

JBC

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INSTRUCTION MANUAL



ALE

Automatic-Feed Soldering Control Unit

This manual corresponds to the following references:

With Solder Wire Perforation

for wire \varnothing 0.8mm:

- **ALE-908UVA** (100V)
- **ALE-108UVA** (120V)
- **ALE-208UVA** (230V)

for wire \varnothing 1.0mm:

- **ALE-910UVA** (100V)
- **ALE-110UVA** (120V)
- **ALE-210UVA** (230V)

for wire \varnothing 1.2mm:

- **ALE-212UVA** (230V)

for wire \varnothing 1.6mm:

- **ALE-216UVA** (230V)

Without Solder Wire Perforation:

for wire \varnothing 0.4mm:

- **ALE-204UA** (230V)

for wire \varnothing 0.5mm:

- **ALE-205UA** (230V)

for wire \varnothing 0.8mm:

- **ALE-208UA** (230V)

for wire \varnothing 1.0mm:

- **ALE-110UA** (120V)

Packing List

The following items are included in **all references**:

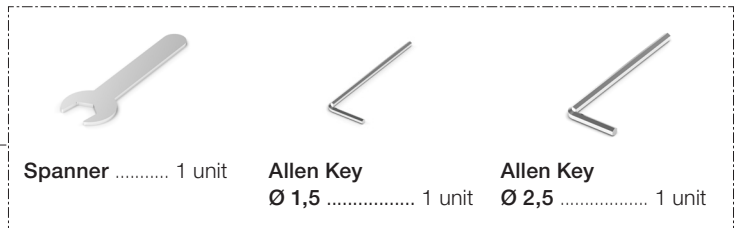


Automatic-Feed Soldering Control Unit 1 unit

Power Cord 1 unit
 Ref. 0023717 (120V)
 0024080 (230V)

Manual 1 unit
 Ref. 0030217

Key Set for SF / AL* 1 unit
 Ref. 0019341
 includes:



Spanner 1 unit

Allen Key
 Ø 1,5 1 unit

Allen Key
 Ø 2,5 1 unit

*already assembled in ALE Control Unit

The following items are included **according purchased reference**:

Components already
assembled in
Control Unit



Components already
assembled in
Control Unit



Solder Wire Guide Kit 1 unit

With solder wire perforation:

for wire \varnothing 0.8 mm / \varnothing 0.032 in

- Ref. **GALE08V-A**

for wire \varnothing 1.0 mm / \varnothing 0.040 in

- Ref. **GALE10V-A**

for wire \varnothing 1.2 mm / \varnothing 0.047 in

- Ref. **GALE12V-A**

for wire \varnothing 1.6 mm / \varnothing 0.063 in

- Ref. **GALE16V-A**

Without solder wire perforation:

for wire \varnothing 0.38 - 0.4 mm / \varnothing 0.015 - 0.016 in

- Ref. **GALE04D-A**

for wire \varnothing 0.46 - 0.56 mm / \varnothing 0.018 - 0.022 in

- Ref. **GALE05D-A**

for wire \varnothing 0.80 - 0.82 mm / \varnothing 0.032 - 0.033 in

- Ref. **GALE08D-A**

for wire \varnothing 0.90 - 1.10 mm / \varnothing 0.036 - 0.044 in

- Ref. **GALE10D-A**



Warning!

For correct operation, it must be chosen the guide kit that corresponds to the solder wire diameter in use. The componentes (wheels, clamps and nozzles) which are included in the corresponding guide kit must be assembled to ALE.

Features and Connections

ALE250
Automatic-Feed
Soldering Iron*



ALE
Automatic-Feed
Soldering Control Unit

SOLDER WIRE GUIDE
Kit for ALE250
available for
different solder
wire diameters
see page 11 + 12



To
Peripherals
RJ12
Connection for
Robot System

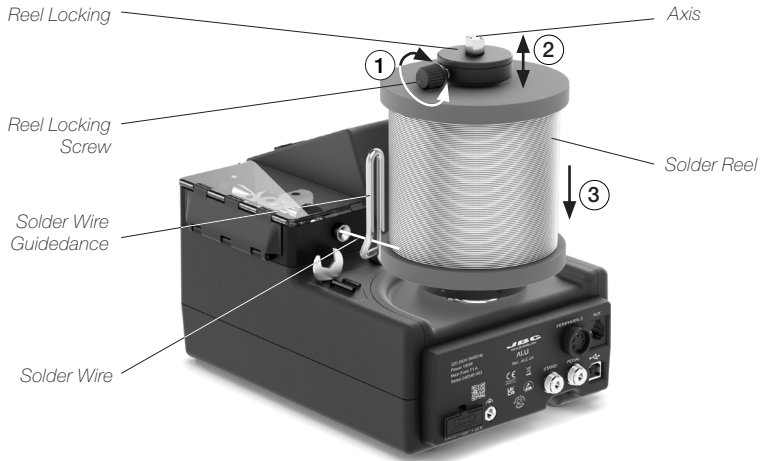
ALES
Stand for ALE250
Automatic-Feed
Soldering Iron*



Pedal
Connection
USB-B
Connector

*not included

Solder Reel Assembly

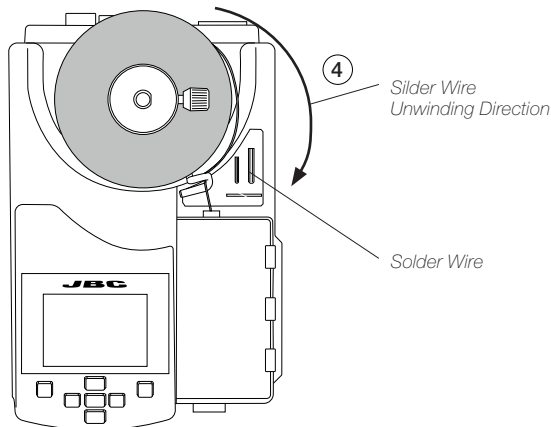


Open the reel locking screw (1) and remove the reel locking (2) from the axis.

Assemble the solder reel onto the axis (3) and reassemble the reel locking screw (1). The flat side of the axis must align with the inner flat side of the reel locking.

Note: Press lightly the reel locking (1) down before tightening the reel locking screw (2) to prevent free reel spinning.

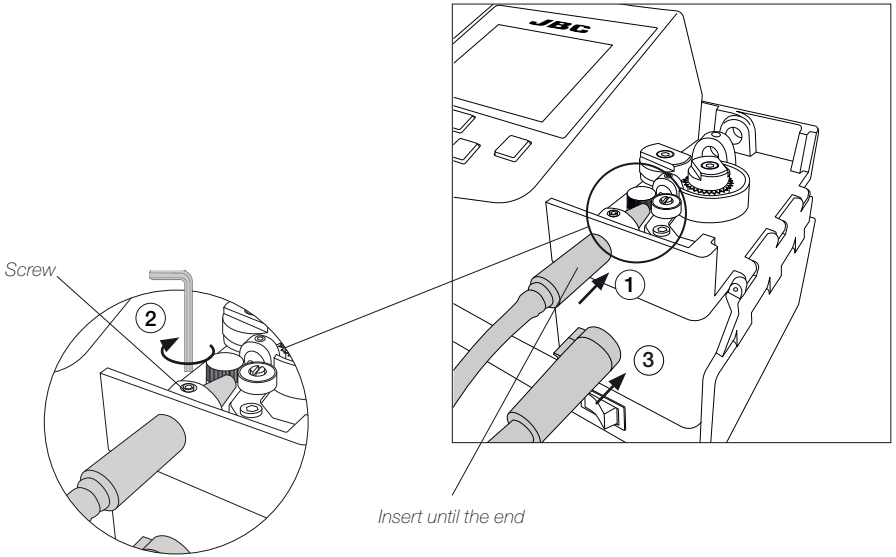
! Insert the solder reel in such a way - when viewed from above - that the solder wire unwinds on the dispensing mechanism side (4).



Tool Assembly

Connect the tool to the control unit following these steps:

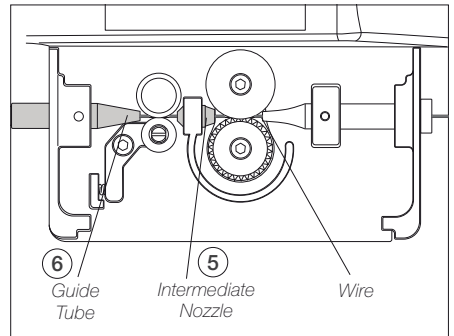
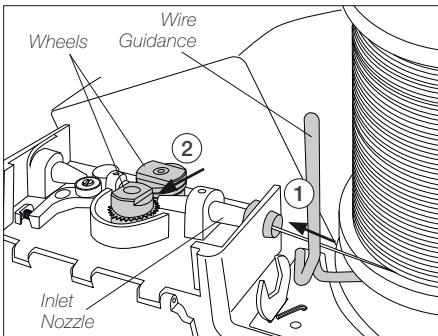
Insert and push the guide nozzle until the end (1) and tighten the screw (2). Then connect the tool connector (3).



Solder Wire Loading

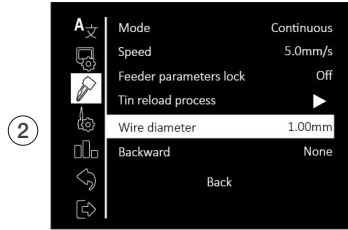
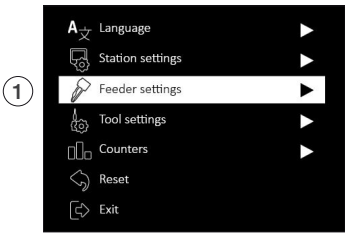
Pass the solder wire through the wire guidance and introduce the solder wire into the inlet nozzle (1) until it reaches the wheels (2).

Make sure the wire passes through the Intermediate Nozzle (5) and enters into the Guide Tube (6).





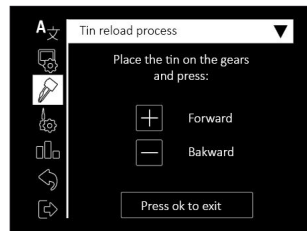
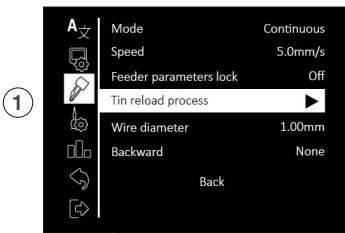
Main Menu Screen

Access to Main Menu by , select “Feeder Settings” (1) and then “Wire Diameter” (2) to adjust the value to the current solder wire diameter.



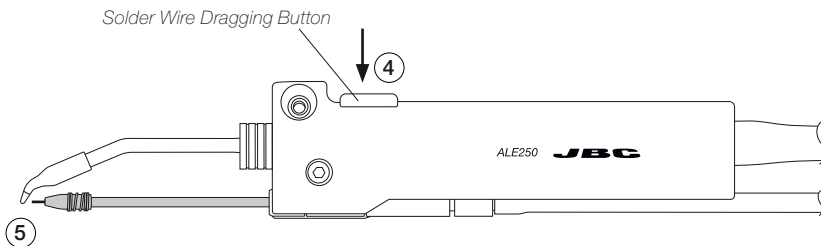
Tin Reloaded Process Screen

Select “Tin Reloaded Process” (1) and then use  to feed the solder wire and advance until it comes out through the outlet nozzle. Keep  pressed and after a while, the wire will advance faster.



Solder Wire Feeding

Forward the solder wire by pushing the dragging button (4) until the wire comes out of the tip (5).




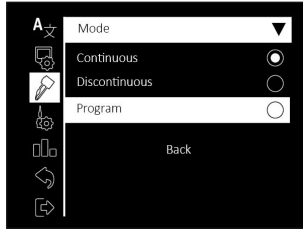
To feed the solder wire, alternatively, the pedal P405 can be used. The pedal should be plugged in at the rear of the feeder control unit into the pedal connector.



Control Process

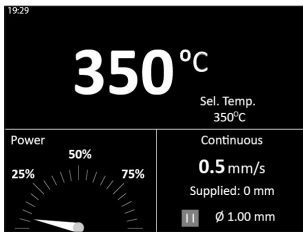
Feeder Setting Modes

Choose between “continuous”, “discontinuous” and “program” mode. Access to Main Menu by , select “Feeder Settings” and then “Mode”.

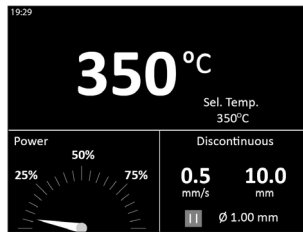


Depending on the selected mode, different parameters are available for setup.

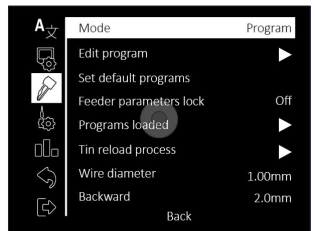
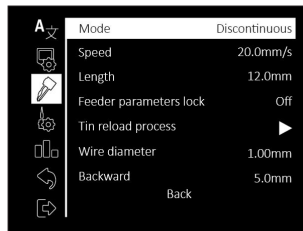
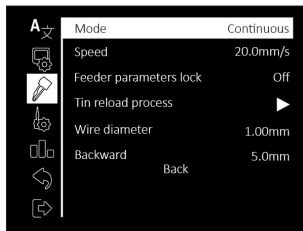
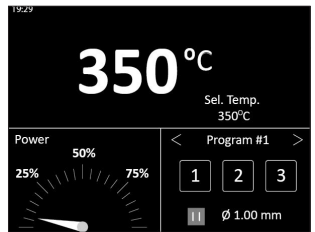
Continuous Mode



Discontinuous Mode



Program Mode

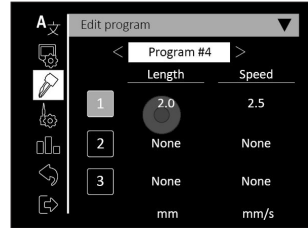
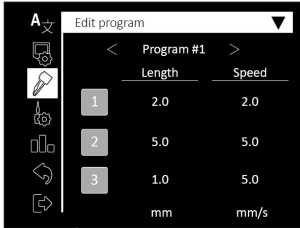


Troubleshooting

Station troubleshooting available on the product page at www.jbctools.com

Control Process

Program Mode



Quick Access to Feeder Setting Modes

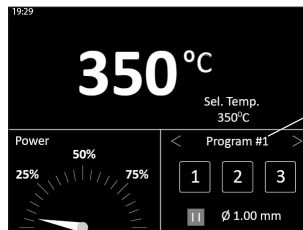
The solder wire dispensing values can be directly set up from the work screen.

Press or to change the tool temperature value.

When the main screen is displayed, by pressing button speed and length value can be set up. The following parameters can be changed according to the different dispensing modes:

- Continuous Mode: Speed
- Discontinuous Mode: Speed and length
- Program Mode: 3 feeding parameter pairs (length and speed) for every program.

Note: First select the program to be modified at the work screen by using and to switch between the programs.



Program number #

Control Process

Menu Screen

Default PIN: 0105

Main menu screen with the following options:

- Language
- Station settings
- Feeder settings
- Tool settings
- Counters
- Reset
- Exit

Language

English	Selected
Deutsch	
Español	
Français	
Italiano	
日本語	
한국어	
Portugués	
Русский	

Station Settings

Program version	8886732
Maximum temp	400°C
Minimum temp	200°C
PIN	Off
Sound	On
Temp units	°C
Length units*	mm
Station reset	
Back	

*choose between mm and inches

Feeder Settings

Mode	Discontinuous
Speed	20.0mm/s
Length	12.0mm
Feeder parameters lock	Off
Tin reload process	
Wire diameter	1.00mm
Backward	5.0mm
Back	

Tool Settings

Temp adjust	0°C
Temp level set	Off
Sleep delay	0min
Sleep temp	150°C
Hibernation delay	10min
Peripher.	
Back	

Counters

	Part*	Total*
Plug hrs		28
Working hrs	0	6
Sleep hrs	0	0
Hiber hrs	1	20
No tools hrs	1	2
Sleep cyc	20	24
Fed cyc	19	181
Fed mm	118	22786

* partial and total counters are shown

Changing Guide Kits

Changing Wheels and Blade

For this operation, disconnect the device from the mains. Disconnect the tool from the control unit and open its cover.

First disassemble the guide tube (6), the nozzles (2)+(3), then the wheels, blade and clamp (4)+(5). Disassemble the counter wheel (1). Use the Allen key and the spanner, provided with the station.

Assembly with Solder Wire Perforation:

Assemble the counter wheel (1).

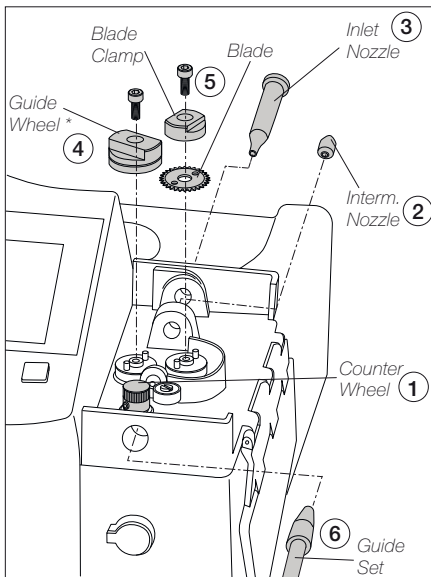
Insert the intermediate nozzle (2) until its collar rests against the housing and tighten the screw.

Assemble the inlet nozzle (3).

Assemble the guide wheel* (4) and tighten the screw.

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.

Insert the guide set (6).



Assembly without Solder Wire Perforation:

Assemble the counter wheel (1).

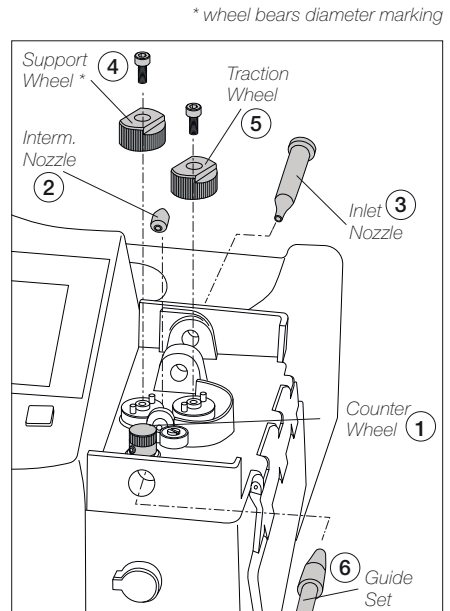
Insert the intermediate nozzle (2) until its collar rests against the housing and tighten the screw.

Assemble the inlet nozzle (3).

Assemble the support wheel* (4) onto the axis and tighten the screw.

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

Insert the guide set (6).



Accessories

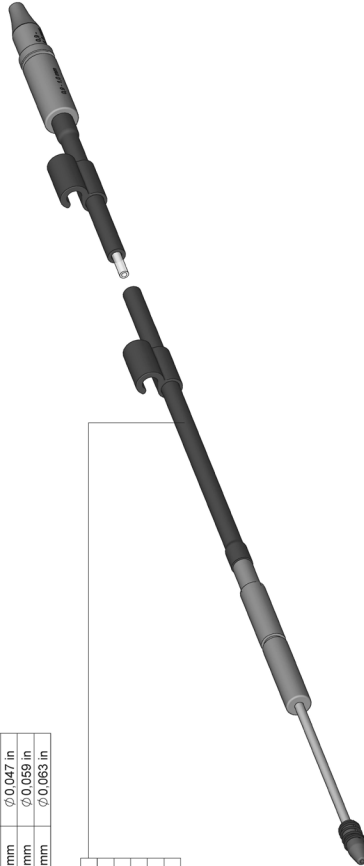
Various guide sets are available. Select the appropriate guide set depending on the solder wire diameter to be used.

Solder Wire Guide Kits for ALE250 with Solder Wire Perforation

GALEXXV-A WITH SOLDER WIRE PERFORATION

XX	Wire diameter
08	Ø0.8 mm / Ø0.032 in
10	Ø1.0 mm / Ø0.040 in
12	Ø1.2 mm / Ø0.047 in
15	Ø1.5 mm / Ø0.059 in
16	Ø1.6 mm / Ø0.063 in

Guide tube
GALE08V-A 0028358
GALE10V-A 0028359
GALE12V-A 0028360
GALE15V-A 0028361
GALE16V-A 0028363



SPARE PARTS

Wire Ø	Outlet nozzle	Nozzle	Guide wheel	Blade	Blade clamp	Inlet nozzle	Intern. nozzle	Counter wheel	Screws	Threaded stud	Nozzle grip spring
GALE08V-A	0025270	0021158	0021696	0021555	0018638	0018632	0024955	0026693 (Supplied with ALE)	0026695 (x2)	0026696 (x3)	0030549
GALE10V-A	0021560		0021699			0019170	0024956				
GALE12V-A	0025272		0023738			0019171	0024957				
GALE15V-A	0025274		0019696			0024233	0024958				
GALE16V-A	0025276		0025922				0024959				

Accessories

Solder Wire Guide Kits
for ALE250 without Solder Wire Perforation

GALEXXD-A WITHOUT SOLDER WIRE PERFORATION



Guide tube	
GALE04D-A	0228358
GALE06D-A	
GALE08D-A	
GALE07D-A	0228359
GALE06D-A	0228360
GALE10D-A	0228361
GALE12D-A	0228362
GALE15D-A	0228363
GALE16D-A	0228493

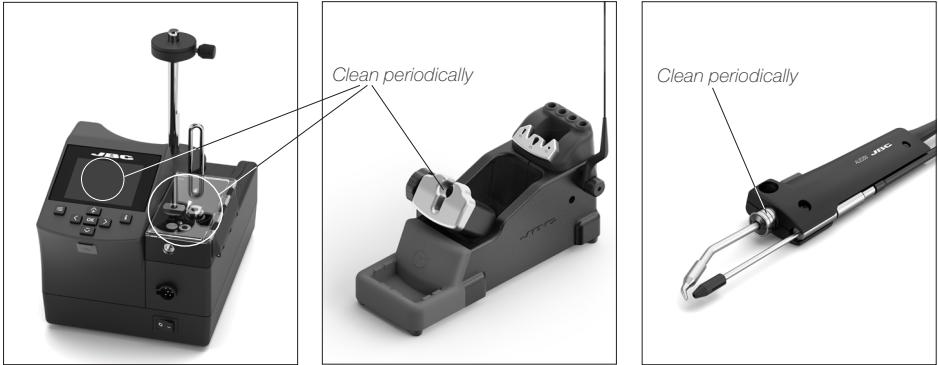
SPARE PARTS

Wire (∅)	Outlet nozzle	Nozzle	Traction wheel	Support wheel	Inlet nozzle	Interm. nozzle	Counter wheel	Screws	Threaded stud	Nozzle grip spring
GALE04D-A	0025268		0019479	0020345	0019520	0024954	0026693	0026695 (x2)	0026696 (x3)	0030549
GALE05D-A	0022984			0019519		0025293				
GALE07D-A	0022989				0018632	0025291				
GALE08D-A	0025270	0021169		0019480	0019170	0024955				
GALE10D-A	0021560				0019171	0024957				
GALE12D-A	0025274			0019481	0024233	0024958	0028694			
GALE15D-A	0025276			0028367	0024233	0024959				
GALE16D-A	0025276				0024234	0024960				
GALE18D-A	0021559									

Maintenance

Before carrying out maintenance, always switch the device off and disconnect it from the mains. Allow the equipment to cool down.

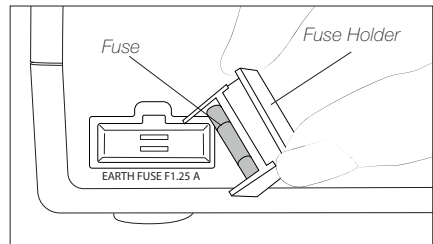
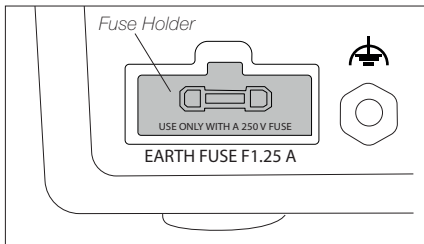
- Clean the station screen with a glass cleaner or a damp cloth.
- Use a damp cloth to clean the casing and the tool. Alcohol can only be used to clean the metal parts.
- Periodically check that the metal parts of the tool and stand are clean so that the station can detect the tool's status.



- Maintain the tip surface clean and tinned prior to storage in order to avoid tip oxidation. Rusty and dirty surfaces reduce heat transfer to the solder joint.
- Periodically check all cables and tubes.
- Replace a blown fuse as follows:

1. Pull off the fuse holder and remove the fuse. If necessary use a tool to lever it off.

2. Insert the new fuse into the fuse holder and return it to the station.



- Replace any defective or damaged pieces. Only use original JBC spare parts.
- Repairs should only be performed 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 units for any purpose other than soldering or rework. Incorrect use may cause a fire.
- The power cord must be plugged into approved bases. Be sure that it is properly grounded before use. When unplugging it, hold the plug, not the wire.
- Do not work on electrically live parts.
- The tool should be placed in the stand when not in use in order to activate the sleep mode. The soldering tip or nozzle, the metal part of the tool and the stand may still be hot even when the station is turned off. Handle with care, including when adjusting the stand position.
- Do not leave the appliance unattended when it is on.
- Do not cover the ventilation grills. Heat can cause inflammable products to ignite.
- Avoid flux coming into contact with skin or eyes to prevent irritation.
- Be careful with the fumes produced when soldering.
- Keep your workplace clean and tidy. Wear appropriate protection glasses and gloves when working to avoid personal harm.
- Utmost care must be taken with liquid tin waste which can cause burns.
- This appliance can be used by children over the age of eight and also persons with reduced physical, sensory or mental capabilities or lack of experience provided that they have been given adequate supervision or instruction concerning the use of the appliance and understand the hazards involved. Children must not play with the appliance.
- Maintenance must not be carried out by children unless supervised.

Specifications

ALE

Automatic-Feed Soldering Control Unit

With Solder Wire Perforation

for wire \varnothing 0.8mm:

Ref. **ALE-908UVA** - 100V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V

Ref. **ALE-108UVA** - 120V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V

Ref. **ALE-208UVA** - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire \varnothing 1.0mm:

Ref. **ALE-910UVA** - 100V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V

Ref. **ALE-110UVA** - 120V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V

Ref. **ALE-210UVA** - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire \varnothing 1.2mm:

Ref. **ALE-212UVA** - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire \varnothing 1.6mm:

Ref. **ALE-216UVA** - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

Without Solder Wire Perforation

for wire \varnothing 0.4mm:

Ref. **ALE-204UA** - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire \varnothing 0.5mm:

Ref. **ALE-205UA** - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire \varnothing 0.8mm:

Ref. **ALE-208UA** - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire \varnothing 1.0mm:

Ref. **ALE-110UA** - 120V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V

- Output Peak Power: 130 W / 23.5 V
- Selectable Temperature Range: 90 - 450 °C / 190 - 840 °F
- Idle Temp. Stability (still air): $\pm 1.5^{\circ}\text{C}$ / $\pm 3^{\circ}\text{F}$ (Meets and exceed IPC J-STD-001)
- Temp. Accuracy: $\pm 3\%$ (Using reference cartridge)
- Temp. Adjustment: $\pm 50^{\circ}\text{C}$ / $\pm 90^{\circ}\text{F}$ (Through station menu settings)
- Connections: USB-A Update and files import-export
USB-B Software PC
RJ12 Fume extractor connection
- Equipment bonding: Optional connection to EPA
- Tip to Ground Voltage/Resistance: < 2 mV RMS / < 2 ohms
Meets and exceed
ANSI/ESD S20.20-2014 / IPC J-STD-001F
- Ambient Operating Temp: 10 - 50 °C / 50 - 122 °F

Specifications

- Solder Wire Diameter:	According purchased reference
- Max. Wire Length:	250 mm / 9.84 in (for discontinuous + program mode)
- Min. Wire Length:	0.5 mm / 0.02 in
- Forward Speed Range	0.5 to 50 mm/s / 0.02 to 1.97 in/s
- Speed of Backward Funktion	0.0 to 5.0 mm/s / 0.5 to 0.20 in/s
- Number of Programs:	5 Programs
- Number of Program Steps:	1 to 3 Steps (for each program)
- Control Unit Dimensions: (L x W x H)	235 x 145 x 150 mm 9.25 x 5.71 x 5.91 in
- Total Net Weight:	5.81 kg / 12.81 lb
- Package Dimensions / Weight: (L x W x H)	368 x 368 x 195 mm / 6.72 Kg 14.49 x 14.49 x 7.68 in / 14,82 lb

Compatible Solder Reel:

- Reel Weight:	Up to 2 kg / 4.41 lb
- Max. Reel Diameter:	100 mm / 3.94 in
- Max. Reel Height:	100 mm / 3.94 in

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 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