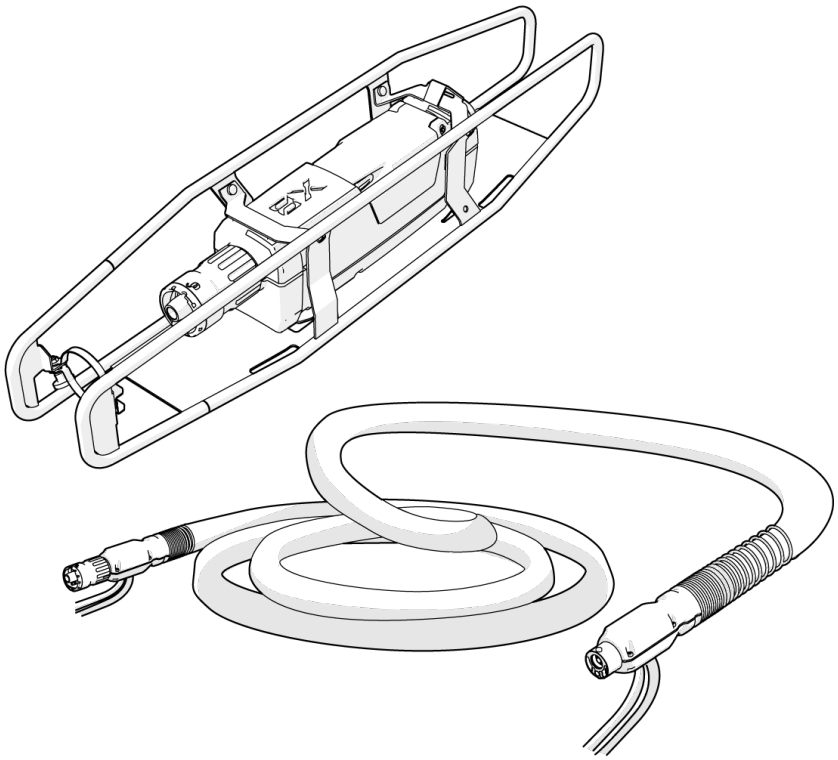
# X8 SuperSnake GT02XW

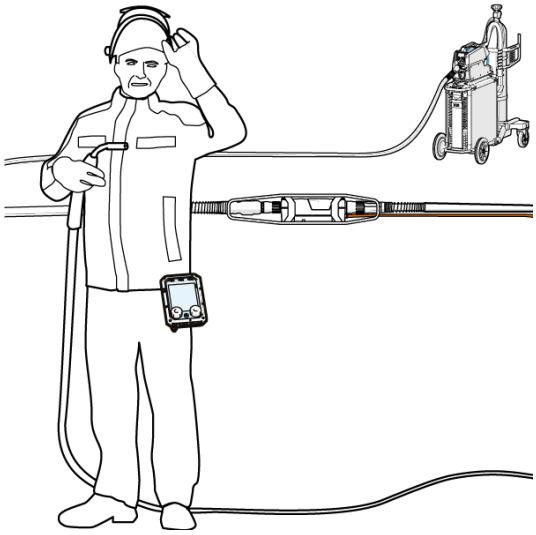


Operating manual

CONTENTS

# 1. X8 SUPERSNAKE GT02XW

Congratulations on choosing X8 SuperSnake GT02XW subfeeder welding equipment. Used correctly, Kemppi products can significantly increase the productivity of your welding and provide years of economical service.



**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.*

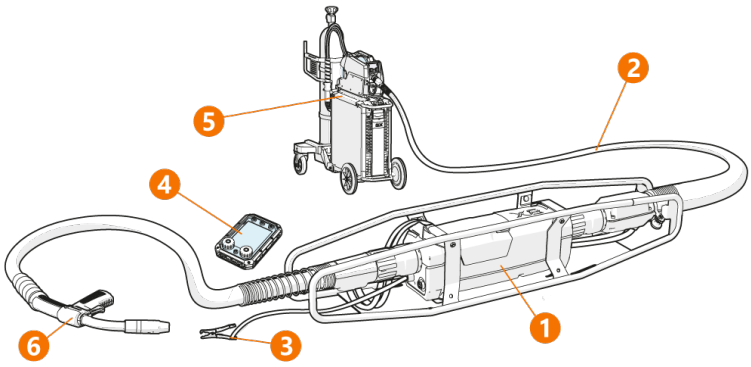
*Warning: Describes a potentially dangerous situation. If not avoided, it will result in personal damage or fatal injury.*

## 1.1 Equipment description

Kemppi X8 SuperSnake GT02XW subfeeder is a combined solution for distance wire feeding and restricted access welding with water cooling. It extends the reach of X8 MIG Welder's MIG/MAG welding guns up to 30 meters, providing simple distance wire feeding for a variety of filler wires, taking quality welding to locations other welding equipment can't reach. X8 SuperSnake subfeeder is intended to be used with Kemppi's steel spiral wire liner or DL Chili wire liner.

X8 SuperSnake GT02XW subfeeder connects to X8 MIG Welder.

*If the X8 SuperSnake GT02XW subfeeder is not available in your X8 MIG Welder's subfeeder settings, the X8 MIG Welder firmware must be updated to the latest release version.*




**Subfeeder equipment:**

1. X8 SuperSnake GT02XW subfeeder
2. X8 SuperSnake GT02XW cable

**Other related equipment:**

3. Voltage sensing cable
4. Control Pad (wireless control device for X8 MIG Welder)
5. X8 MIG Welder
6. MIG/MAG welding gun

*Always check before use that interconnecting cable, 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.*

*If you choose to use Control Pad with a cable attached instead of a wireless connection, you can connect it directly to the X8 SuperSnake GT02XW subfeeder unit.*

## 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

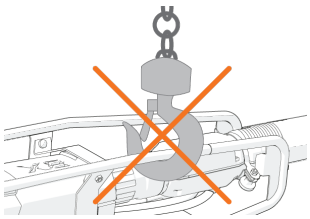
*Do not power on the equipment before the mechanical installation is complete.*

*Place the equipment on a stable and clean ground, the feed mechanism door side facing up. Protect the equipment from rain and direct sunshine.*

## Before installation and use

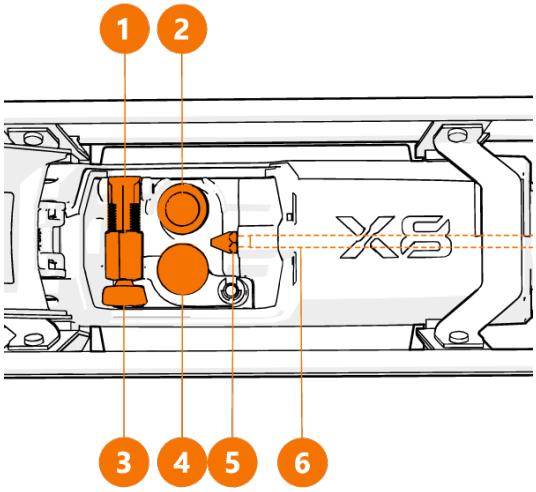
*Disconnect the welding machine from the mains before starting the subfeeder installation.*

*The X8 SuperSnake GT02XW subfeeder equipment must not be lifted and/or moved with a hoist from the subfeeder frame.*



- 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. X8 SuperSnake GT02XW can be used either with Kemppi's steel spiral liner or DL Chili liner. Please read the guide notes on component selection and installation before use.
- Before welding, ensure that the installation as well as the filler wire, shielding gas, cooler and voltage sensing cable preparations are completed.

## 2.1 Wire feed mechanism components




1. Pressure arm adjuster
2. Wire feed roll (drive roll)
3. Pressure arm
4. Wire feed roll (pressure roll)
5. Wire inlet guide tube
6. Wire inlet guide liner

For the correct components, refer to sections "Ordering" on page 32, "Feed roll kit selection" on page 33 and "Wire liner selection" on page 35 .

## 2.2 Subfeeder installation

Before connecting or loading the filler wire into the subfeeder, the wire feed 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.

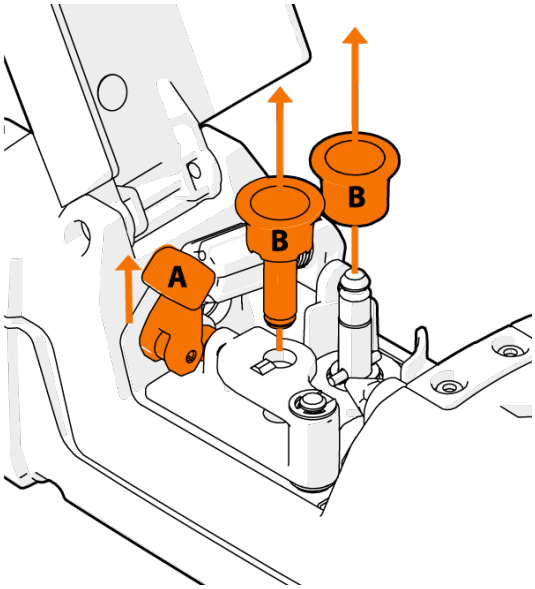
*It is not recommended to use knurled feed rolls in the X8 wire feeder unit when using the X8 SuperSnake GT02XW subfeeder. They may apply too much friction on the filler wire at the wire feeder end preventing the best possible outcome with the X8 SuperSnake GT02XW subfeeder.*

The subfeeder is delivered with standard wire line components, if not specified otherwise. Feed rolls are to be purchased separately. Ensure you have the correct components and feed rolls available and installed.

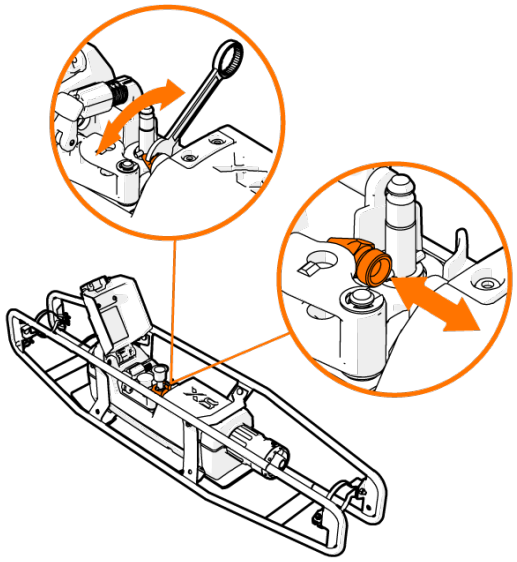
**Tools needed:**

- 13 mm spanner
- 8 mm Allen key

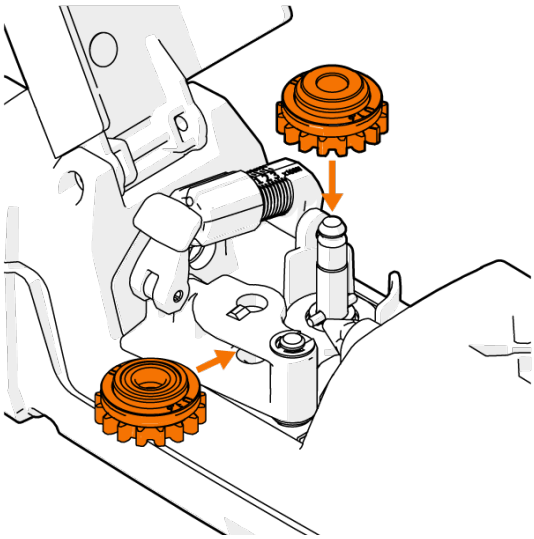
1. Open the feed mechanism door.
2. Release the pressure arm by lifting it up from the end (A).
3. Remove the feed roll fixing pins (B) by pulling them up.



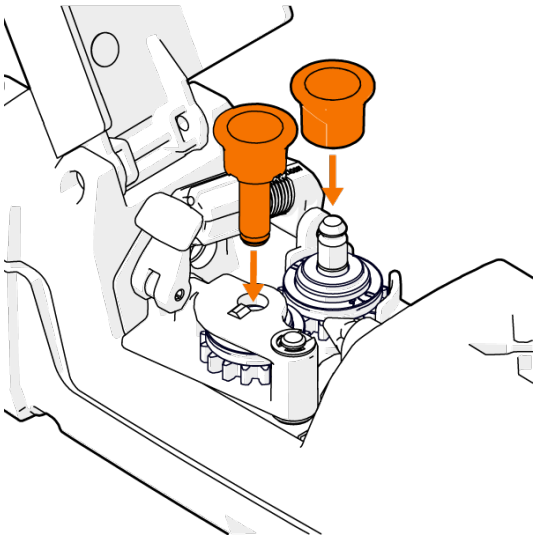
4. Install the wire guide. Secure the component in place with a spanner.



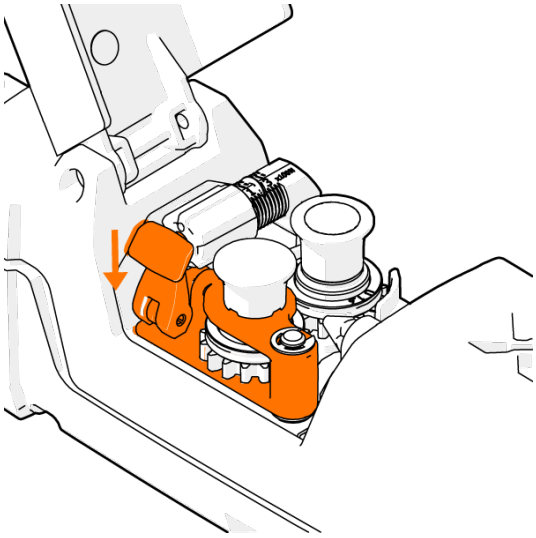
5. Mount the new feed rolls in place, cogged roll section down.



6. Reinstate the feed roll fixings by pushing them down on top of the feed rolls.



7. Close the pressure arm.

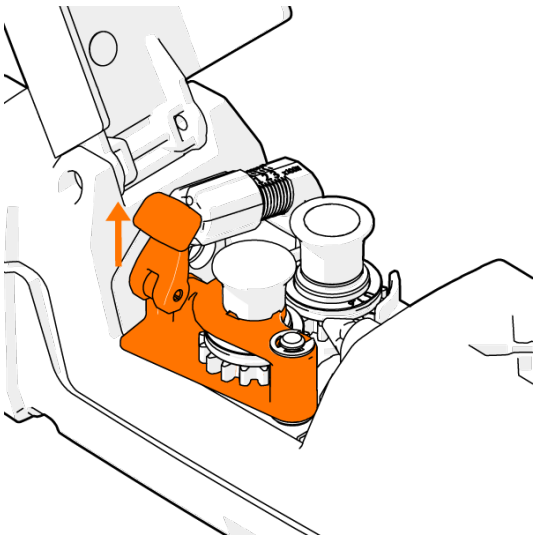


## 2.3 Feed roll pressure adjustment

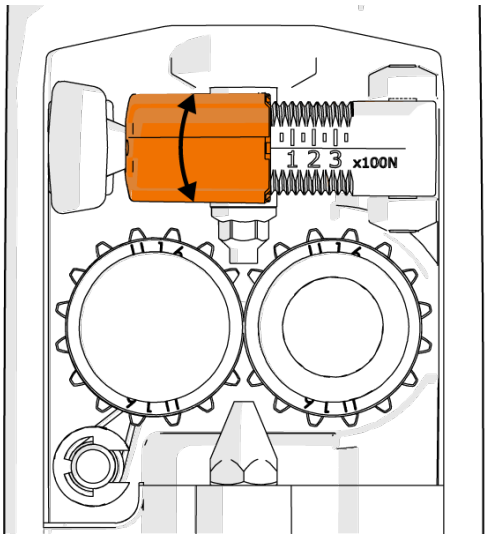
Adjust the feed roll pressure with the adjustment roller mounted on the pressure arm. The load applied should be sufficient to overcome a light braking force applied by hand to the filler wire as it exits the welding gun contact tip.

*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.*

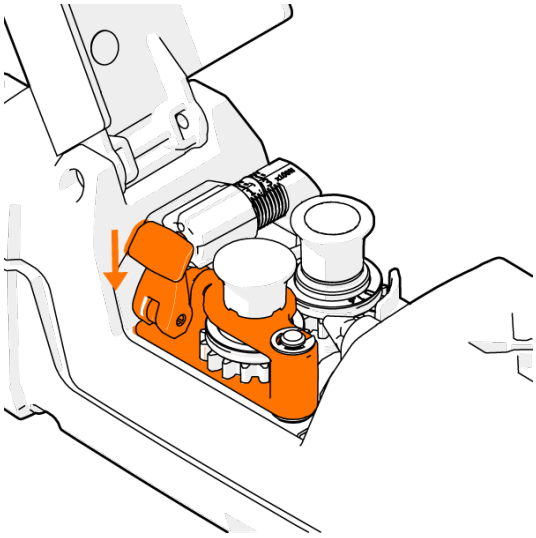
1. Release the pressure arm by lifting it up.



2. Turn the roller adjuster on the pressure arm to adjust the roll pressure. A graduated scale next to the adjustment roller indicates the pressure load in newtons (N). For the correct amount of pressure, refer to the table in the end of this section.



3. 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 X8 MIG Welder's wire feeder unit with the X8 SuperSnake GT02XW subfeeder is not recommended.*

*When the X8 SuperSnake GT02XW subfeeder is selected in the X8 wire feeder settings, wire inch feature will feed the wire automatically to the system when the Wire inch button on the wire feeder panel is pressed.*

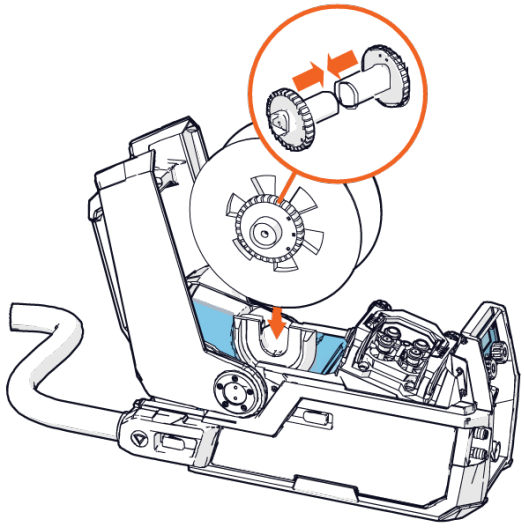
| Filler wire types | Feed roll profile | | Filler wire diameter, ø mm | Adjustment (x100N) |
|---|---|---|---|---|
| Fe, Ss | V-groove | V | 1.0 | 1.5–2.0 |
| | | | ≥ 1.2 | 2.0–3.0 |
| Fc, Mc | V-groove, knurled | V≡ | ≥ 1.2 | 1.0–2.0 |
| | | | 1.6 | 2.0–3.0 |
| Aluminum | U-groove | U | 1.2 | 1.0–1.5 |
| | | | 1.6 | 2.0–2.5 |

## 2.4 Mounting wire spool

Ensure that quality filler wire is loaded to the wire feed cabinet. Check that the correct wire guide tube and wire feed rolls are selected and fitted for the filler wire type used.

*For more information on wire spool installation and replacement, refer to the X8 MIG Welder's manual.*

*Check that the filler wire spool is correctly mounted and locked into position. Ensure the spool is not damaged or deformed in such a way that it can rub or chaff against the internal surface of the wire feed unit chassis or door. This may result in increased drag, impacting on weld quality. This may also result in long term wire feed unit damage, rendering the unit unserviceable or unsafe to use.*

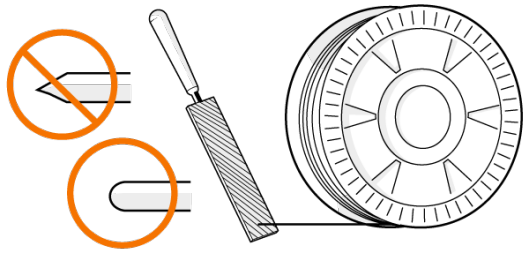


When changing the wire spool, the pressure of the feed rolls is not necessary to be released. Simply ensure that the groove of the feed roll matches the diameter of filler wire used. For the filler wire preparations, refer to section "Preparing filler wire" on page 14.

## 2.5 Preparing filler wire

*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.*

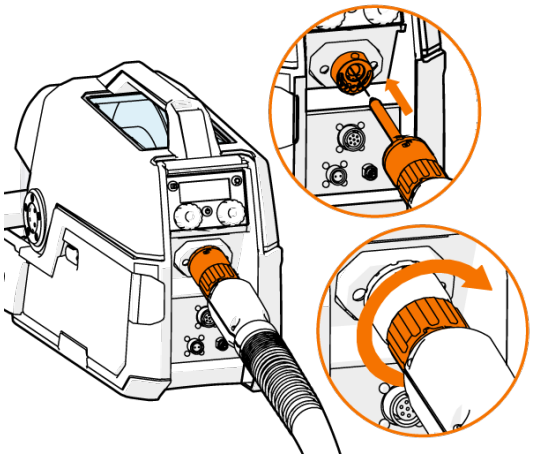
1. Straighten approximately 20 cm of filler wire and, in the wire feeder, guide the filler wire through the inlet tube and middle wire guide tube to the outlet, which feeds the filler wire to the subfeeder and the welding gun.
2. Push the filler wire manually so that the wire will reach the wire liner (about 20 cm).
3. Close the pressure arms in the wire feeder so that the filler wire is locked between the feed rolls. Ensure that the filler wire sits in the feed roll grooves.

## 2.6 Connecting subfeeder

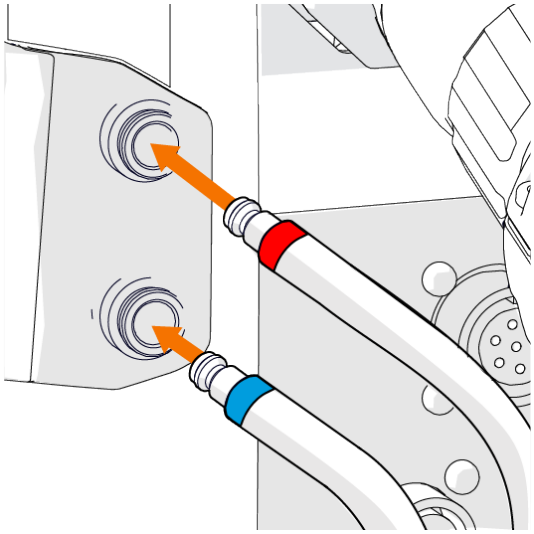
The X8 SuperSnake GT02XW coupling transfers welding power, shielding gas and gun trigger lines as well as Control Pad data.

Note that there should be a small length of straight filler wire sticking out for connection.

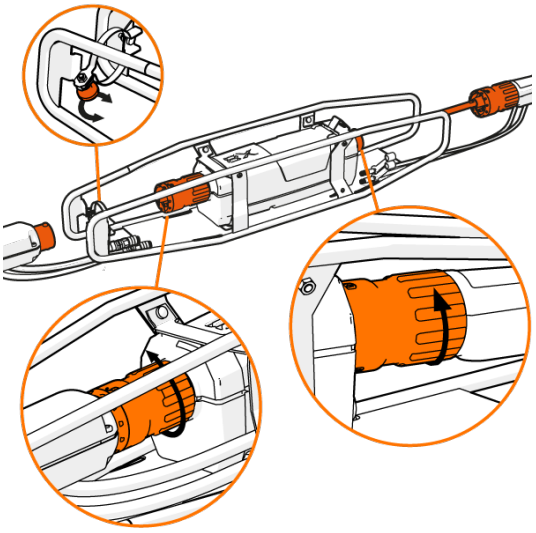
1. Guide the filler wire from the wire feeder into the liner and connect the subfeeder cable to the wire feeder.
2. Secure the cable by hand tightening the collar.



3. Connect the cooling hoses. The coolant inlet hose is marked with blue and the coolant outlet hose with red color.

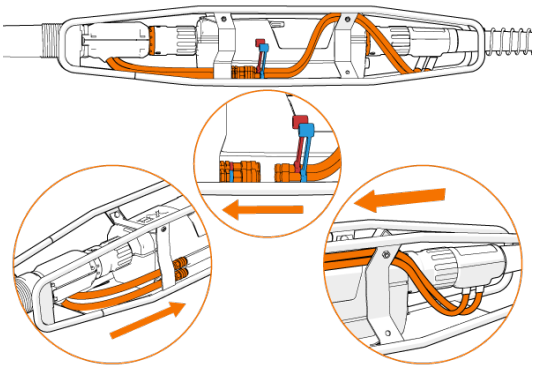


4. Connect the subfeeder cable and the welding gun to the subfeeder. Hand tighten the collars and secure the cable to the frame with the band attached.

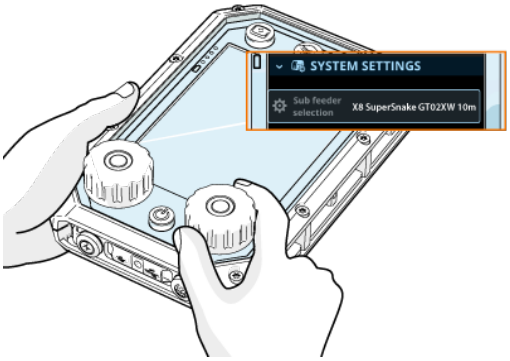


*X8 SuperSnake GT02XW is designed to accept welding guns with the X8 MIG Welder's Kemppi fitting. To ensure reliable welding performance, please ensure the gun is suitable for the intended welding application and is in good working order, correctly fitted with a suitable liner and contact tip as well as with the water cooling hoses.*

5. Connect the cooling hoses together. The coolant inlet hose is marked with blue and the coolant outlet hose with red color.



6. In Control Pad System settings, go to Subfeeder selection. Select the X8 SuperSnake GT02XW subfeeder according to the length of the subfeeder cable used.

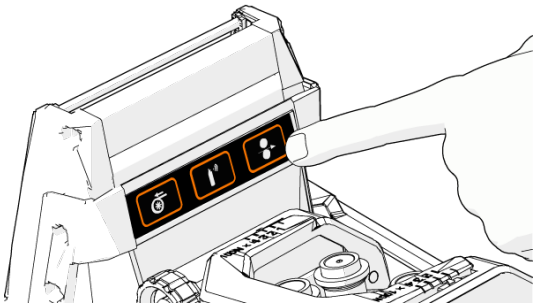



If the X8 SuperSnake GT02XW is not available in the settings, your X8 MIG Welder's firmware must be updated to the latest release version. For more information on the X8 MIG Welder operation, refer to the X8 MIG Welder's instructions.

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

## 2.7 Loading filler wire into subfeeder

1. Straighten the subfeeder cable and avoid tight bends on the 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 X8 wire feeder panel.

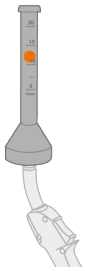


*The system will automatically load the filler wire to the subfeeder until the wire hits the feed rolls or when 30 meters of wire has been fed from the wire feeder. If you want to stop the automatic filler wire feed, press the Wire inch button again.*

*Also shielding gas is automatically run into the system when subfeeder is connected and Wire inch is used. If the welding is not started immediately, the gas may evaporate from the subfeeder system. In this case, to ensure faultless weld quality, release gas into the system before welding by pressing the Gas test button on the wire feeder panel.*

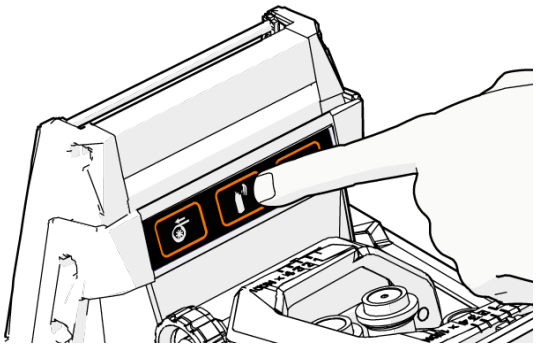
## 2.8 Shielding gas setting

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.



*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.*

*If you have not welded for a while, the gas may have been evaporated from the subfeeder. In this case, release gas into the system before welding.*

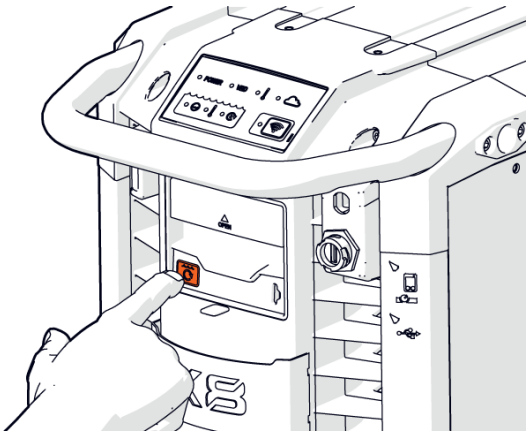


## 2.9 Cooler preparation

*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.*

Pump the coolant through the system by pressing the coolant circulation button in the front panel of the power source.

When you press and hold the coolant circulation button, the pump starts to circulate the coolant automatically. Press the coolant circulation button again to interrupt the fill-up, for example, if any coupling is loose.



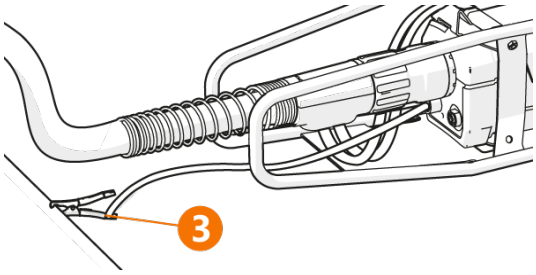
If the line does not fill up during 1 minute after the button has been released, the automatic filling stops and the indicator LED blinks green and red in turns. The indicator panel also includes indicator LEDs which are yellow if the coolant level is too low or the coolant temperature is too high. When there are no problems with the circulation, the indicator LED is green.

For more instructions on operating the cooler, refer to the X8 MIG Welder manual.

## 2.10 Voltage sensing cable calibration

*The welding system must be calibrated with the voltage sensing cable when you start welding the first time. The calibration must be repeated every time when you change the length of interconnection cable, earth return cable, subfeeder cable or welding gun cable.*

1. Connect the voltage sensing cable (3) to the X8 SuperSnake GT02XW.




2. Attach the earth return cable and the voltage sensing cable to the work piece.
3. Weld at least 4 welds, 5 seconds each.

*Once calibrated, the voltage sensing cable can be disconnected, except when the WiseRoot+ and WiseThin+ processes are used. With WiseRoot+ and WiseThin+, the voltage sensing cable must always be connected.*

# 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:**

- Air compressor and air gun.

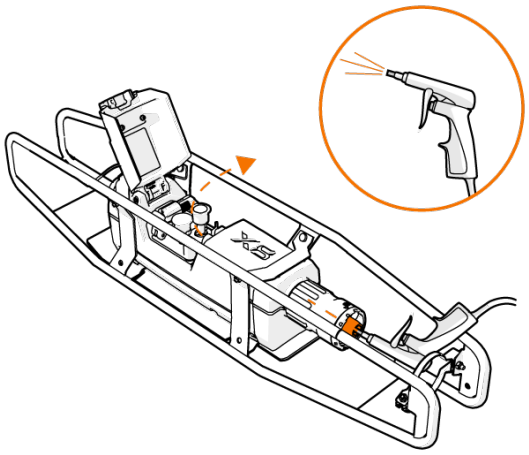
**Checks:**

- 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.

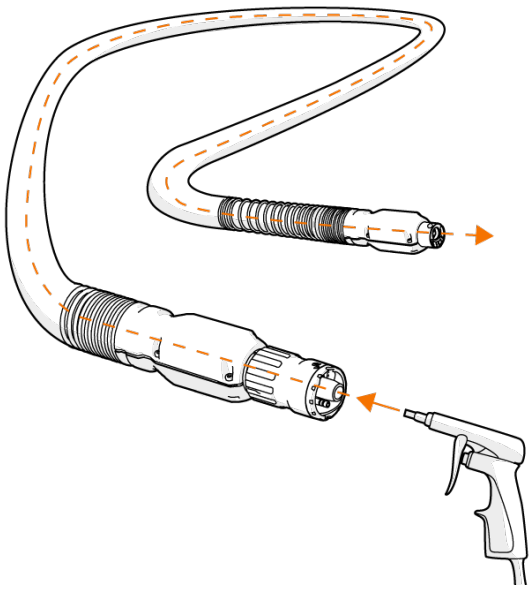
**Subfeeder cleaning:**

ⓘ *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.

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

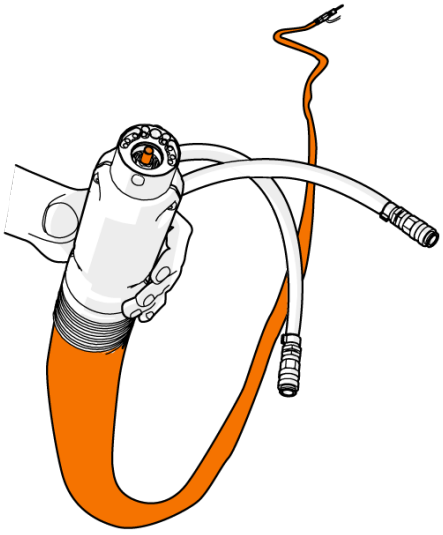
*The filler wire must be removed from the subfeeder system before the wire liner replacement.*

**Tools needed:**

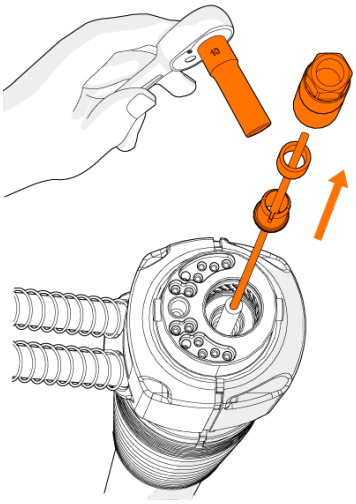
- 10 mm socket, long
- Socket wrench
- 10 mm spanner
- 8 mm spanner
- Side cutting pliers
- Carpet knife.

**Remove old liner:**

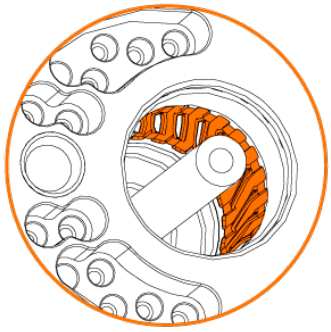
1. Disconnect the cables from the subfeeder and from the wire feeder.
2. Fully straighten the cable pack and ensure that the cable is not twisted.



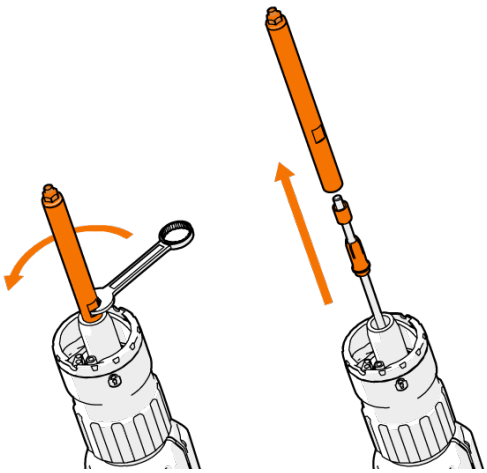
3. Release and remove the liner sleeve along with the cone and seal at the subfeeder end of the cable.



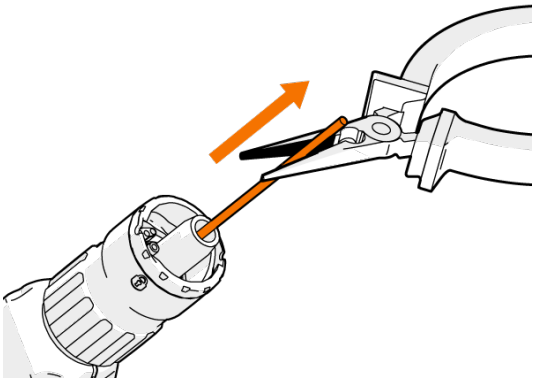
⚠ *Ensure that you don't damage the springs inside.*



4. Release and remove the long liner sleeve along with the cone and seal at the wire feeder end of the cable.

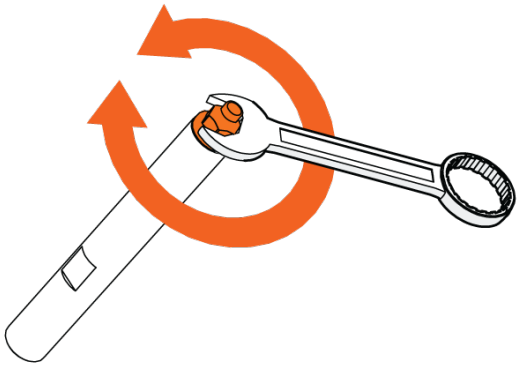


5. Take the old liner out from the hose, pulling from the subfeeder end.

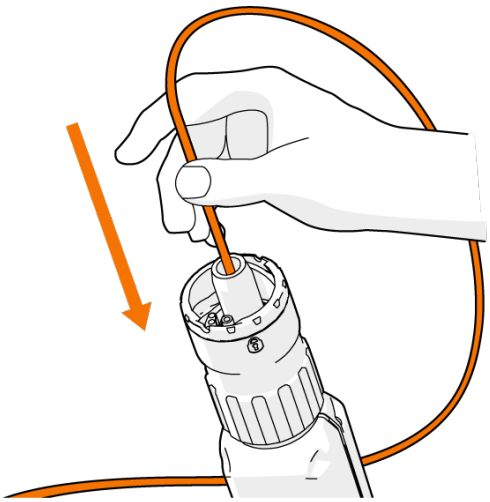


**Install new liner:**

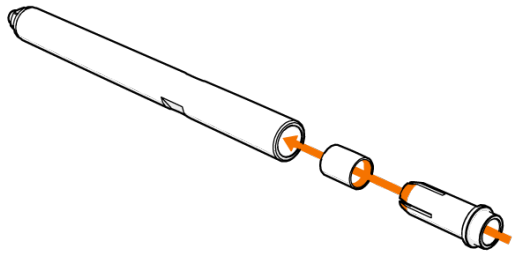
1. Replace the short wire guide in the end of the liner's long sleeve.



2. Start feeding the new liner into the hose from the wire feeder end. Stop when there is approximately 100…200 mm of liner left outside the cable connector end.

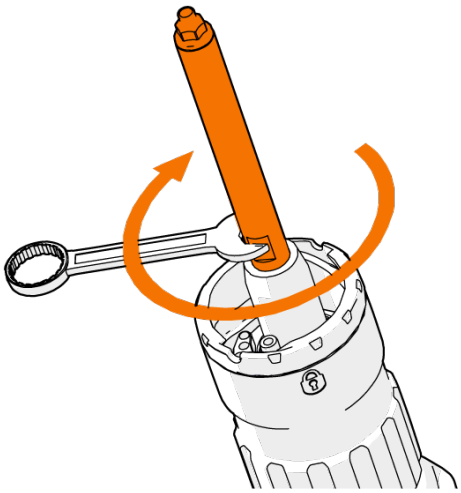


3. Insert the long liner sleeve along with the cone and the seal on the liner end.

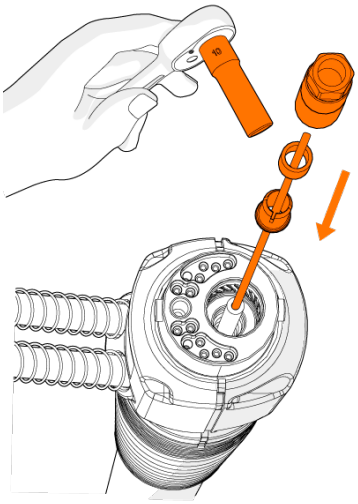


*Use the correct sleeve with your wire liner. The sleeve for the orange liner (DL Chili) is different from the one for the green liner (Fe liner, steel spiral).*

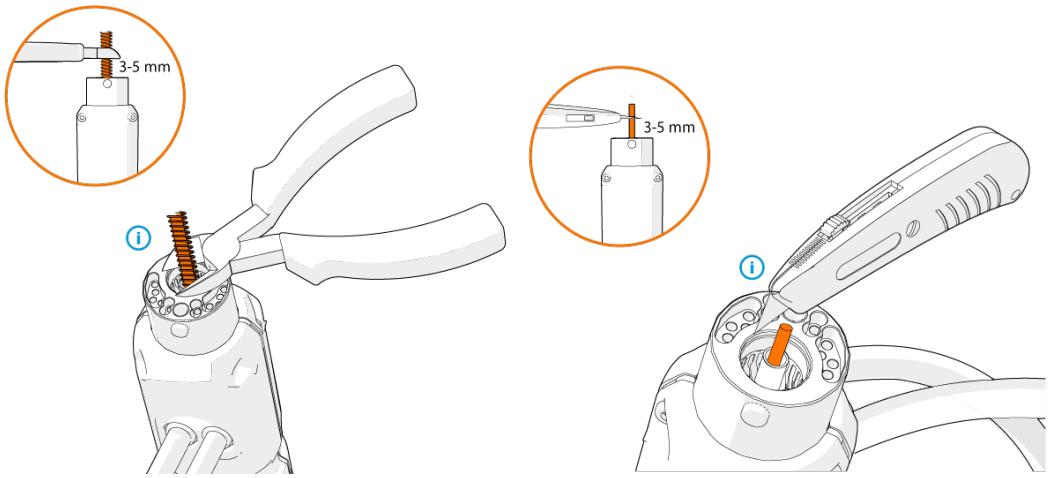
4. Push the rest of the liner into the cable with the long sleeve.
5. Secure the long sleeve at the wire feeder end of the cable hose.



6. Insert the liner sleeve along with the cone and seal on the liner at the subfeeder end of the cable hose.
7. Secure the sleeve at the subfeeder end of the cable hose.



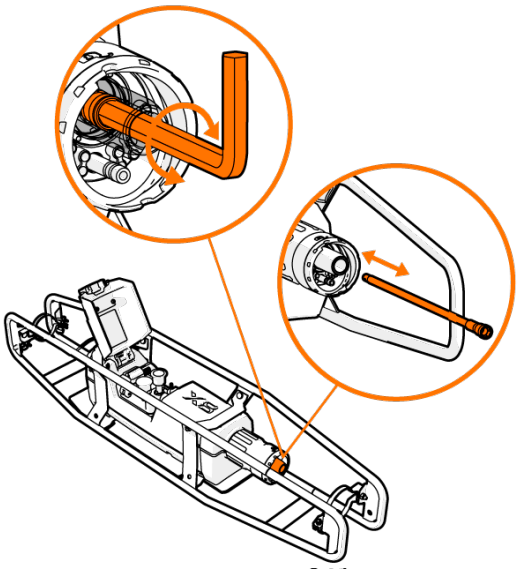
8. At the subfeeder end of the cable hose, cut the excess wire liner leaving approximately 3…5 mm extruding from the cable connector end level.




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

**Replace filler wire inlet guide liner:**

1. Install the new filler wire inlet guide liner. Tighten the component in place with an Allen key.



## 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 Kemppi representative. By applying this European Directive, you will improve the environment and human health.

# 4. TECHNICAL DATA

| X8 SuperSnake GT02XW | | |
|---|---|---|
| Feature / Description | | Value |
| Output 25 °C | 60% | 310 A |
| Supply voltage | $U_1$ | 50 V DC |
| Supply current | $I_1$ | 20 mA |
| Motor voltage | $U_{motor}$ | 0…24 V DC |
| Motor current | $I_{motor}$ | 5 A |
| Gun connection | | Kemppi |
| 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 | | 25 m/min |
| Shielding gas pressure (max) | $p_{max}$ | 0.5 MPa |
| Operating temperature range | | -20…+40 °C |
| Storage temperature range | | -40…+60 °C |
| EMC class | | A |
| Degree of protection | | IP24S |
| External dimensions | L x W x H | 777 x 142 x 142 mm |
| Weight without accessories | | 6 kg |
| Weight of cable pack (water-cooled) | 10 m | 18 kg |
| | 15 m | 26 kg |
| | 20 m | 34 kg |
| | 25 m | 42 kg |
| Standards | | IEC 60974-5:2013 |
| | | IEC 60974-10:2014+A1 |

# 5. ORDERING

### Main product

| X8 SuperSnake GT02XW main product | | |
|---|---|---|
| Description | | Ordering code |
| GT02XW 10M | FE | X8900501000 |
| | CHILI | X8900501001 |
| GT02XW 15M | FE | X8900501500 |
| | CHILI | X8900501501 |
| GT02XW 20M | FE | X8900502000 |
| | CHILI | X8900502001 |
| GT02XW 25M | FE | X8900502500 |
| | CHILI | X8900502501 |

* 'Fe' refers to a steel spiral liner and 'Chili' to DL Chili liner.

** The main product includes a corresponding cable pack.

### Cable packs

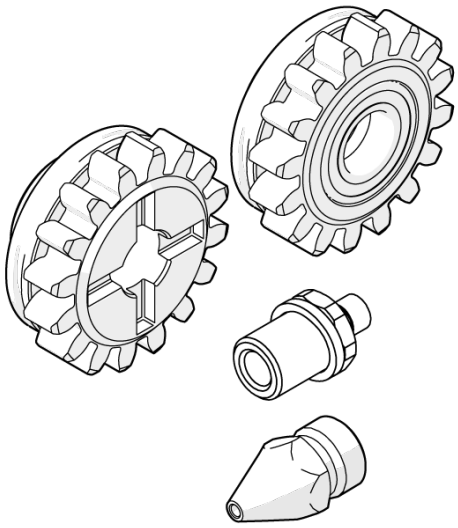
| X8 SuperSnake GT02XW cable pack | | |
|---|---|---|
| Description | | Ordering code |
| Cable pack GT02XW 10M | FE | SP015143 |
| | CHILI | SP015148 |
| Cable pack GT02XW 15M | FE | SP015142 |
| | CHILI | SP015150 |
| Cable pack GT02XW 20M | FE | SP015141 |
| | CHILI | SP015152 |
| Cable pack GT02XW 25M | FE | SP015140 |
| | CHILI | SP015154 |

* 'Fe' refers to a steel spiral liner and 'Chili' to DL Chili liner.

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

For ordering wire liners, refer to "Wire liner selection" on page 35 .

## 5.1 Feed roll kit selection



| Kit description | | ø mm | | Kit code |
|---|---|---|---|---|
| Fe (Mc/Fc) Standard, V-groove | Plastic | 1.0 | | F000464 |
| V | Plastic | 1.2 | | F000465 |
| | Plastic | 1.6 | | F000466 |
| Fe (Mc/Fc) Heavy Duty, V-groove | Metal | 1.0 | | F000467 |
| V | Metal | 1.2 | | F000468 |
| | Metal | 1.6 | | F000469 |
| Ss (Fe/Cu) Standard, V-groove | Plastic | 1.0 | | F000470 |
| V | Plastic | 1.2 | | F000471 |
| | Plastic | 1.4 | | F000472 |
| | Plastic | 1.6 | | F000473 |
| Ss (Fe) Heavy Duty, V-groove | Metal | 1.0 | | F000474 |
| V≡ | Metal | 1.2 | | F000475 |
| | Metal | 1.6 | | F000476 |
| Mc/Fc Standard, V-groove, knurled | Plastic | 1.2 | | F000478 |
| V≡ | Plastic | 1.4 – 1.6 | | F000479 |
| Mc/Fc Heavy Duty, V-groove, knurled | Metal | 1.2 | | F000481 |
| V≡ | Metal | 1.4 – 1.6 | | F000482 |

| | | | | |
|---|---|---|---|---|
| Al Standard, U-groove | Plastic | 1.2 |  | F000484 |
| U | Plastic | 1.4 |  | F000485 |
| | Plastic | 1.6 |  | F000486 |

## 5.2 Wire liner selection

| X8 SuperSnake GT02XW wire liners | | |
|---|---|---|
| Description | | Ordering code |
| WIRE LINER 10M | FE | W015509 |
| | CHILI | W015510 |
| WIRE LINER 15M | FE | W015511 |
| | CHILI | W015512 |
| WIRE LINER 20M | FE | W015513 |
| | CHILI | W015514 |
| WIRE LINER 25M | FE | W015515 |
| | CHILI | W015516 |

* '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 page 33.