

JBC

www.jbctools.com

INSTRUCTION MANUAL



SFR

Solder Feeder for Robot

This manual corresponds to the following reference:

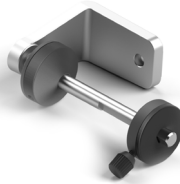
SFR-B

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



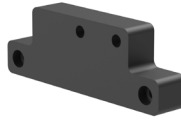
Screws DIN 912 M4x20..... 2 units
Ref. 0921890



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

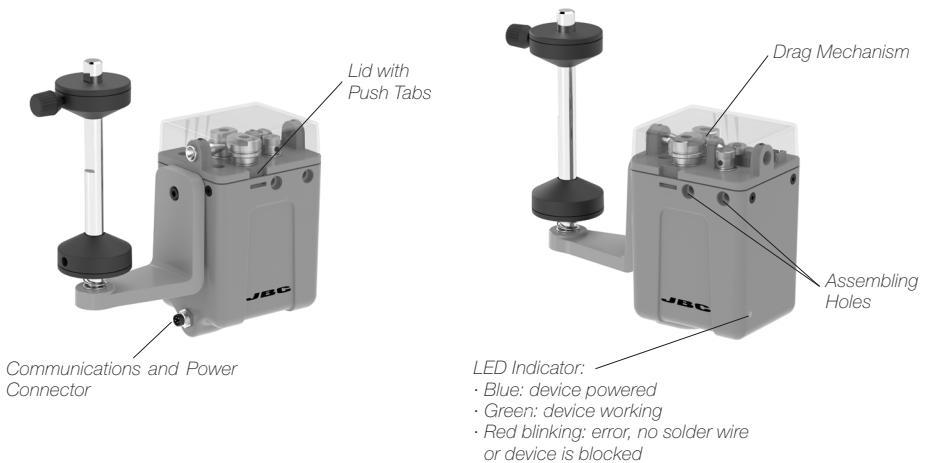
There are up to 30 functions* to control the station, such as:

- 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

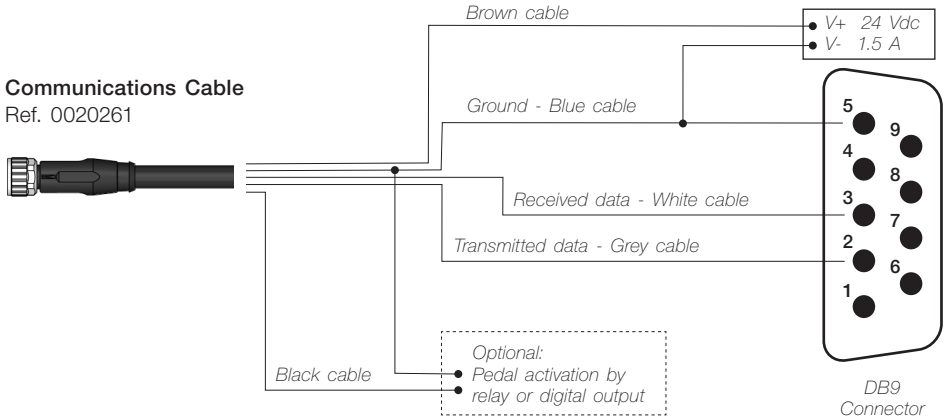
Features and Connections

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.

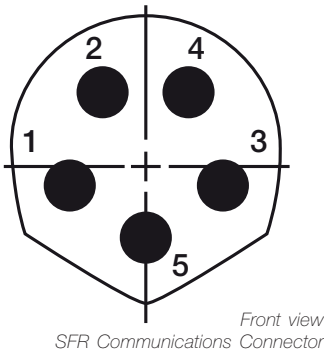


Connection

- 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 communicate with a computer, use a DB9 female connector.
- Download the Communication Protocol at www.jbctools.com



For detailed information about pin distribution see the following table:



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 switch
4	Black	Switch input: 0V or 24V to start feeding. Leave it open to stop
5	Grey	Serial output: RS232 TX

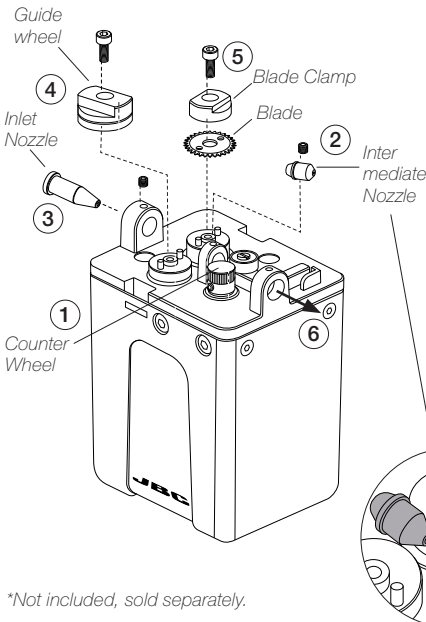
Assembly: GSFR* Wheels to SFR

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

Use the Allen key and the spanner provided with SFR for the following steps. First disassemble the guide tube (6), the Support and Traction Wheels or the Guide Wheel, Blade and Blade Clamp (4)+(5). Then, disassemble the nozzles (2)+(3). Disassemble the Counter Wheel (1).

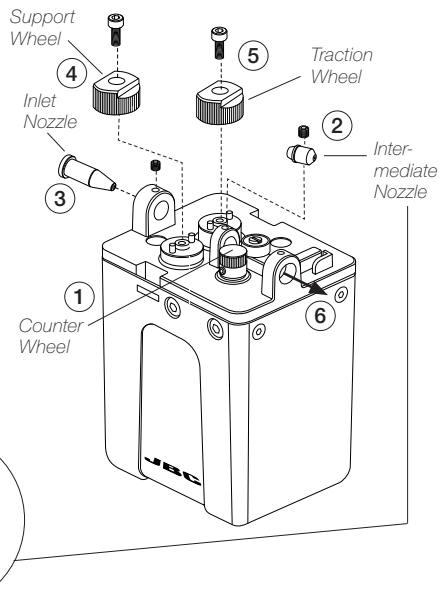
Assembly with Solder Wire Perforation

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.



Assembly without Solder Wire Perforation

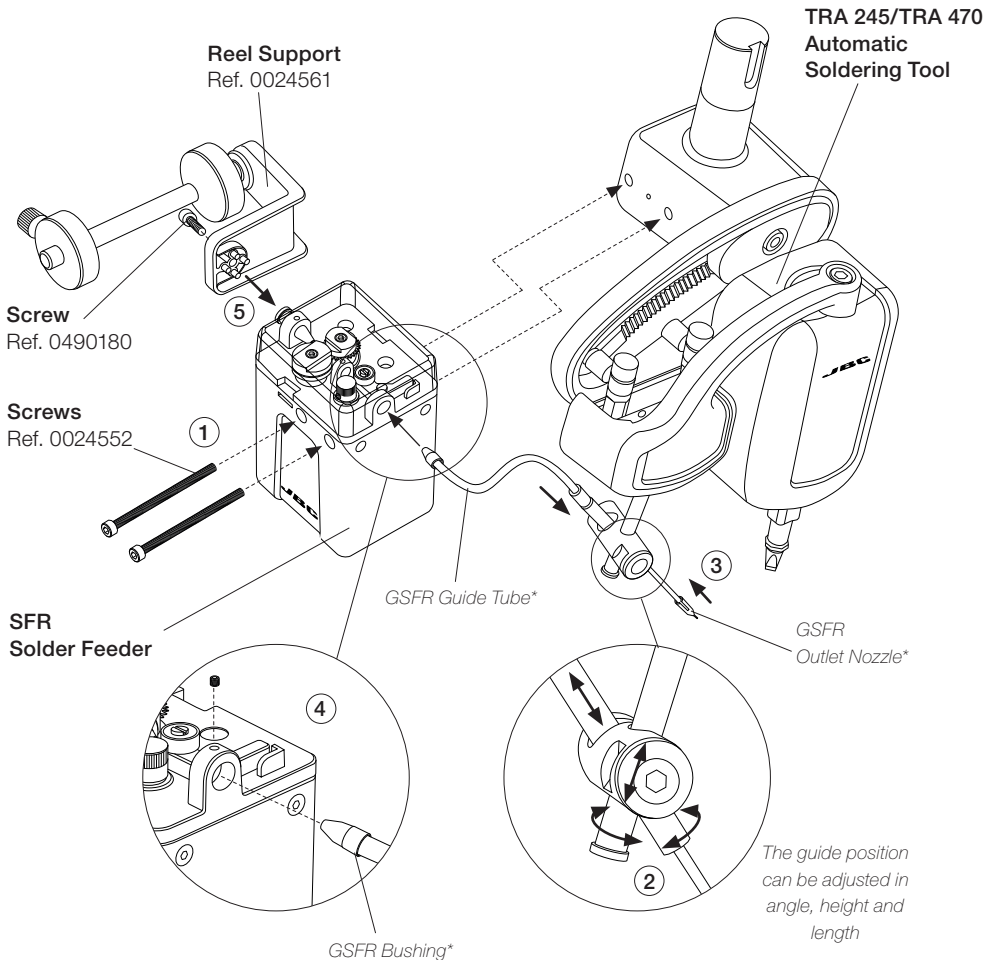
1. Assemble the counter wheel (1).
2. Insert the intermediate nozzle (2) until its collar rests against the housing and tighten the screw.
3. Assemble the inlet nozzle (3) and tighten the screw.
4. Assemble the support wheel (4) and tighten the screw. **Attention:** Always use the correct wheel set for each wire thickness.
5. Assemble the traction wheel (5) onto the axis and tighten the screw.



*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 the SFR hole and tighten the screw.
5. Finally attach the Reel Support to SFR with its screw.



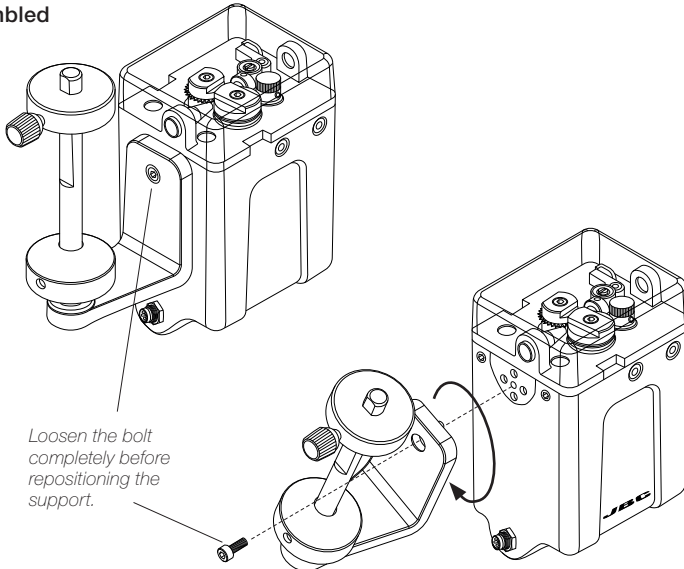
*Not included, sold separately

Assembly: Reel support positions

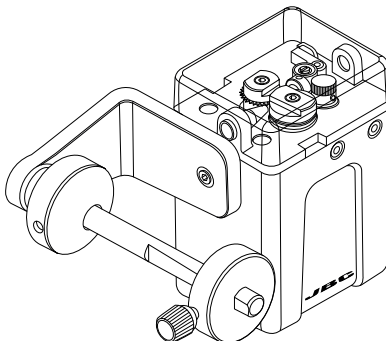
The Reel Support can be installed both vertically and horizontally to match your preferences.

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

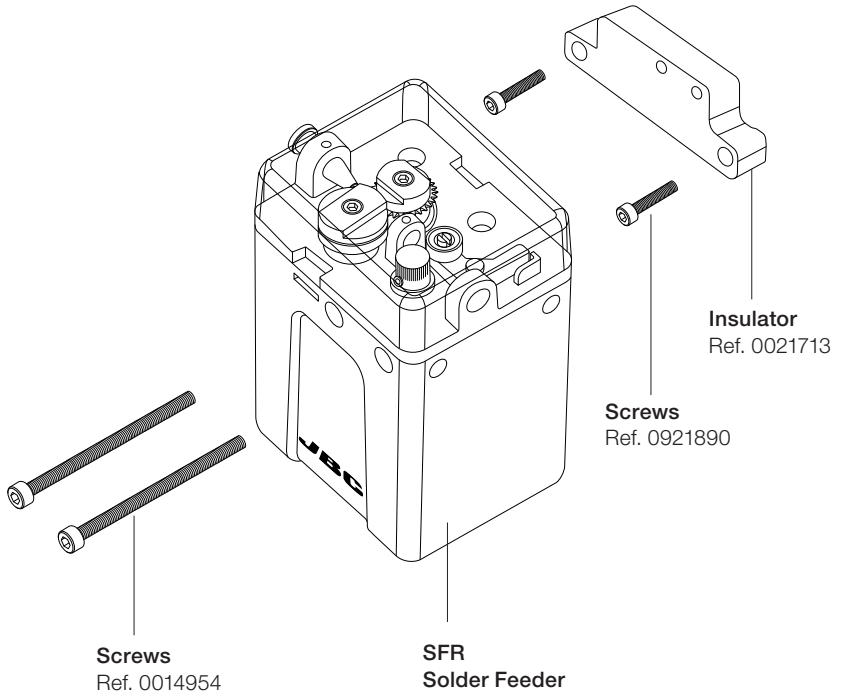
Reel Support vertically assembled



Reel Support horizontally assembled



Assembly: SFR independent from TRA*



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

Assemble the Insulator to your device with the screws (ref. 0921890), and then SFR to the Isolator with its screws (ref. 0014954).

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



Do not use the SFR without an insulator if it is mounted without the TRA.

*Not included, sold separately

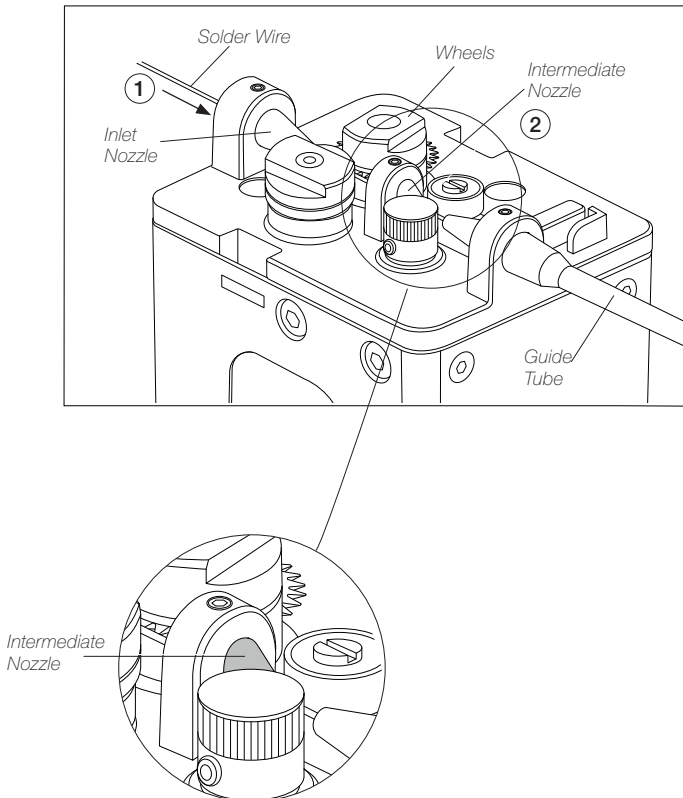
Solder Wire Loading

GSFR must be assembled previously.

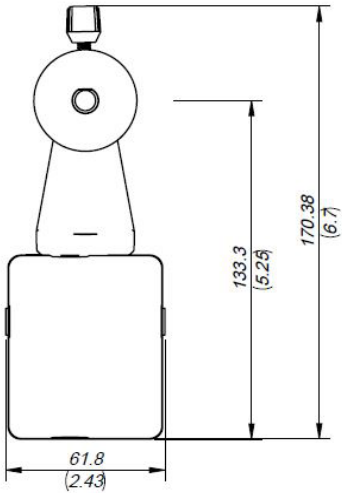
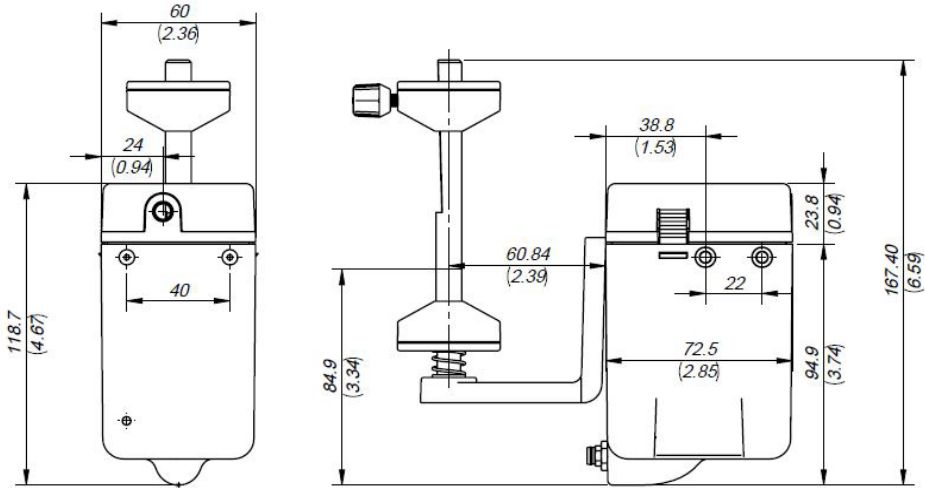
1. Feed the Solder Wire into the Inlet Nozzle until it reaches the wheels.
2. Make sure the wire passes through the Intermediate Nozzle and enters the Guide Tube.

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

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

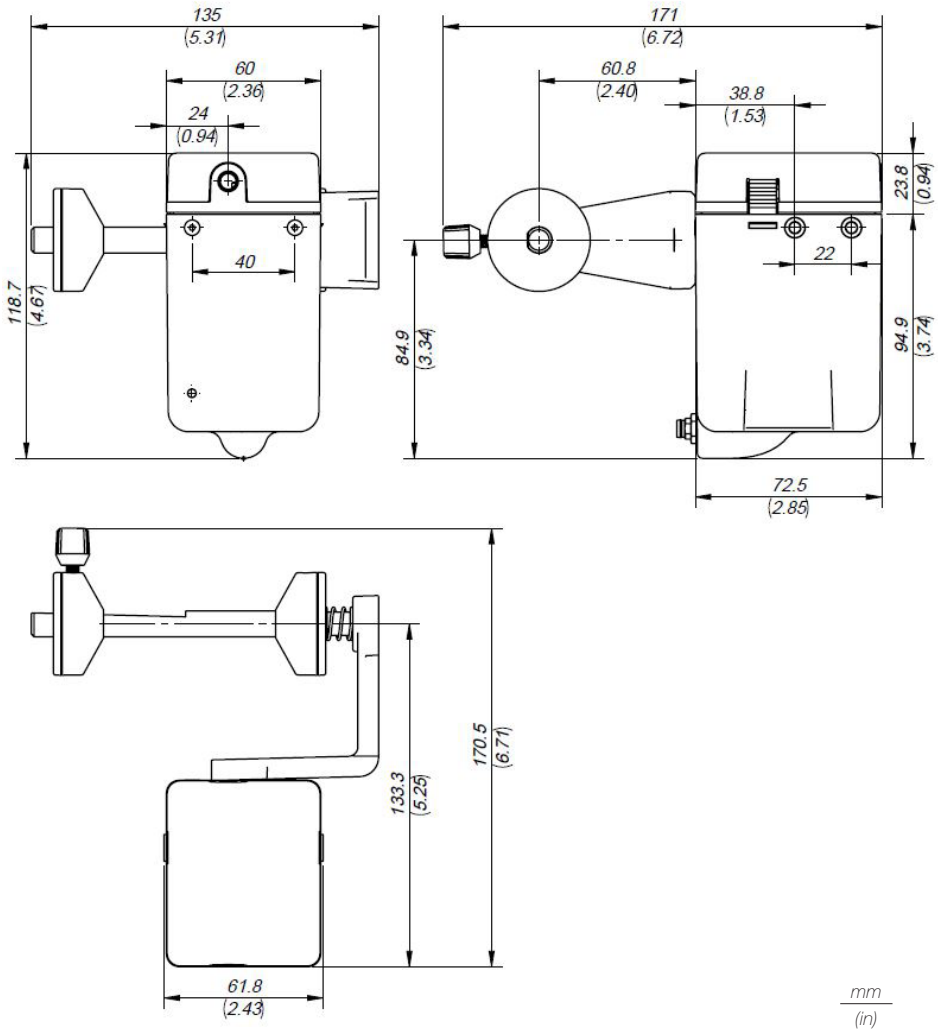


Dimensions (Vertical Reel Support)



mm
(in)

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

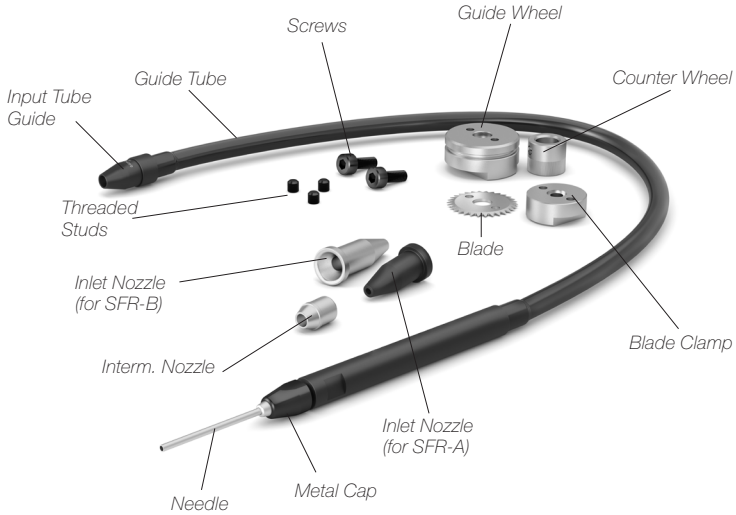
Dimensions (Horizontal Reel Support)

Solder Wire Reel dimensions: max. length 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-B



GSFR XX V LL-B

With Solder Wire Perforation

Tube length		
LL	Length	
03	0,3 m	11,81 in
04	0,4 m	15,75 in
05	0,5 m	19,69 in
06	0,6 m	23,62 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

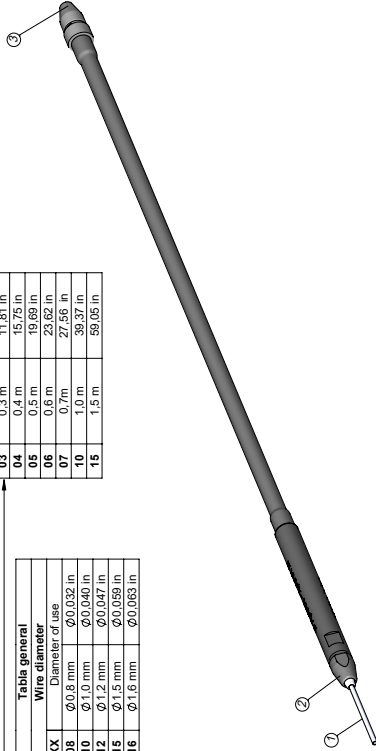
Guide kits are sold separately. Find JBC Guide kits at www.jbctools.com

GSFR XX V LL-B WITH SOLDER WIRE PERFORMANCE

LL	Tube length
	Length
03	0.3 m 11.81 in
04	0.4 m 15.75 in
05	0.5 m 19.69 in
06	0.6 m 23.62 in
07	0.7 m 27.56 in
10	1.0 m 39.37 in
15	1.5 m 59.05 in

Tabla general	
Wire diameter	
XX	Diameter of use
08	Ø 0.8 mm Ø 0.032 in
10	Ø 1.0 mm Ø 0.040 in
12	Ø 1.2 mm Ø 0.047 in
14	Ø 1.5 mm Ø 0.059 in
16	Ø 1.6 mm Ø 0.063 in

Guide kit Ref.	Guide tube Ref.
GSFR08X03-B	0029648
GSFR08X05-B	0029649
GSFR08X06-B	0029650
GSFR08X07-B	0029651
GSFR08X10-B	0029652
GSFR10X03-B	0029653
GSFR10X05-B	0029681
GSFR10X06-B	0029654
GSFR10X07-B	0029655
GSFR10X10-B	0029656
GSFR12X03-B	0029657
GSFR12X05-B	0029657
GSFR12X10-B	0029658
GSFR15X03-B	0029659
GSFR15X04-B	0029660
GSFR15X05-B	0029661
GSFR15X10-B	0029662
GSFR16X03-B	0029663
GSFR16X04-B	0029664
GSFR16X05-B	0029665
GSFR16X15-B	0029666

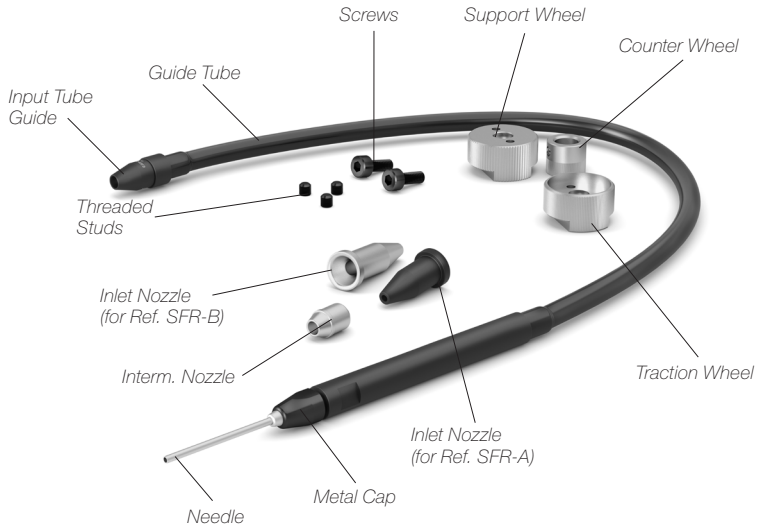


Tube length	Wire Ø	Guide wheel Ref.	Blade Ref.	Blade clamp Ref.	Inlet nozzle Ref. (for SFR)	Intern. nozzle Ref.	Inlet nozzle Ref. (for SFR)	Counter wheel Ref.	Screws Ref.	Threaded stud Ref.	Needle	Metal cap	Input tube guide
GSFR08VLL-B	0021896												
GSFR10VLL-B	0021899				0023740	0030561	0030537	0028683 (Provide mini-SFR)	0028695 (x2)	0028696 (x3)	0029943	0029948	0029950
GSFR12VLL-B	0023738		0021555	0018638	0023741	0030562	0030538				0029944		
GSFR15VLL-B	0019896				0023736	0030563	0030539				0029945		
GSFR16VLL-B	0025922				0023855	0030564	0030540	0028684			0029946		0029951
						0030565	0030541				0029947		

Accessories

Guide Kit for SFR without Solder Wire Perforation

Ref. GSFRXXDLL-B



Without Solder Wire Perforation

GSFR XX D LL-B

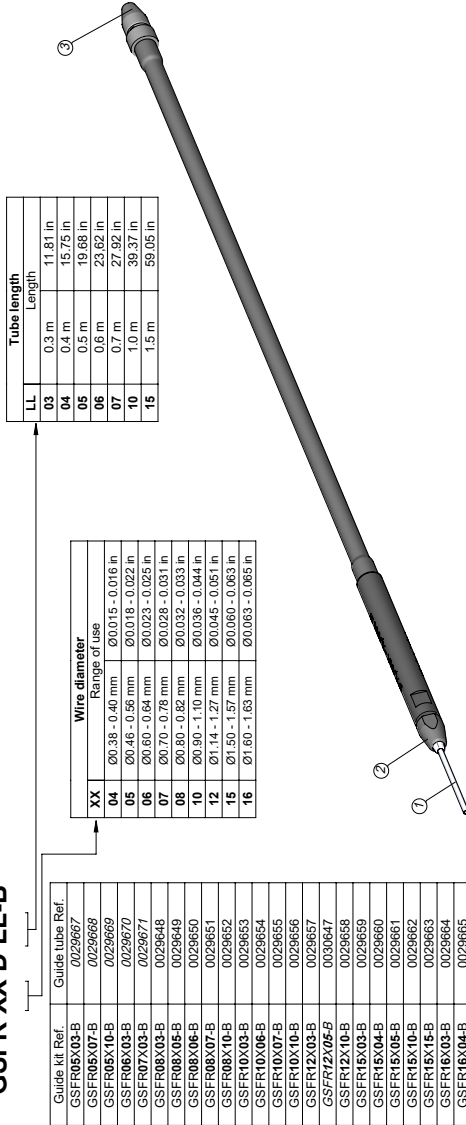
LL	Tube length	
	Length	
03	0.3 m	11.81 in
04	0.4 m	15.75 in
05	0.5 m	19.68 in
06	0.6 m	23.62 in
07	0.7 m	27.92 in
10	1.0 m	39.37 in
15	1.5 m	59.05 in

XX	Wire diameter	
	Range of use	
04	Ø0.38 - 0.40 mm	Ø0.015 - 0.016 in
05	Ø0.46 - 0.56 mm	Ø0.018 - 0.022 in
06	Ø0.60 - 0.64 mm	Ø0.023 - 0.025 in
07	Ø0.70 - 0.78 mm	Ø0.028 - 0.031 in
08	Ø0.80 - 0.82 mm	Ø0.032 - 0.033 in
10	Ø0.90 - 1.10 mm	Ø0.036 - 0.044 in
12	Ø1.14 - 1.27 mm	Ø0.045 - 0.051 in
15	Ø1.50 - 1.57 mm	Ø0.060 - 0.063 in
16	Ø1.60 - 1.63 mm	Ø0.063 - 0.065 in

Guide kits are sold separately. Find JBC Guide kits at www.jbc tools.com

WITHOUT SOLDER WIRE PERFORMANCE

GSFR XX D LL-B



Tube length	
LL	Length
03	0.3 m 11.81 in
04	0.4 m 15.75 in
05	0.5 m 19.69 in
06	0.6 m 23.62 in
07	0.7 m 27.92 in
10	1.0 m 39.37 in
15	1.5 m 59.05 in

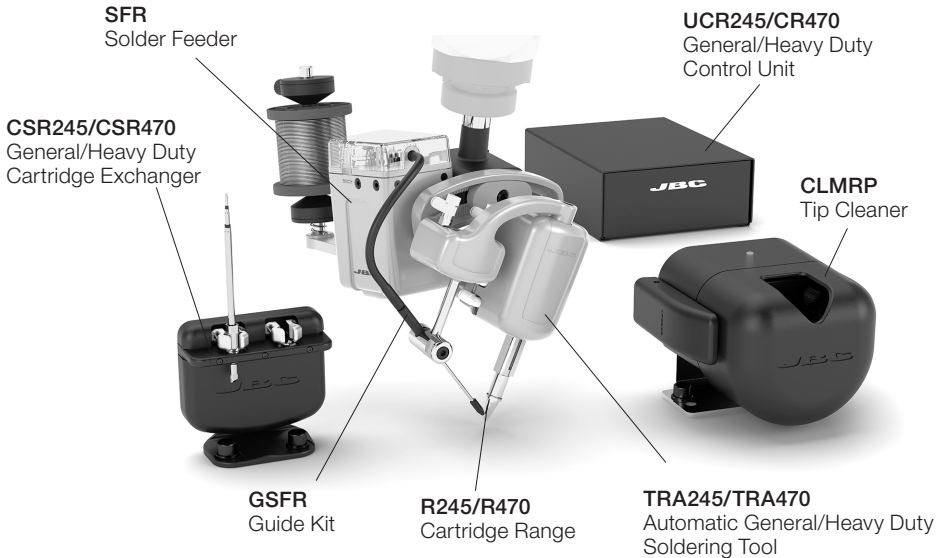
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06	Ø0.60 - 0.64 mm Ø0.023 - 0.025 in
07	Ø0.70 - 0.78 mm Ø0.028 - 0.031 in
08	Ø0.80 - 0.82 mm Ø0.032 - 0.033 in
10	Ø0.90 - 1.10 mm Ø0.036 - 0.044 in
12	Ø1.14 - 1.27 mm Ø0.045 - 0.051 in
15	Ø1.50 - 1.57 mm Ø0.060 - 0.063 in
16	Ø1.60 - 1.63 mm Ø0.063 - 0.065 in

Guides kit Ref.	Guides tube Ref.
GSFR03X03-B	0229667
GSFR05X07-B	0229668
GSFR05X10-B	0229669
GSFR06X03-B	0229670
GSFR07X03-B	0229671
GSFR08X03-B	0229648
GSFR08X05-B	0229649
GSFR08X06-B	0229650
GSFR08X07-B	0229651
GSFR08X10-B	0229652
GSFR10X03-B	0229653
GSFR10X06-B	0229654
GSFR10X07-B	0229655
GSFR10X10-B	0229656
GSFR12X03-B	0229657
GSFR12X05-B	030647
GSFR12X10-B	0229658
GSFR15X03-B	0229659
GSFR15X04-B	0229660
GSFR15X05-B	0229661
GSFR15X10-B	0229662
GSFR16X15-B	0229663
GSFR16X03-B	0229664
GSFR16X04-B	0229665
GSFR16X15-B	0229666

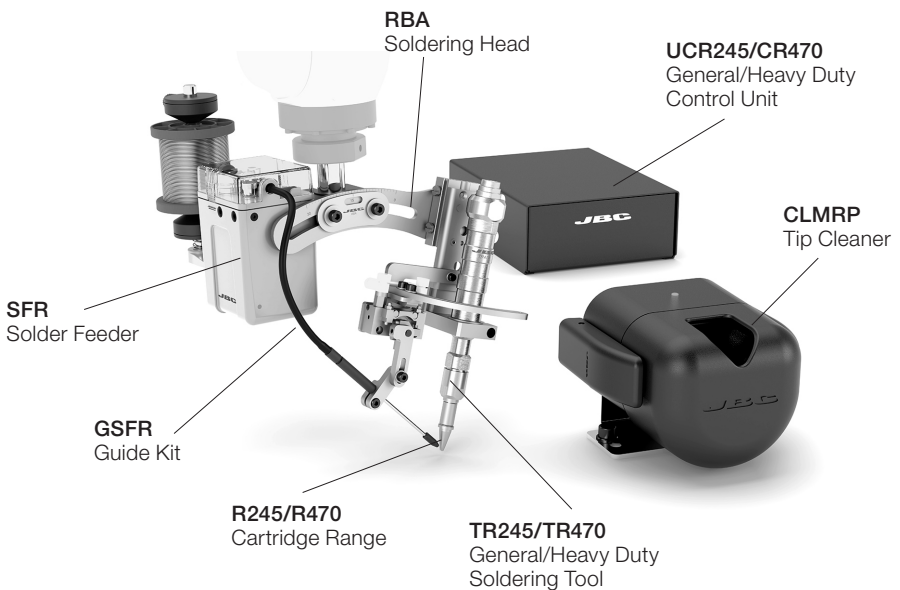
Tube length	Wire Ø	Traction wheel Ref.	Support wheel Ref.	Inlet nozzle Ref. (for SFR-A)	Interm. nozzle Ref.	Inlet nozzle Ref. (for SFR-B)	Counter wheel Ref.	Screws Ref.	Threaded stud Ref.	Needle	Metal cap	Input tube guide
GSFR04DLL-B			0020345									③
GSFR05DLL-B			0019519		0030558	0020635						0029949
GSFR06DLL-B					0030559	0030534						
GSFR07DLL-B					0030560	0030536						
GSFR08DLL-B		0019479		0023740	0030561	0030537						0029950
GSFR10DLL-B				0023741	0030562	0030539		0026695 (x2)	0026696 (x3)			0029948
GSFR12DLL-B				0023736	0030563	0020659						
GSFR15DLL-B			0019481	0023655	0030564	0020640						0029946
GSFR16DLL-B					0030565	0020541						0029947

Work Place Examples

HA Automatic Soldering Set for Robot



HM Soldering Set for Robot



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 parts. 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 parts.
- The temperature of accessible surfaces may remain high after the device is turned off. Handle with care.
- Heat can cause inflammable 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

SFR

Solder Feeder for Robot

Ref.: SFR-B

Solder Feeder

- Power Supply input: 24 Vdc ($\pm 5\%$). 1.5 A current required
- Ambient Operating Temp.: 10 - 50 °C / 50 - 122 °F
- Connections: M8-5 pin Communication Connector
- Max. Speed: 120 mm/s / 4.72 in/s
- Net Weight: 674 g / 1.49 lb
- Dimensions: see pages 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 pages 10 and 11
- Total Net Weight: 977 g / 2.15 lb
 - Total Package Dimension/Weight:
(L x W x H) 342 x 155 x 120 mm / 1360 g
13.46 x 6.10 x 4.72 in / 3.00 lb

Complies with CE Standards.

ESD safe.

JBC

Warranty

JBC's 2 year warranty covers this equipment against all manufacturing defects, including the replacement of defective parts and labor.

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.



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.

