JBC

www.jbctools.com

INSTRUCTION MANUAL

SFR

Solder Feeder for Robot

This manual corresponds to the following reference:
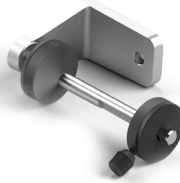
SFR-B

Packing List

The following items are included:

Solder Feeder .... 1 unit

Reel Support .... 1 unit
Ref. 0024561

**Communications
Cable 3 m**....................... 1 unit
Ref. 0024563

Allen Key 1,5 mm .... 1 unit
Ref. 0741610

Allen Key 2,5 mm .... 1 unit
Ref. 0012574

Allen Key 3 mm .... 1 unit
Ref. 0013609

**Screws
DIN 912 M4x65**.......... 2 units
Ref. 0024552

**Screws
DIN 912 M4x20**........ 2 units
Ref. 0921890

**Screws
DIN 7991 M4x10**........ 1 unit
Ref. 0490180

Spanner 10 mm............. 1 unit
Ref. 0017631
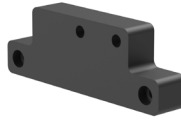
Insulator .... 1 unit
Ref. 0024588

Manual .... 1 unit
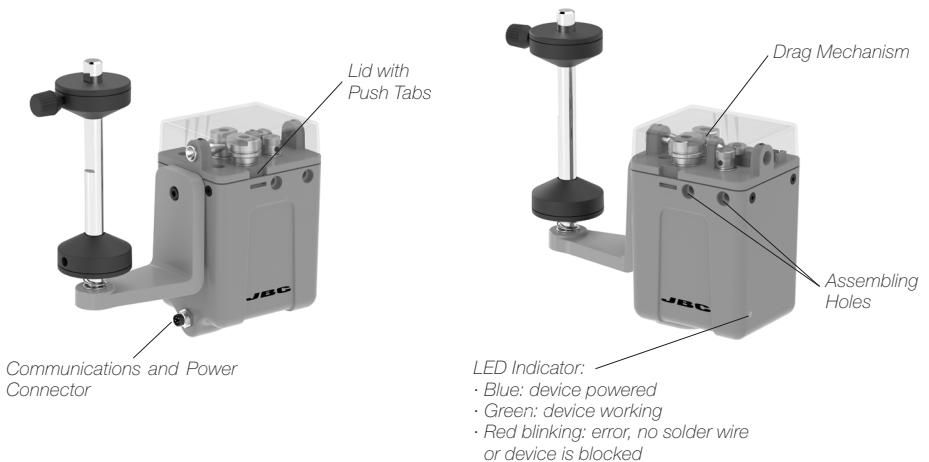Ref. 0027875

Functions

There are up to 30 functions* to control the station, such as:
- Temperature Control
- Sleep and Hibernation Control
- Station Status
- Error Information
- Counters (Working Time, Sleep, Hibernation...)

*Download the Robot Communication Protocol for SFR at **www.jbctools.com/jbcsoftware.html**
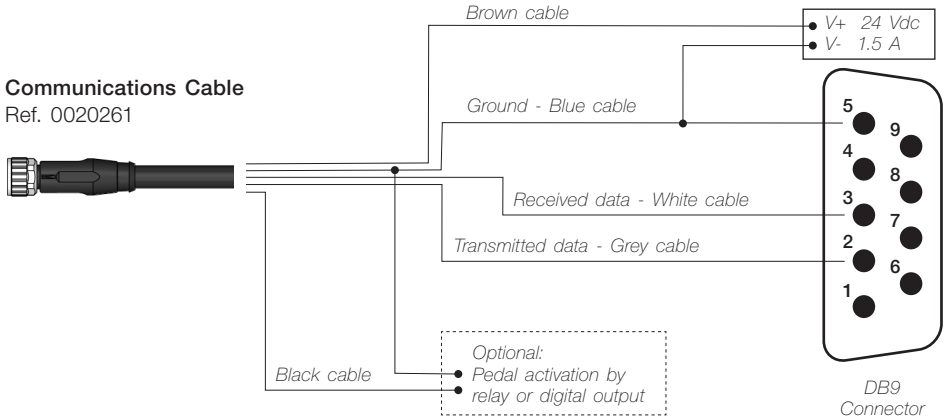
Features and Connections

SFR Solder Feeder for Robot works together with one of the different GSFR Guide Kits, available for various solder wire diameters, with or without solder wire perforation. GSFR Guide Kits are sold separately.

Lid with Push Tabs

Communications and Power Connector

Drag Mechanism

Assembling Holes

LED Indicator:
· Blue: device powered
· Green: device working
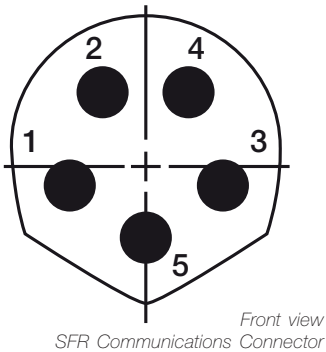*· Red blinking: error, no solder wire or device is blocked*

Connection

- SFR unit can be connected to a PLC by a five-pin Communications Cable (Ref. 0020261).

- Connect the cables to the corresponding pins to match your PLC connection. To comunicate with a computer use a DB9 female connector.

- Download the Communication Protocol at **www.jbctools.com**

Communications Cable
Ref. 0020261

Brown cable

Ground - Blue cable

Received data - White cable

Transmitted data - Grey cable

Black cable

V+   24 Vdc
V-   1.5 A

5
9
4
8
3
7
2
6
1

DB9 Connector

Optional:
Pedal activation by
relay or digital output

For detailed information about pin distribution see following table:

2   4

1   3

5

Front view
SFR Communications Connector

| Pin Distribution		
Pin	Color	Description
1	Brown	Power supply input: 24Vdc (±5%). 1.5 A current required
2	White	Serial input: RS232 RX
3	Blue	Common reference: GND for RS232 and witch
4	Black	Switch input: 0V or 24V to start feeding. Leave it open to stop
5	Grey	Serial output: RS232 TX

Assembly: GSFR* Wheels to SFR

For this operation, disconnect the device, and take off the cover by pressing the tabs.

First disassemble the guide tube (6), the nozzles (1)+(4), then the Wheels, Blade and Clamp (2)+(3). Disassemble the Counter Wheel (5). Use the allen key and the spanner, provided with SFR.
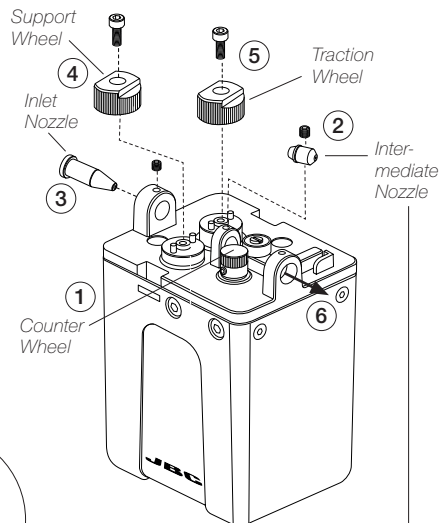
Assembly with Solder Wire Perforation

1. Assemble the counter wheel (1).

2. Insert the intermediate nozzle (2) until its collar rests against the housing and tighten the screw.

3. Assemble the inlet nozzle (3) and tighten the screw.

4. Assemble the guide wheel (4) and tighten the screw. **Attention:** Always use the correct wheel set for each wire thickness.

5. Assemble the blade first, then mount the blade clamp (5) onto the same axis and tighten the screw. **Caution:** handle the blade carefully to avoid injury.
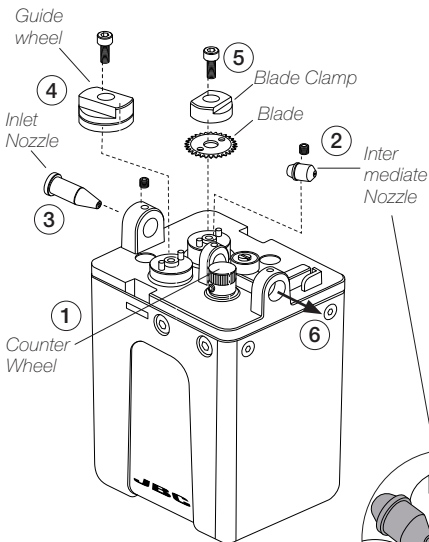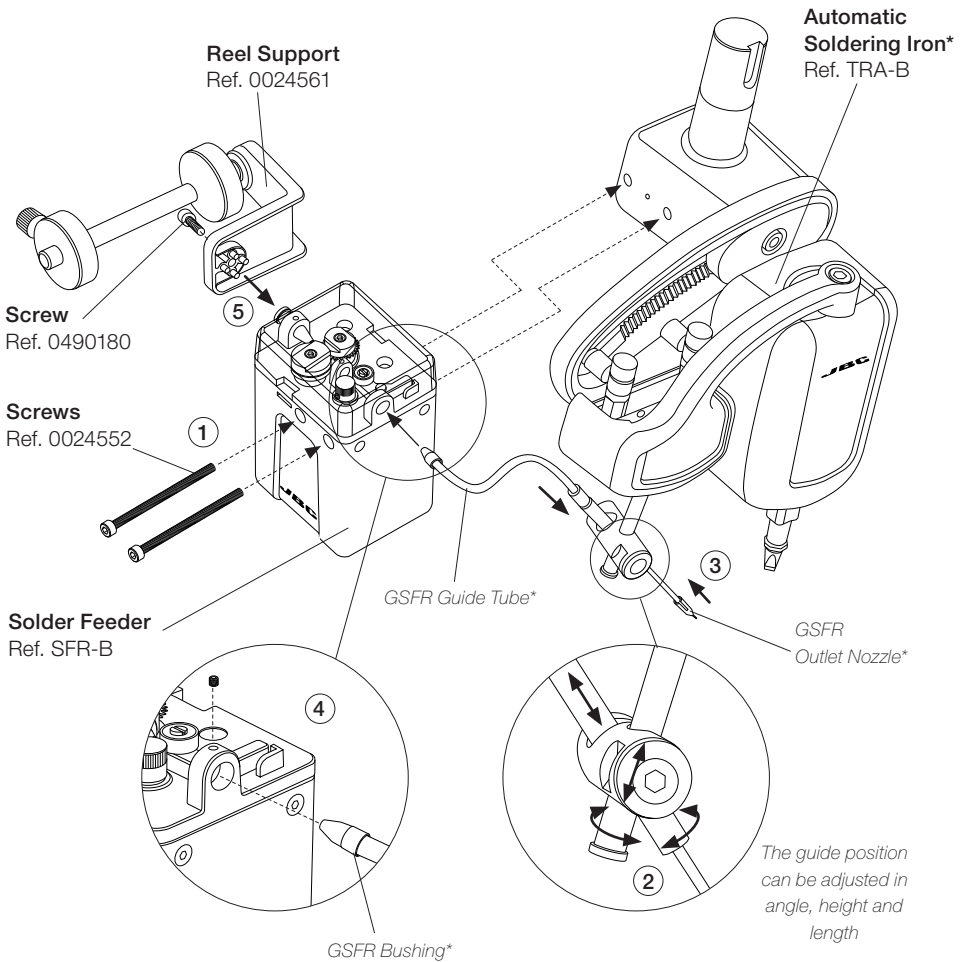
Assemblly without Solder Wire Perforation

1. Assemble the counter wheel (1).

2. Insert the intermediate nozzle (2) until its collar rests against the housing and tighten the screw.

3. Assemble the inlet nozzle (3) and tighten the screw.

4. Assemble the support wheel (4) and tighten the screw. **Attention:** Always use the correct wheel set for each wire thickness.

5. Assemble the traction wheel (5) onto the axis and tighten the screw.

Guide wheel
4 Inlet Nozzle
3
5 Blade Clamp
Blade
2 Intermediate Nozzle
1 Counter Wheel
6

Support Wheel
4 Inlet Nozzle
3
5 Traction Wheel
2 Intermediate Nozzle
1 Counter Wheel
6

Not included, sold separately.

Assembly: GSFR Tube to SFR* and TRA*

1. Assemble SFR to TRA with the screws.

2. Assemble GSFR Guide Tube to TRA and tighten the screw.

3. Assemble the Outlet Nozzle onto the Dispensing Tube.

4. Assemble GSFR Bushing into SFR hole and tighten the screw.

5. Finally attach the Reel Support to SFR with its screw.

Reel Support
Ref. 0024561

**Automatic
Soldering Iron***
Ref. TRA-B

Screw
Ref. 0490180

Screws
Ref. 0024552

Solder Feeder
Ref. SFR-B

GSFR Guide Tube*

*GSFR
Outlet Nozzle**

*The guide position
can be adjusted in
angle, height and
length*

GSFR Bushing*

*Not included, sold separately

Assembly: Reel support positions

The Reel Support can be installed both vertically and horizontally to match your preferences.

Unscrew the bolt using a 3mm allen key and set the Reel Support as desired.
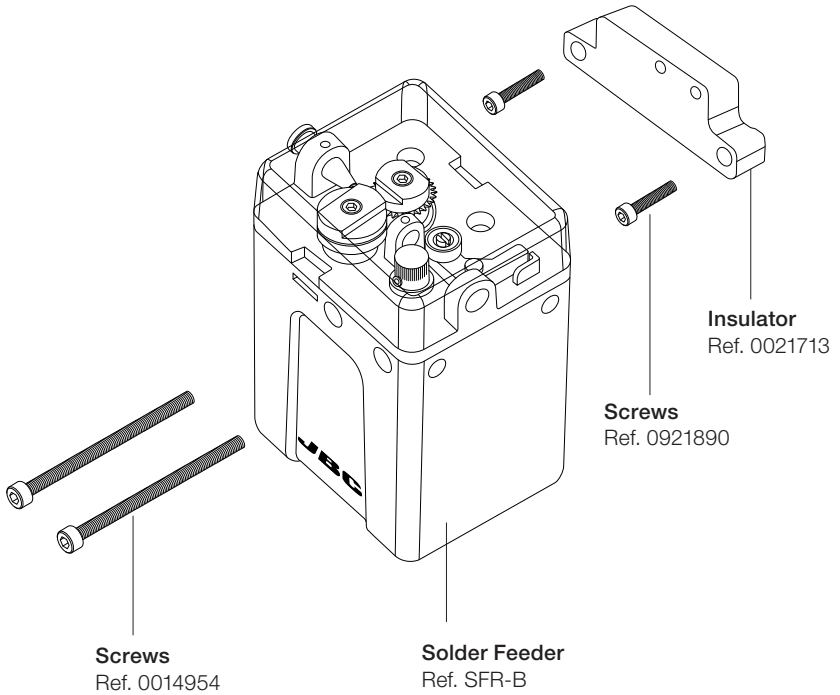Tighteen the bolt to fix the Reel Support in its position.

**Reel Support
vertically assembled**

*Loosen the bolt
completely before
repositioning the
support.*
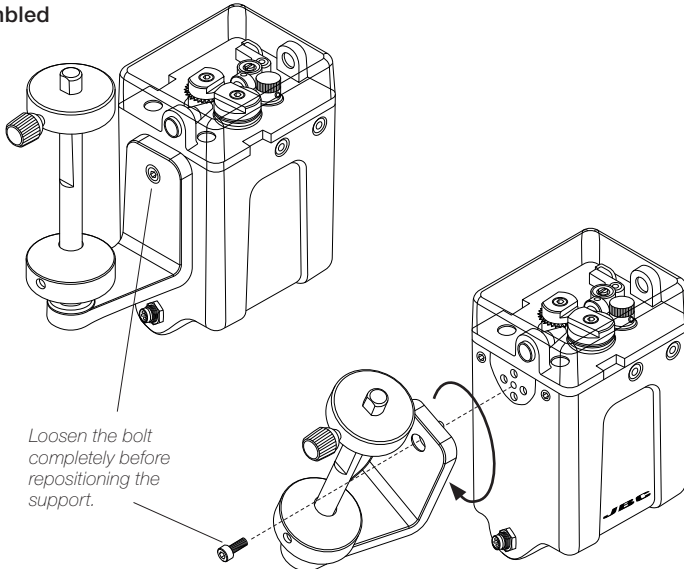
**Reel Support
horizontally assembled**
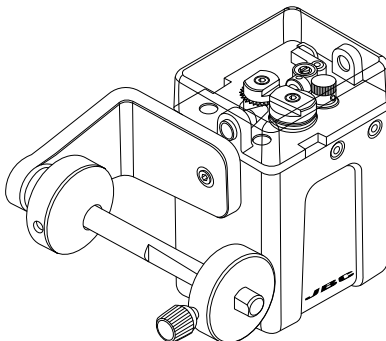
Assembly: SFR independent from TRA*

Insulator
Ref. 0021713

Screws
Ref. 0921890

Screws
Ref. 0014954

Solder Feeder
Ref. SFR-B

If mounting SFR independently from TRA, the Electrical Insulator is required.

Assemble the Insulator to your device with the screws (ref. 092890), and then SFR to the Isolator with its screws (ref. 0014954).

The Electrical Insulator must be assembled to ensure a that SFR work properly.

> ⚠️ **Do not use the SFR without insulator** if it is mounted without the TRA.
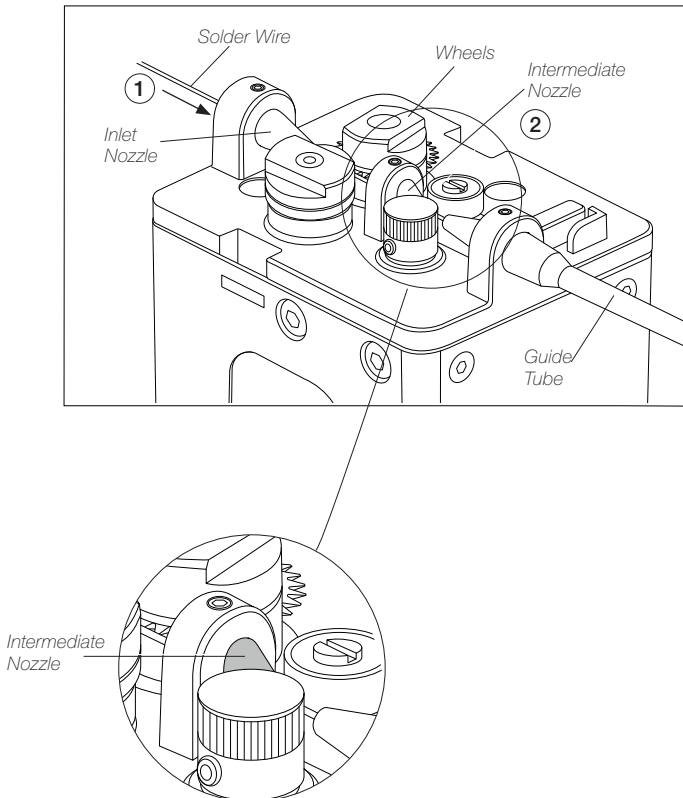
Not included, sold separately

Solder Wire Loading
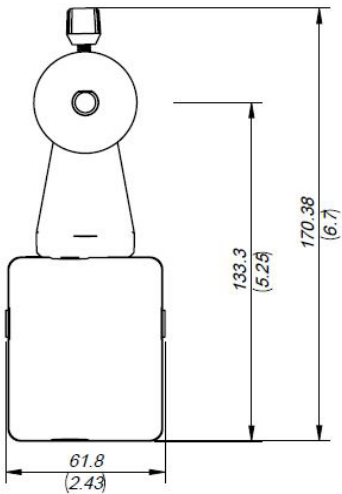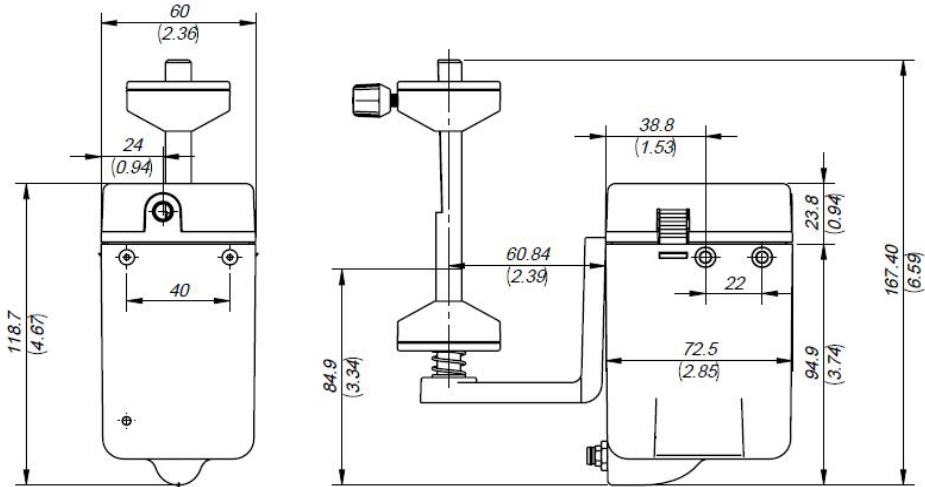
GSFR must be assembled previously.

1. Feed the Solder Wire into the Inlet Nozzle until it reaches the wheels.

2. Make sure the wire passes through the Intermediate Nozzle and enters into the Guide Tube.

Important: Set the wire thickness parameter before starting to dispense the wire. To set W-THI command see the Communication Protocol for SFR unit at **www.jbctools.com/jbcsoftware.html.**

Wire feeding is controlled by an external controller (Robot/PLC/Computer). To start wire loading process use W-SLD command. See the Communication Protocol for SFR unit at **www.jbctools.com/jbcsoftware.html**

Dimensions (Vertical Reel Suport)

60
(2.36)

24
(0.94)

40

118.7
(4.67)

38.8
(1.53)

60.84
(2.39)

23.8
(0.94)

22

72.5
(2.85)

94.9
(3.74)

167.40
(6.59)

84.9
(3.34)

170.38
(6.7)

133.3
(5.25)

61.8
(2.43)

mm
(in)

Solder Wire Reel dimensions: max. lenght 80mm (3.2 in), max. diameter 80mm (3.2 in), max. weight 1 kg (2.2 lb).

Dimensions (Horizontal Reel Suport)

135
(5.31)

60
(2.36)

24
(0.94)

40

118.7
(4.67)

171
(6.72)

60.8
(2.40)

38.8
(1.53)

23.8
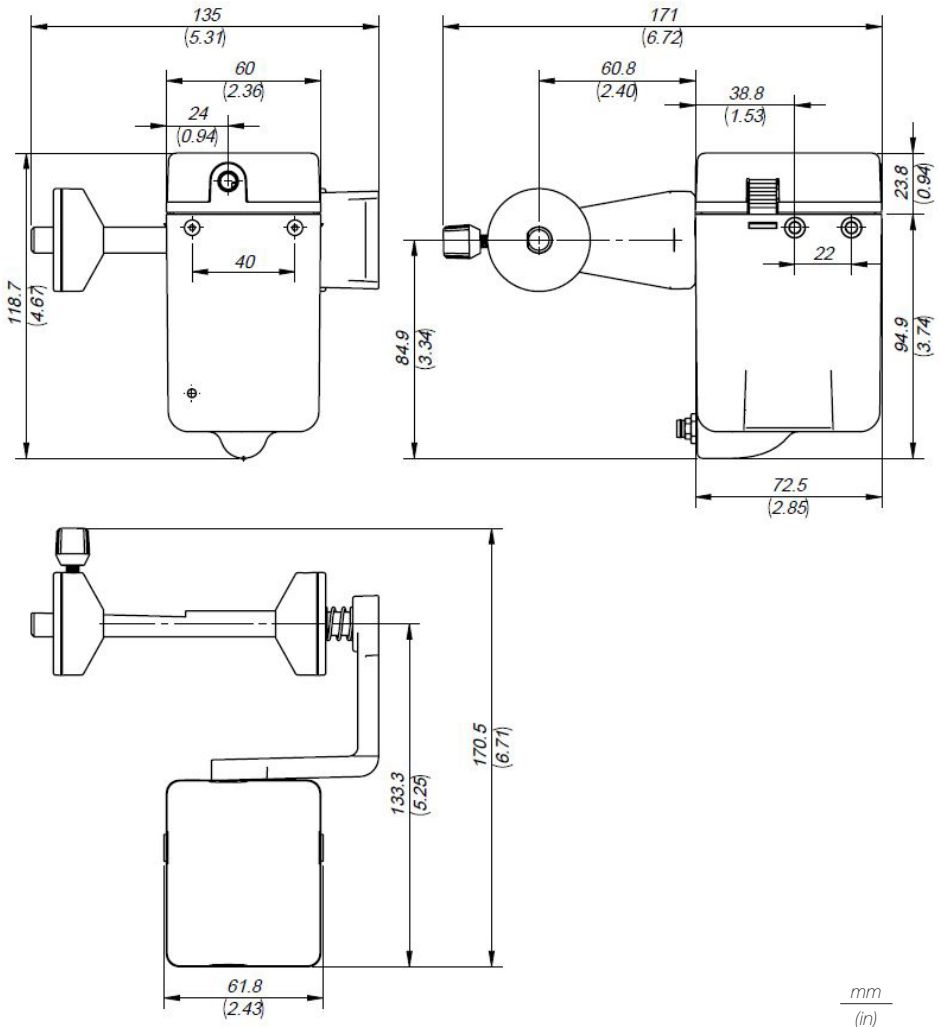(0.94)

84.9
(3.34)

22

94.9
(3.74)

72.5
(2.85)

170.5
(6.71)

133.3
(5.25)

61.8
(2.43)

mm
(in)

Solder Wire Reel dimensions: max. lenght 80mm (3.2 in), max. diameter 80mm (3.2 in), max. weight 1 kg (2.2 lb).

Accessories

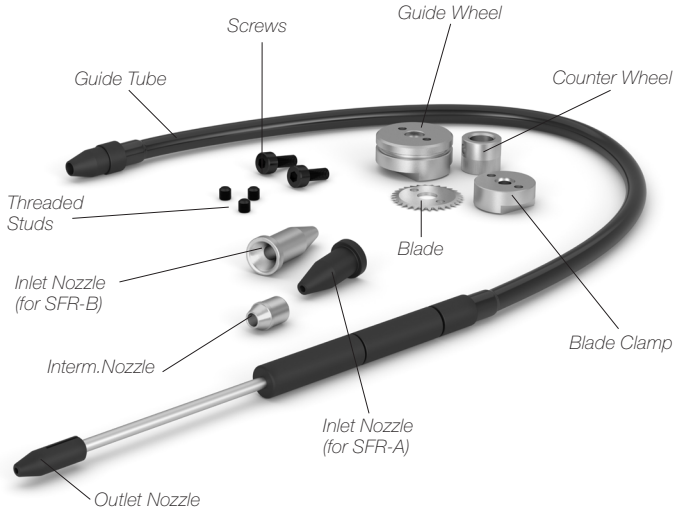**Guide Kit for SFR with Solder Wire Perforation**
Ref. GSFRXXVLL

With Solder Wire Perforation

GSFR XX V LL

Tube lenght		
LL	Lenght	
03	0,3 m	11,81 in
04	0,4 m	15,75 in
05	0,5 m	19,69 in
07	0,7m	27,56 in
10	1,0 m	39,37 in
15	1,5 m	59,05 in

Wire diameter		
XX	Diameter of use	
08	⌀0,8 mm	⌀0,032 in
10	⌀1,0 mm	⌀0,040 in
12	⌀1,2 mm	⌀0,047 in
15	⌀1,5 mm	⌀0,059 in
16	⌀1,6 mm	⌀0,063 in

Guide kits are sold separately. Find JBC Guide kits at www.jbctools.com

Accessories

Guide Kit for SFR without Solder Wire Perforation
Ref. GSFRXXDLL
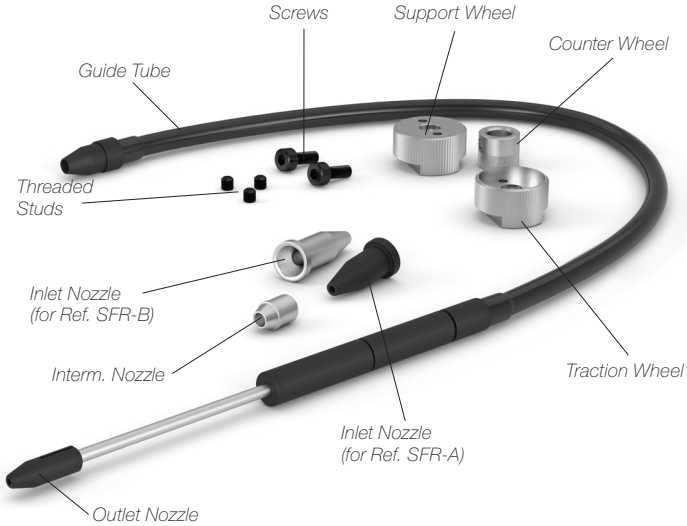
Screws
Support Wheel
Counter Wheel
Guide Tube
Threaded Studs
Inlet Nozzle (for Ref. SFR-B)
Interm. Nozzle
Traction Wheel
Inlet Nozzle (for Ref. SFR-A)
Outlet Nozzle

GSFR XX D LL

→ Without Solder Wire Perforation

Tube lenght		
LL	**Lenght**	
03	0.3 m	11.81 in
04	0.4 m	15.75 in
05	0.5 m	19.68 in
07	0.7 m	27.92 in
10	1.0 m	39.37 in
15	1.5 m	59.05 in

Wire diameter		
XX	**Range of use**	
05	∅0.5 mm	∅0.020 in
06	∅0.6 mm	∅0.025 in
07	∅0.7 mm	∅0.028 in
08	∅0.8 mm	∅0.032 in
10	∅1.0 mm	∅0.040 in
12	∅1.2 mm	∅0.047 in
15	∅1.5 mm	∅0.059 in
16	∅1.6 mm	∅0.063 in

Guide kits are sold separately. Find JBC Guide kits at www.jbctools.com

Work Place Example

SFR

TRA*

CLR*

CSR*

UCR*

GSFR*
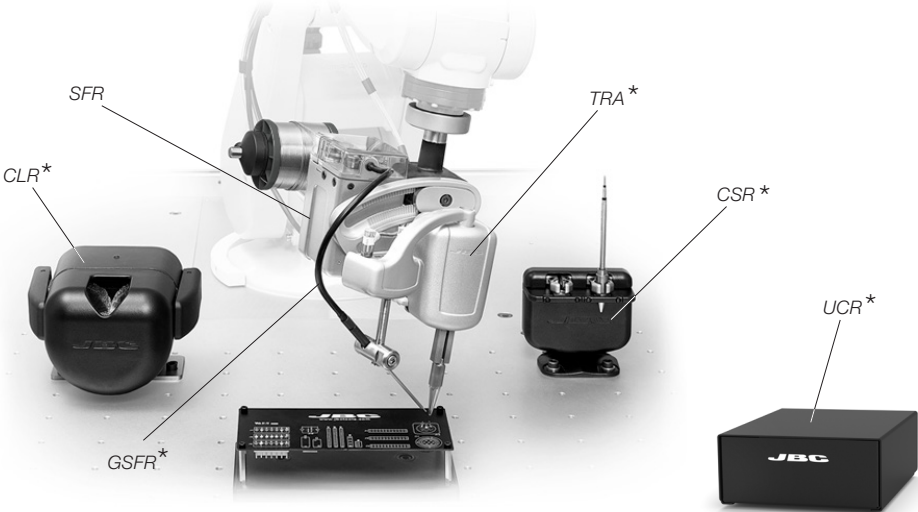
*Not included, sold separately

Maintenance

- Before carrying out maintenance, always unplug the tool and the equipment.

- Use a damp cloth to clean the Solder Feeder. Alcohol can only be used to clean the metal parts.

- Periodically check all cables and tube connections.

- Replace any defective or damaged part. Use original JBC spare parts only.

- Repairs should be performed only by a JBC authorized technical service.

Safety

⚠ **It is imperative to follow safety guidelines to prevent electric shock, injury, fire or explosion.**

- Do not use the equipment for any other purpose.

- Do not leave the appliance unattended when it is on.

- Be sure that the power supply is disconnected before changing any spare part.

- The temperature of accessible surfaces may remain high after the device is turned off. Handle with care.

- Heat can cause inflamable products to ignite even when not visible.

- Avoid flux coming into contact with skin or eyes to prevent irritation.

- Be careful of fumes produced while soldering.

- Keep your workplace clean and tidy. Wear appropriate protective glasses and gloves while handling any component to avoid personal injury.

- Utmost care must be taken with liquid tin waste which can cause burns.

Specifications

SRF
Solder Feeder for Robot
Ref.: **SFR-B**

Solder Feeder
- Power Supply input: 24 Vdc (±5%). 1.5 A current required
- Ambient Operating Temp.: 10 - 50 ºC / 50 - 122 ºF
- Connections: M8-5 pin Commmunication Connector
- Max. Speed: 120 mm/s / 4.72 in/s
- Net Weight: 674 g / 1.49 lb
- Dimensions: see page 10 and 11

Reel Support
- Spool capacity: up to 1 kg / 2.2 lb
- Max Spool Diam.:   80 mm / 3.15 in
- Max. Spool Height: 80 mm / 3.15 in
- Net Weight: 130 g / 0.29 lb
- Dimensions: see page 10 and 11

- Total Net Weight: 984 g / 2.17 lb
- Total Package Dimension/Weight: 221 x 136 x 126 mm / 1200 g
  (L x W x H)   8.70 x 5.35 x 4.96 mm / 2.65 lb

Complies with CE Standards.
ESD safe.

Warranty

JBC's 2 year warranty covers this equipment against all manufacturing defects, including the replacement of defective parts and labour.
Warranty does not cover product wear or misuse.
In order for the warranty to be valid, equipment must be returned, postage paid, to the dealer where it was purchased.
Get 1 extra year JBC warranty by registering here: https://www.jbctools.com/productregistration/ within 30 days of purchase.

This product should not be thrown in the garbage.
In accordance with the European directive 2012/19/EU, electronic equipment at the end of its life must be collected and returned to an authorized recycling facility.

www.jbctools.com

0027875-300522