc/Fc) Standard, V-groove <b>V</b>	Plastic	1.0		F000507
	Plastic	1.2		F000508
	Plastic	1.6		F000509
Fe (Mc/Fc) Heavy Duty, V-groove <b>V</b>	Metal	1.0		F000510
	Metal	1.2		F000511
	Metal	1.6		F000512
Ss (Fe/Cu) Standard, V-groove <b>V</b>	Plastic	1.0		F000513
	Plastic	1.2		F000514
	Plastic	1.4		F000515
	Plastic	1.6		F000516
Ss (Fe) Heavy Duty, V-groove <b>V≡</b>	Metal	1.0		F000517
	Metal	1.2		F000518
	Metal	1.6		F000519
Mc/Fc Standard, V-groove, knurled <b>V≡</b>	Plastic	1.2		F000520
	Plastic	1.4...1.6		F000521
Mc/Fc Heavy Duty, V-groove, knurled <b>V≡</b>	Metal	1.2		F000522
	Metal	1.4...1.6		F000523
Al Standard, U-groove <b>U</b>	Plastic	1.2		F000524
	Plastic	1.4		F000525
	Plastic	1.6		F000526

\* The wire inlet guide tip and wire outlet guide tube is included in the feed roll kit.

### 4.3 Wire liner selection



SuperSnake GTX wire liners		
Description		Ordering code
WIRE LINER 10M	FE	W022458
	CHILI	W022457
WIRE LINER 15M	FE	W022460
	CHILI	W022459
WIRE LINER 20M	FE	W022462
	CHILI	W022461
WIRE LINER 25M	FE	W022464
	CHILI	W022463

\* 'FE' refers to the steel spiral liner and 'CHILI' to the DL Chili liner. The wire inlet guide liner is included in the wire liner package.

For feed roll kit selection, refer to "Feed roll kit selection" on the previous page.

## 4.4 Ordering

For SuperSnake GTX ordering information, refer to [Kempfi.com](https://www.kemppi.com).

For feed roll kit selection, refer to "Feed roll kit selection" on page 33.

For ordering wire liners, refer to "Wire liner selection" on the previous page.