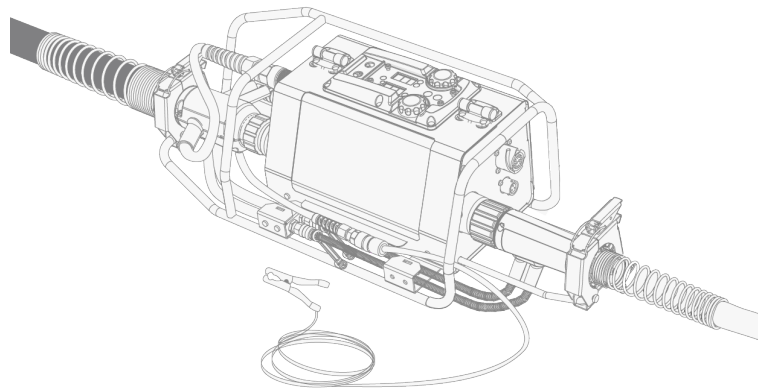


# SuperSnake GTX04HD



Operating manual

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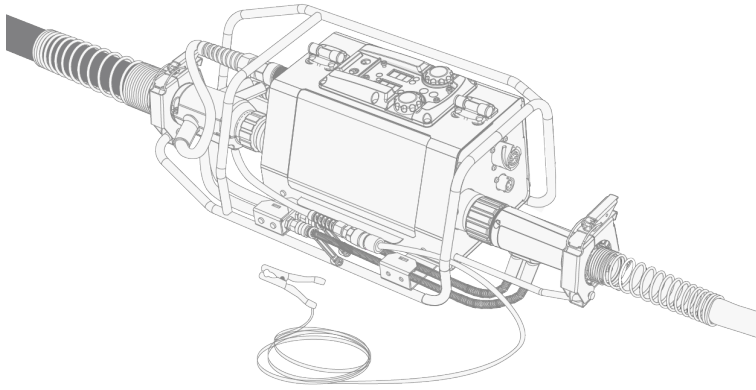
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## 1. GENERAL

Kemppi SuperSnake GTX04HD is a robust and durable subfeeder device designed for professional use in MIG/MAG welding in hard-to-reach welding conditions. SuperSnake GTX04HD has a steel casing and a rigid steel pipe frame integrated into the subfeeder device.



SuperSnake GTX04HD compatible equipment:


- X5 FastMig with X5 Wire Feeder 300/HD300 wire feeders
- Other X5 FastMig wire feeder equipment with dedicated subfeeder installation kit
- Master M 353, 355 and 358 welding 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.

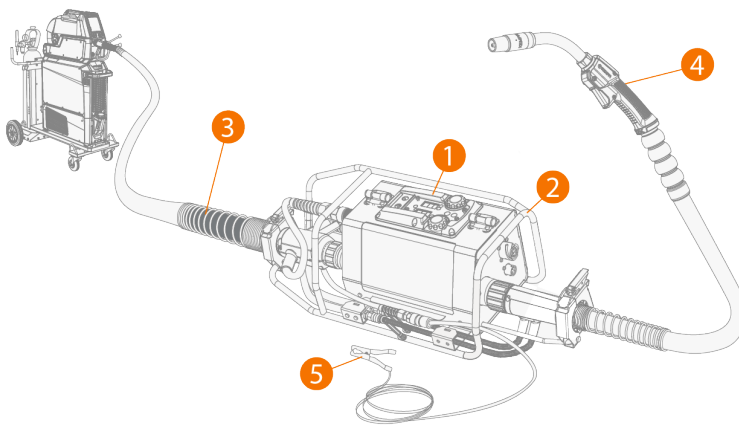
## 1.1 Equipment description

Kemppi SuperSnake GTX04HD 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 GTX04HD subfeeder is delivered with Kemppi's steel spiral wire liner by default. DL Chili wire liner is available as an option.

 *If the SuperSnake GTX04HD subfeeder is not available in your X5 FastMig or Master M (353, 355, 358) welding equipment's subfeeder settings, the equipment firmware must be updated to the latest release version.*

### System



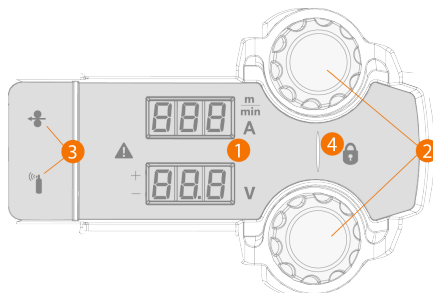
Subfeeder equipment:

1. SuperSnake GTX04HD subfeeder
2. SuperSnake GTX04HD protective frame (integrated)
3. SuperSnake GTX04HD interconnection cable

Other equipment:

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

### Subfeeder control panel



1. Subfeeder control panel
  - >> Displays for wire feed speed / welding current and for fine tuning
  - >> Error indicator (red), warning indicator (yellow)
2. Control knobs
  - >> Wire feed speed and/or welding current

>> 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.*

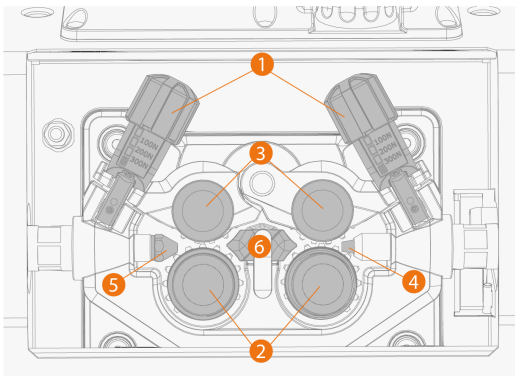
**3. Gas test and Wire inch buttons**

**4. Welding ON/OFF indicator (lock)**

>> Lock symbol is lit if the welding is turned off from the welding ON/OFF switch

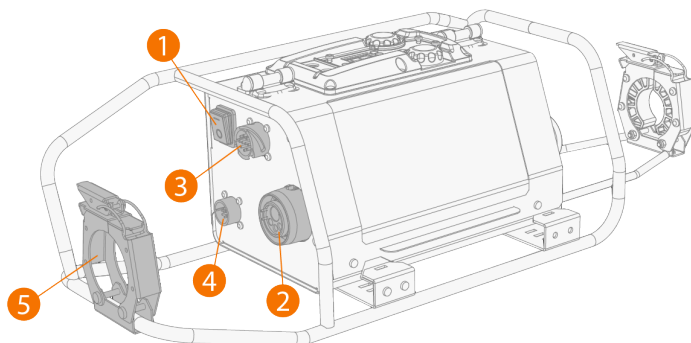
- i** *The welding ON/OFF switch doesn't power down the subfeeder.*

**Subfeeder wire feed mechanism**



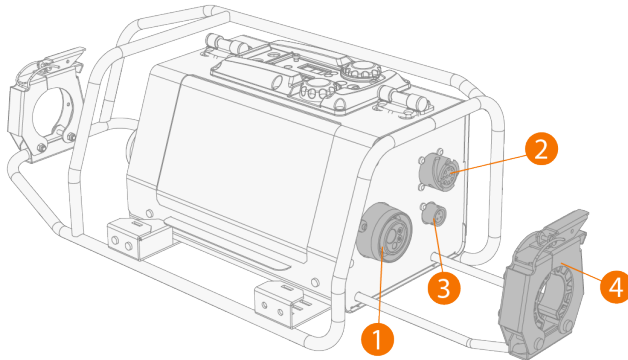
1. Pressure arm locking and adjusting mechanisms
2. Wire feed rolls (drive rolls) and wire feed roll caps
3. Wire feed rolls (pressure rolls) and wire feed roll pins
4. Wire outlet guide tube
5. Wire inlet guide tip
6. Middle wire guide tube

**Subfeeder back (wire feeder end)**



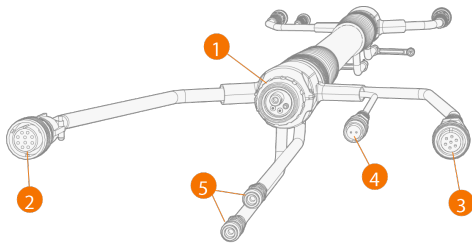
1. Welding ON/OFF switch  
>> Prevents welding with the subfeeder if set to OFF.
2. Welding cable Euro connector (for interconnection cable from wire feeder)
3. Control cable connector (for interconnection cable from wire feeder)
4. Subfeeder synchronization cable connector (for interconnection cable from wire feeder)
5. Interconnection cable strain relief mechanism

### Subfeeder front (welding gun end)



1. Welding cable Euro connector (for welding gun)
2. Control cable connector (e.g. for remote control)
3. 3-pin +48V connector, pin sequence: A) GND, B) +48V (max. 10W), C) CAN bus
4. Welding cable strain relief mechanism

### 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.

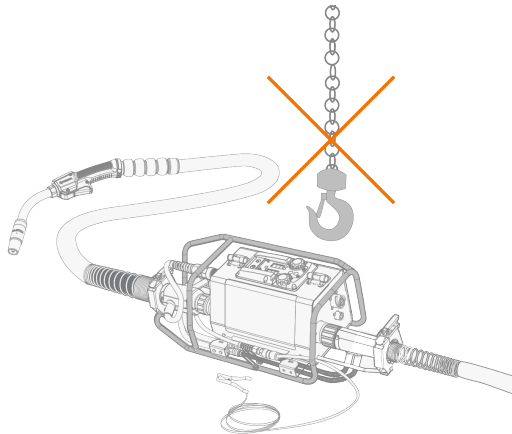
### Quick Response (QR) code


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.


 Do not lift the SuperSnake GTX04HD subfeeder with a hoist.



 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.

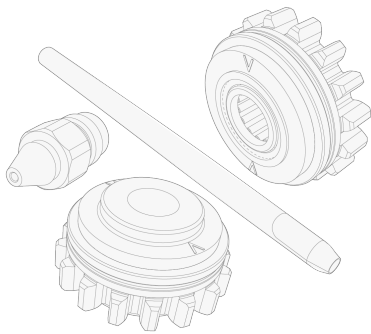
- The product is packed in specially designed transport cartons. However, always before use make sure the products have not been damaged during transportation.
- Check also that you have received the components you ordered and that the operating manuals are available.
- Straighten the subfeeder cable 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.

## 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 30 for more information.

 *It is not recommended to use knurled feed rolls in the main wire feeder unit when using the SuperSnake GTX04HD subfeeder. They may apply too much friction on the filler wire at the wire feeder end preventing the best possible outcome with the SuperSnake GTX04HD subfeeder.*

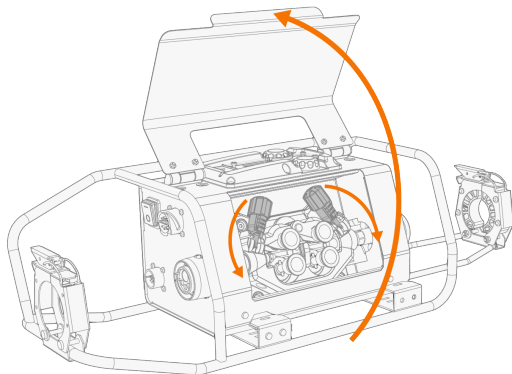
The subfeeder is delivered with a standard wire line component kit and with steel spiral wire liner, if not specified otherwise. Feed rolls are purchased separately. Ensure you have the correct components and feed rolls available and installed.



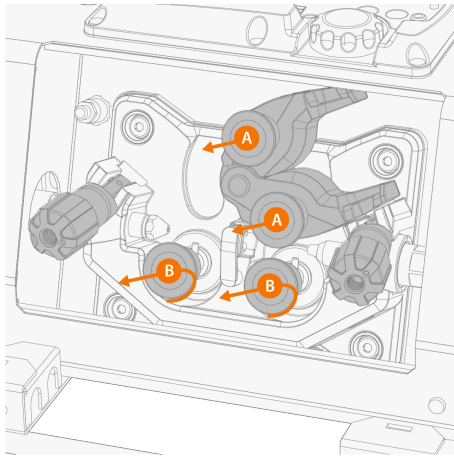
Tools needed:



1. Open the feed mechanism door and release the pressure arms by pulling them.

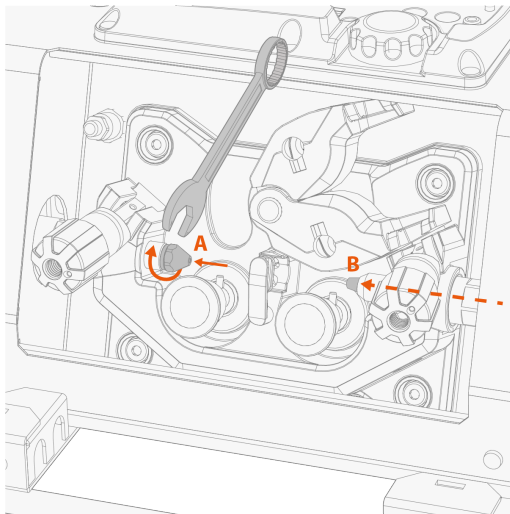


2. Remove the drive feed roll mounting caps (B) by turning and pulling them.
3. Remove the pressure feed roll mounting pins (A) by pulling them.



4. Install the wire guides:

- >> Install the wire inlet guide (A). Secure the component in place with a spanner.
- >> Install the wire outlet guide tube (B) by inserting it from the welding gun end of the subfeeder.



The steel spiral wire inlet guide liner is factory-installed in the Euro connector behind the wire inlet guide (A). The wire inlet guide liner needs to be replaced if using DL Chili wire liner (e.g. when welding aluminum).

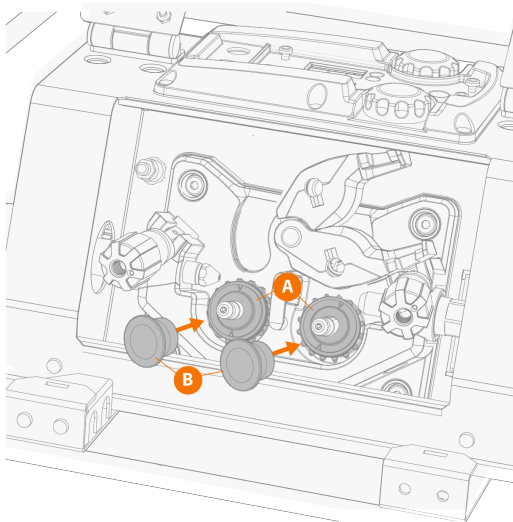
5. Install the middle guide tube. Lock it in place by turning the locking clip.



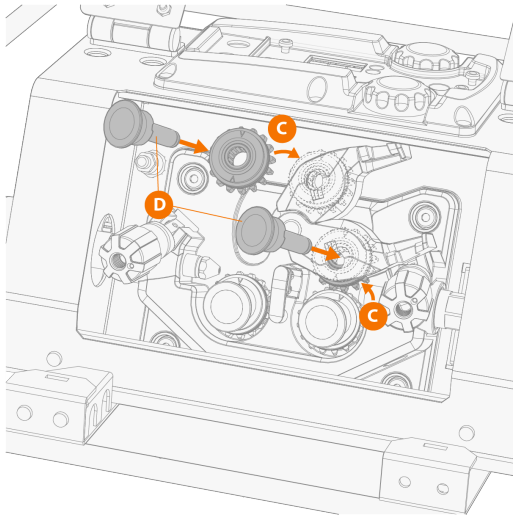
6. Mount the drive feed rolls (A) in place, cogged roll section down, and install the mounting caps (B).



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



7. Slide the pressure feed rolls (C) in place, cogged roll section down, and install the mounting pins (D).



8. Close the pressure arms.

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

## 2.2 Feed roll pressure adjustment

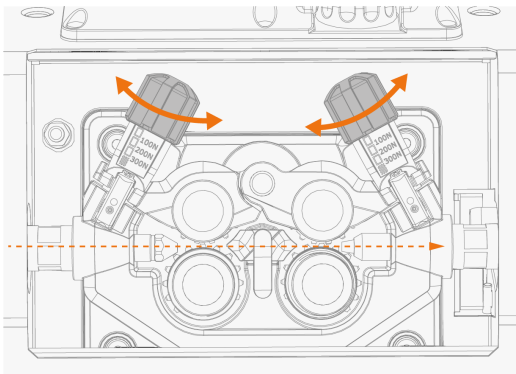
Adjust the feed roll pressure with the adjustment rollers mounted on the pressure arms. The load applied should be sufficient to overcome a light braking force applied by hand to the filler wire as it exits the welding gun contact tip.

**i** 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. If not already in place, install the wire feed rolls as described in "Subfeeder installation" on page 8.
2. Adjust the pressure of the feed rolls with the pressure adjustment rollers. The pressure is the same for both feed roll pairs.

>> 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.



**!** 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.

**i** The use of knurled feed rolls in the main wire feeder unit when the SuperSnake GTX04HD subfeeder is in use is not recommended.

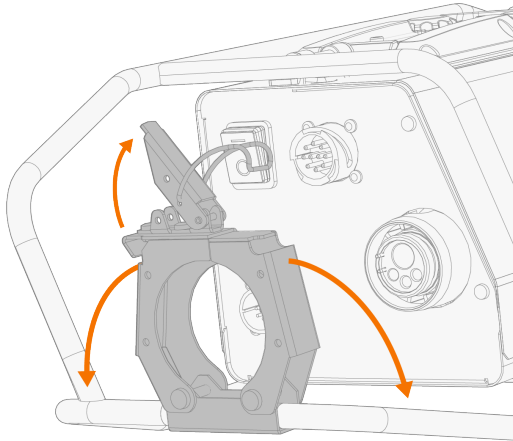
**i** When the SuperSnake GTX04HD subfeeder is selected in the X5 FastMig welding equipment settings, the wire inch feature will feed the wire automatically to the system when the Wire inch button on the wire feeder is pressed.

Filler wire	Feed roll profile	Filler wire diameter (mm)	Adjustment (x100N)
Fe/Ss solid		0.8-1.0	1.5–2.0
		≥ 1.2	2.0–2.5
Metal and flux cored (MC, FC)	V-groove, knurled 	≥ 1.2	1.0–2.0
Self-shielded (gasless)	V-groove, knurled 	≥ 1.6	2.0–3.0
Al	U-groove 	1.0	0.5–1.0
		1.2	1.0–1.5
		1.4	1.5–2.0
		≥ 1.6	2.0–2.5

## 2.3 Connecting subfeeder

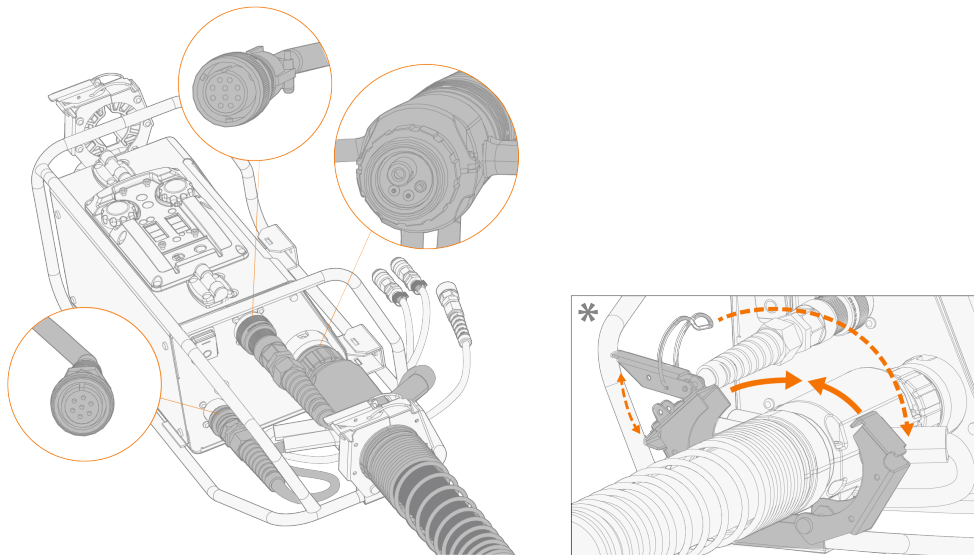
The welding cable with Euro connector transfers welding power, shielding gas and filler wire. The separate control cable connection is used for additional welding controls (e.g. remote control).

1. Open the cable strain relief mechanisms.



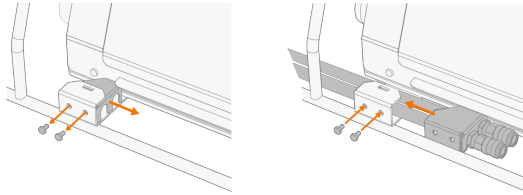
2. Connect the subfeeder interconnection cable (welding cable, control cable and synchronization cable) to the subfeeder.

- >> Secure the cables by hand tightening the collars.
- >> Close the interconnection cable strain relief mechanism (\*).



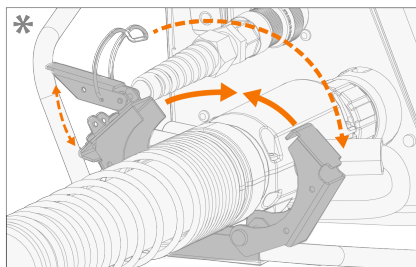
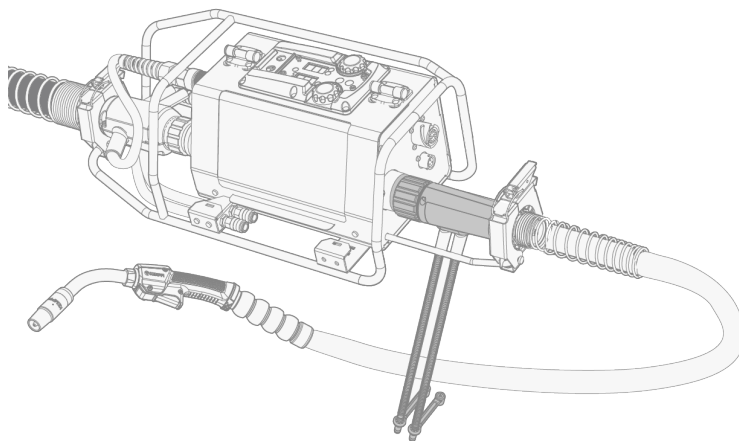
3. If water cooling is used:

- >> Remove the screws and securing clip from the frame bracket.
- >> Route the cooling hoses under the bracket on the subfeeder side.
- >> Attach the securing clip to the cooling hoses.
- >> Secure to the frame with the clip and screws provided.

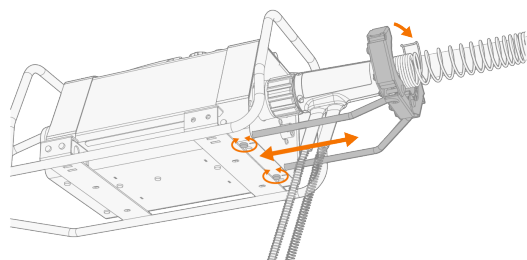


**4. Connect the welding gun to the subfeeder.**

- >> Secure the welding cable by hand tightening the collar.
- >> Close the welding cable strain relief mechanism (\*).



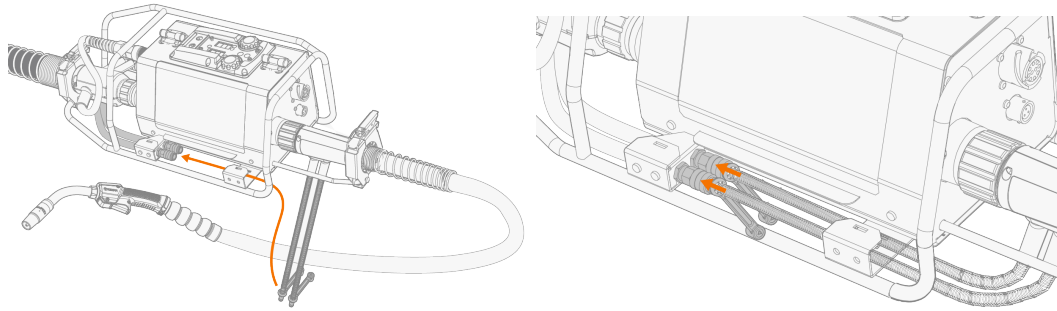
*The welding cable strain relief mechanism distance can be adjusted according to the welding gun used.*



*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.*

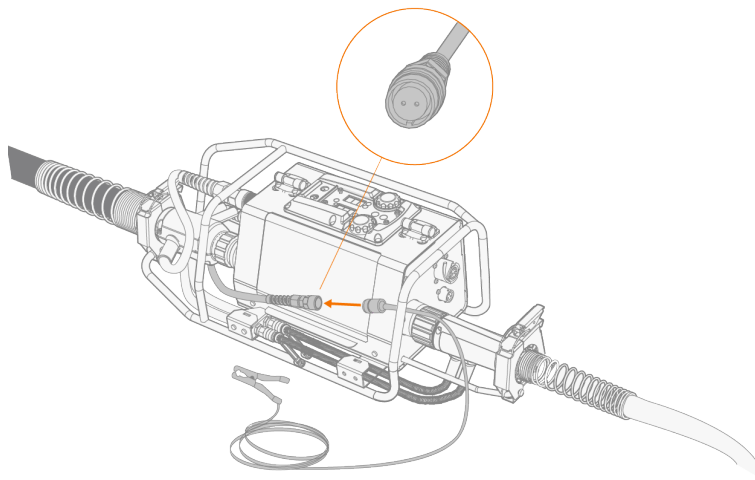
**5. If water cooling is used:**

- >> Route the welding gun cooling hoses under the brackets on the subfeeder side.
- >> Connect the cooling hose snap connectors. Cooling hoses are color-coded.

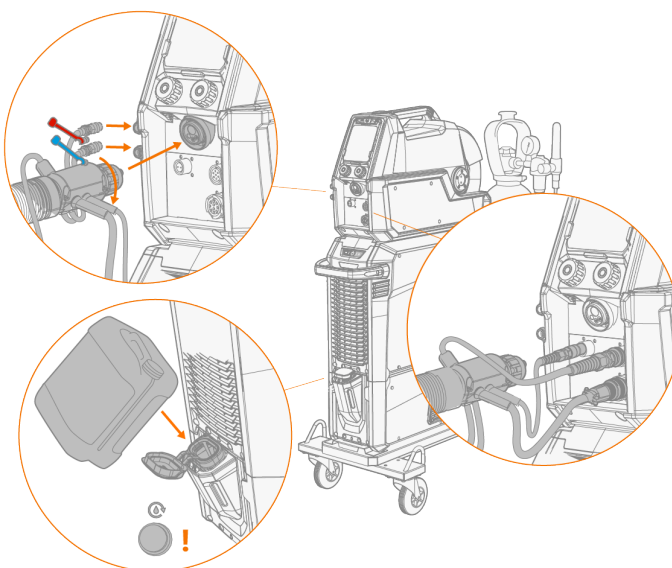


**6. If voltage sensing cable is used:**

>> Connect the voltage sensing cable to the connector coming from the interconnection cable.



**7. Connect the subfeeder interconnection cable to your welding equipment. Refer to your welding equipment's operating instructions for more details (X5 FastMig: [here](#)).**



8. On your wire feeder's user interface, select SuperSnake GTX04HD subfeeder and the subfeeder interconnection cable length. Refer to your welding equipment's operating instructions for more details (X5 FastMig: [here](#)).

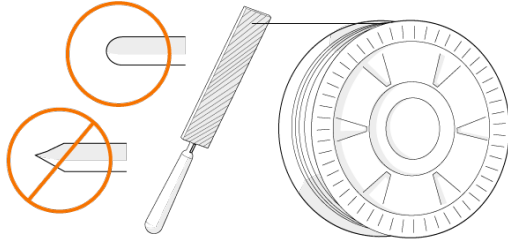
If the SuperSnake GTX04HD is not available in the settings, and you're using compatible welding equipment, your welding equipment's firmware must be updated to the latest release version.

## 2.4 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.

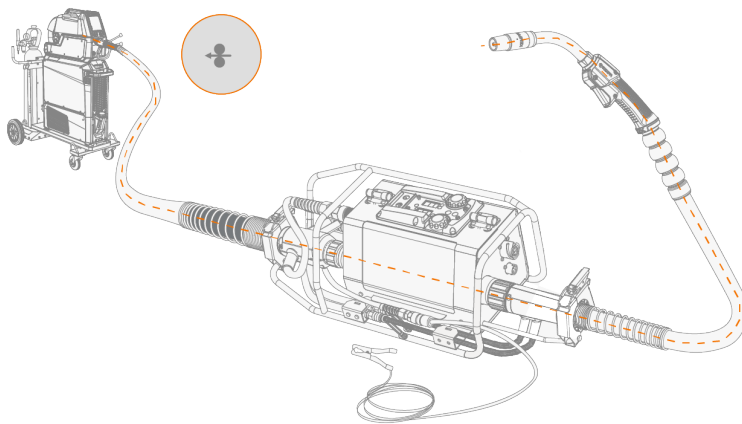


 *Ensure that the end of the filler wire is straight and without any bends or edges.*

## 2.5 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.

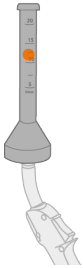
**i** The system will automatically load the filler wire to the subfeeder until the wire hits the feed rolls or when the set subfeeder cable length plus 0.5 meters has been fed from the wire feeder. If you want to stop the automatic filler wire feed, press the Wire inch button again.



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

## 2.6 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.*

## 2.7 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](#), Master M 353, 355: [here](#), Master M 358: [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:



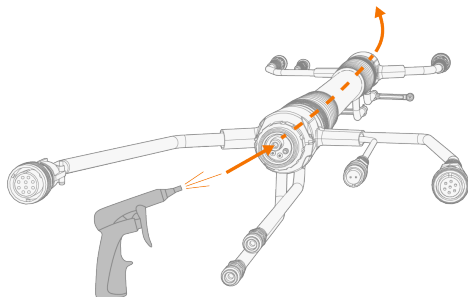
#### Checks:

- 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

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

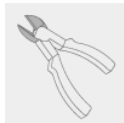
### 3.1 Wire liner replacement

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 GTX04HD 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.*

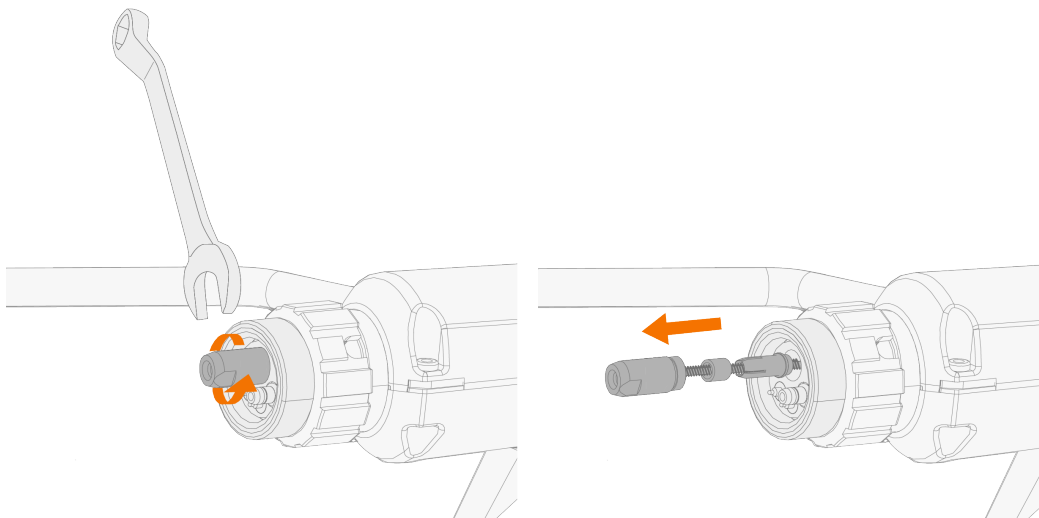
 *The filler wire must be removed from the subfeeder system before the wire liner replacement.*

Tools needed:

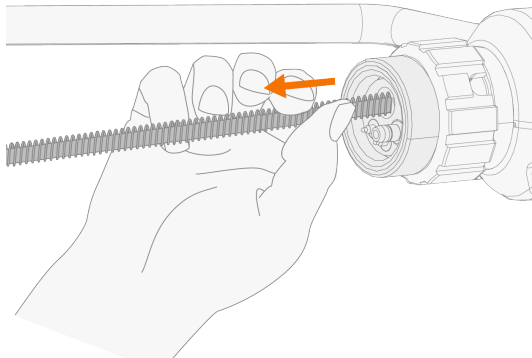


#### Remove old liner:

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.

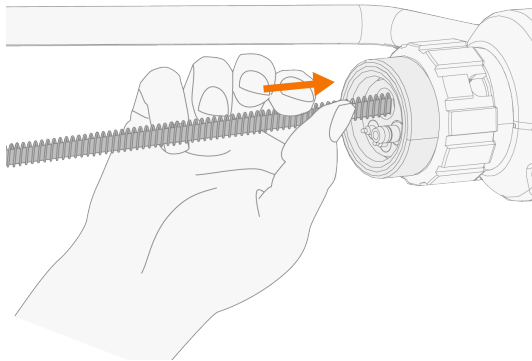


4. Take the old liner out from the hose, pulling from the subfeeder end.




### Install new liner:

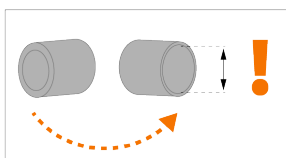
1. Feed the new liner into the hose from the wire feeder end.

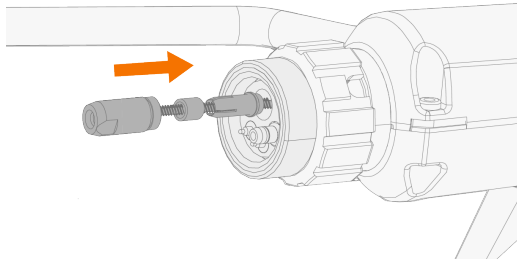


2. Ensure that the wire liner is all the way through and that at least the length of the liner sleeve of wire liner is extruding from the subfeeder end of the cable.
3. Insert the cone, sealing ring and liner sleeve on the wire liner at the subfeeder end.

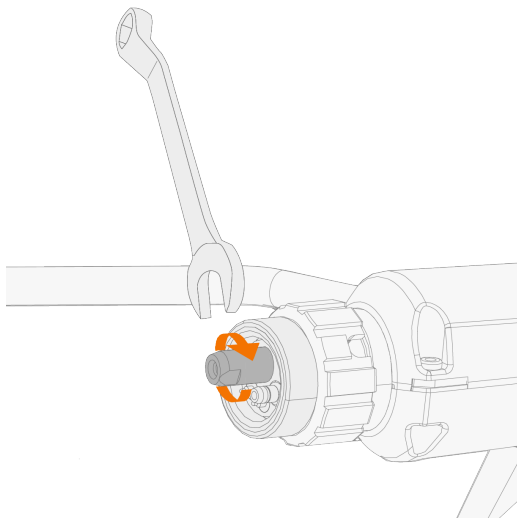
 Use wire liner specific accessories delivered with the new wire liner.

 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.



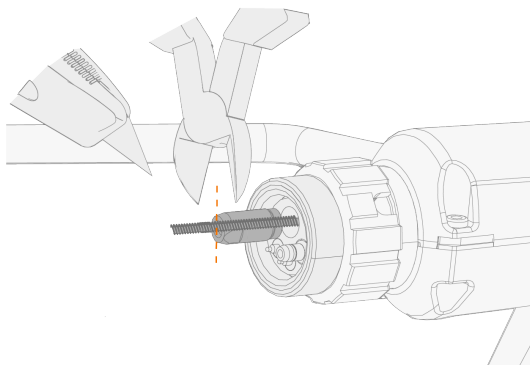


4. At the subfeeder end, push the wire liner into the cable with the liner sleeve. Secure the wire liner installation by tightening the sleeve.



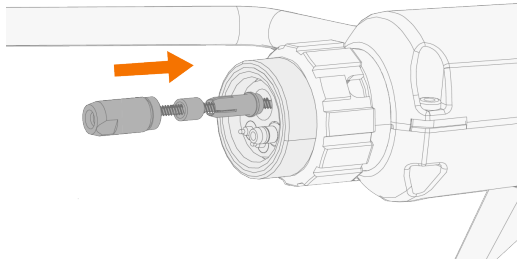
5. At the wire feeder end, cut the excess wire liner by using the liner sleeve as measure.

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

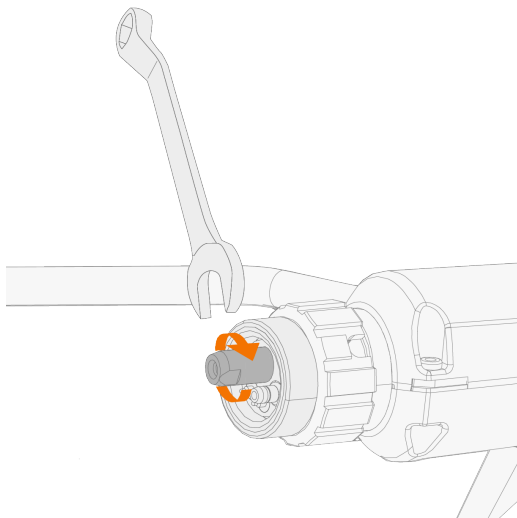


6. Insert the cone and liner sleeve on the wire liner at the wire feeder end.

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



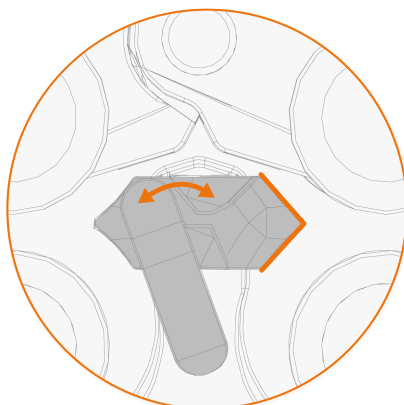
7. Secure the wire liner installation by tightening the liner sleeve in place.



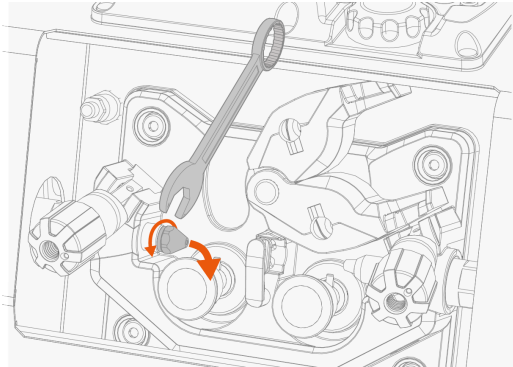
### Replace filler wire inlet guide liner:

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

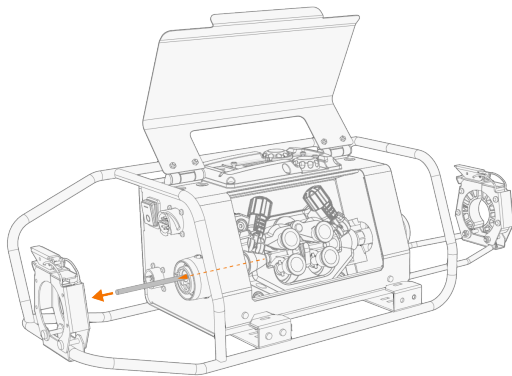
1. Remove the wire feed rolls if necessary. (Refer to "Subfeeder installation" on page 8 for more information on the wire feed roll installation.)
2. Remove and replace the middle guide tube.



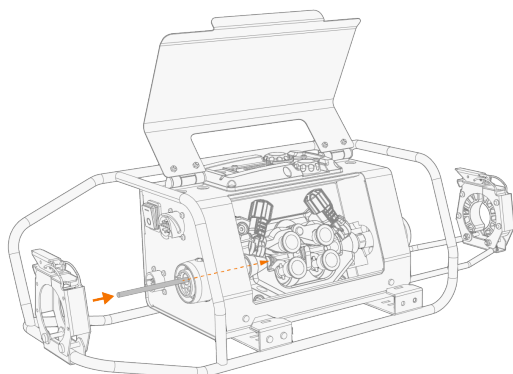
3. Temporarily remove the wire inlet guide inside the subfeeder.



4. 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.



5. Install the temporarily removed wire inlet guide tip back in place.
6. Install the new filler wire inlet guide liner. Push it through the Euro connector until it stops at the wire inlet guide tip.



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 any electrical equipment with normal waste!

In observance of WEEE Directive 2012/19/EU on waste of electrical and electronic equipment and European Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment, and their 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 Kempfi representative. By applying these European Directives you improve the environment and human health.

For more information:

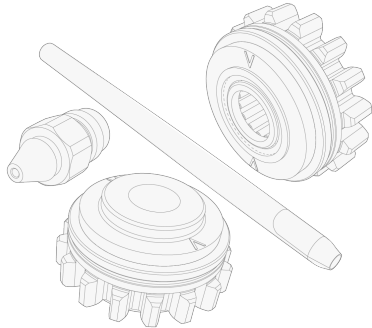


## 4. TECHNICAL DATA

### 4.1 SuperSnake GTX04HD technical data

SuperSnake GTX04HD		
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		4-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	L x W x H	561 x 241 x 200 mm
Weight		8.8 kg
Standards		EN IEC 60974-5:2019
		EN IEC 60974-10:2020

## 4.2 Feed roll kit selection

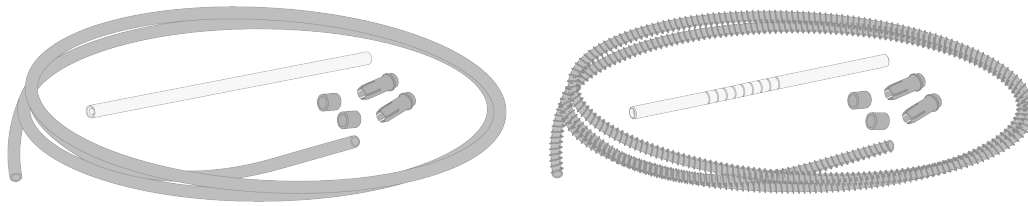


Subfeeder consumable kits					
Filler wire material	Feed roll profile	Filler wire diameter (mm)		Consumable kit code, plastic	Consumable kit code, metal
Fe, Ss (Al, MC, FC)	V-groove <b>V</b>	0.8–0.9		F000367	F000372
		1.0		F000368	F000373
		1.2		F000369	F000374
		1.4		F000370	F000375
		1.6		F000371	-
FC, MC (Fe)	V-groove, knurled <b>V≡</b>	1.0		F000387	F000390
		1.2		F000388	F000391
		1.4–1.6		F000389	F000392
Al (FC, MC, Ss, Fe)	U-groove <b>U</b>	1.2		F000394	-
		1.4		F000395	-
		1.6		F000396	-

The materials mentioned first refer to primary suitability and the materials mentioned inside brackets refer to secondary suitability.

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

### 4.3 Wire liner selection



SuperSnake GTX04HD 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 GTX04HD ordering information, refer to [Kemppi.com](https://www.kemppi.com).

For feed roll kit selection, refer to "Feed roll kit selection" on page 30.

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