

AT90DH Soldering Station

User's Manual



AT-90DH is a soldering station which has big power consumption and is particularly designed for lead-free soldering. It is used for SMD electronic components' soldering and de-soldering in factory or workbench.

In this instruction manual, "Warning" and "Caution" are defined as follows.

WARNINGS:

Warning : Use only original manufacture's specified heating element for the included iron.

Misuse may potentially cause injury to user or physical damage to the objects involved. For your own safety, be sure to comply with these precautions.

Caution:

- Before using this unit, make sure to comply with the cautioned measurements to protect the user against the risks of electric shock, injury, fire or other damage.
- To ensure use safety, use only the original parts manufactured specially for this unit. Non-authorized replacement parts may cause damage and void all product warranties and liabilities.
- Maintenance should only performed by a qualified technician appointed by the manufacturer. Contact your distributor for details.
- When power is on, the tip temperature is between; 100°C (°F) and 500°C (°F)
- Since mishandling may lead to burns or fire, be sure to comply with the following precautions.
- Do not touch the metallic parts near the tip.
- Do not use the product near flammable items.
- Advise other people in the work area: the unit can reach a very high temperature and should be considered potentially dangerous.
- Turn the power off when the unit is not being used or supervised.
- Before replacing parts or storing the unit, turn the power off and allow the unit to cool down to room temperature.
- To prevent damage to the unit and ensure a safe working environment, be sure to comply with the following precautions.
- Do not use the unit for application other than soldering and de-soldering.
- Do not rap the soldering iron against the workbench to shake off residual solder, or otherwise subject the iron to severe shocks.
- Do not modify the unit.
- Use only genuine factory replacement parts.
- Do not allow the unit to get set or otherwise subject it to liquids. Do not use with wet hands or wet surface.
- The soldering process will produce smoke, so make sure the area is well ventilated.
- When using the unit, do not do anything that may cause bodily harm or physical damage.

Packing List:

ATTEN90DH main Unit	1 unit
Iron stand (with sponge)	1 set
Soldering iron	1 pc
Power plug	1 pc
Manual	1 copy



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Specifications:

Power Consumption	90W
Input Voltage	220V AC $\pm 10\%$ 50Hz (110V selectable)
Output Voltage	24V AC
Temperature Range	100 ~ 500°C (212 ~ 932°F)
Temperature-correcting Range	-50 ~ +50°C (-58 ~ +122°F)
Temperature Stability	$\pm 2^\circ\text{C}$ (Still air and no load)
Temperature Accuracy	$\pm 10^\circ\text{C}$
Setting Mode	Keying adjustment and immediate access
Password Scope	001 ~ 999
Dormant Time	1 ~ 99minutes (No dormancy at the point of 0 minute)
Dormant Temperature	200°C (temperature at the tip of soldering iron in the dormant state)
Tip to Ground Impedance	$< 2\Omega$
Tip to Ground Voltage	$< 2\text{mV}$
Physical Dimension of Principal Machine	175(L) \times 155(W) \times 95(H)mm
Weight	Approximately. 2.3kg

*The specifications above is subject to further changes.

Features:

- HD LCD, backlight LCD, visualized process control and easy to operate.
- Silver alloy as heat conducting material, heat exchange mode, and very fast temperature returning.
- Temperature rises to 350°C in 10 seconds after starting up.
- Immediate temperature access function and quick switch of service temperature.
- Auto sleep and password locking.
- Separate design between soldering iron and heating core, thus saving on use-cost.
- Handy handgrip and comfort to use.
- Fault display warning function.

Product photos



1. Soldering iron
2. Iron stand
3. Key "1"
4. Key "2"
5. LCD display
6. Key "3"
7. Key "▲"
8. Key "▼"
9. Power switch
10. Air socket

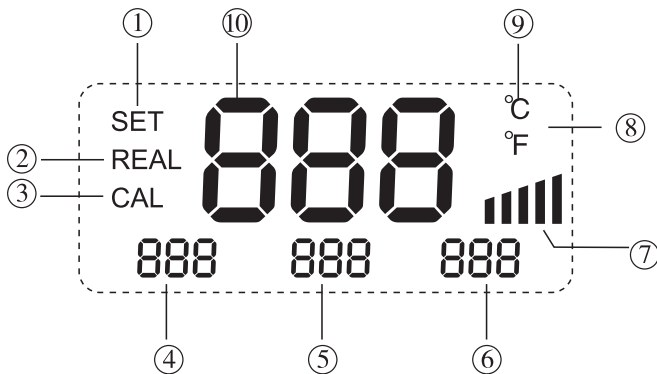


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LCD display



Introduction for LCD display:

1. SET: Set Temperature
2. REAL: Real Temperature
3. CAL: Calibration Temperature
4. Preset temperature of shortcut channel 11, when locked that will display "---"
5. Preset temperature of shortcut channel 12, when locked that will display "LDC"
6. Preset temperature of shortcut channel 13, when locked that will display "---"
7. Temperature Status Bar
8. °C display
9. °F display
10. Temperature display

Operation Instructions:

1. Connections

- Connect the cord assembly to the receptacle.
- Place the soldering iron in the iron holder.
- Plug the power cord first into the power supply, then into a properly grounded outlet.



2. Power on

Connecting the socket on the back panel to the plug and make the power switch on. LED displays the set temperature, "Set" appearing. Three seconds later, "Real" can be viewed, and LED displays the real temperature. Meanwhile temperature Unit °C or °F appear at the upper right corner.

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Default temperature unit is °C.
(picture one and picture two)



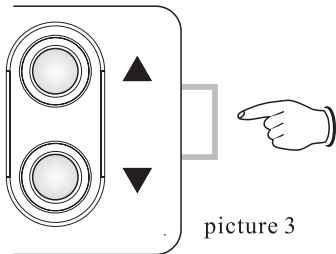
picture one



picture two

3. Shortcut temperature preset

When the machine works, press key “▼” or key “▲” (picture 3) to adjust the temperature. When “SET” lights, press and hold the “▲” or key “▼” until the temperature readout flashes, stop and store a desired temperature.



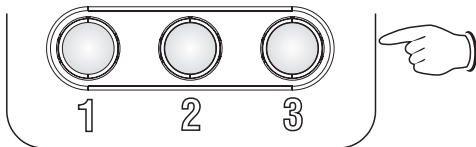
picture 3



picture 4

4. Shortcut temperature presets

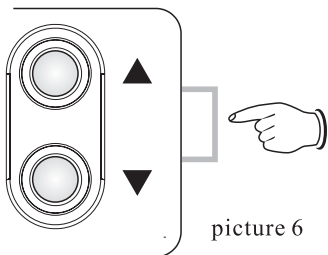
When the machine works right, press key 1, key 2 or key 3 (picture 5), you can get the temperature setted before and use them for the current working condition. When the machine works right, press key 1, key 2 or key 3 (> 3 seconds), you can make the current temperature as the shortcut one and stored at channel! and channel 2 and channel 3.



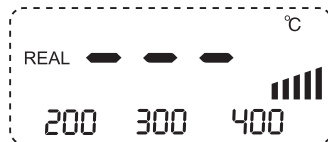
picture 5

5. Temperature Calibration

When replacing the heating element or soldering tip, you need to calibrate the temperature, press “▲” “▼” at the same time (picture 6), enter the mode of setting program, you can see from picture 7



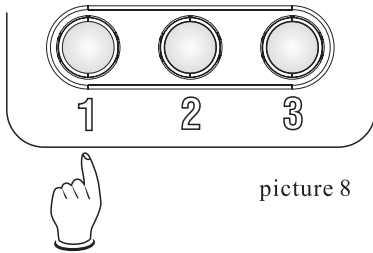
picture 6



picture 7

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picture 8



picture 9

When under the programmable mode, press key "1" (picture 8), enter the mode of temperature calibration, "CAL" will light and show the calibrated number last time, see from picture 9 (the calibration number is 0°C)...

Under the programmable mode, press "▲" or "▼" (picture 5), you can adjust the calibrated temperature, the range of calibration (-50°C ~ 50°C) (-58°F ~ 122°F). When the real temperature is lower than the display temperature, enter minus temperature difference value. When the real temperature is higher than the display temperature, enter the positive temperature difference value. e.g. real temperature is 200°C display temperature is 220°C, then calibrated temperature is -20°C.

6. Change of the soldering mode

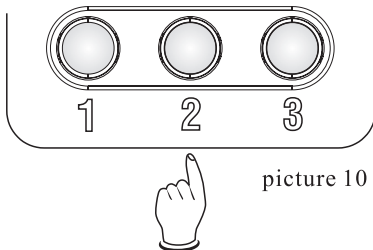
As to the different needs of the soldering mode, AT90DH has three different soldering mode to deal with the different needs, you don't need to buy other soldering equipment.

The setting method is as follows:

Press "▲" and "▼" at the same time (picture 6), enter into programming mode (picture 7).

Under programming mode, press "2" (picture 10), enter into soldering setting mode when "Mode" displays, it shows current working mode. (Picture 11).

Under power setting mode, press "▲" or "▼", adjust the power, and then press "2" to save. (Picture 12-Mode 1).



picture 10



picture 11

Mode 0: Suitable for SMT, small welding work, in which temperature and its stability is highly required.

Mode 1: Suitable for welding work with different welding spots at the same time, back to temperature quickly.

Mode 2: Suitable for welding work with large amount of tin used, such as welding terminals, back to temperature very quickly, large dynamic temperature range.



picture 12

Attention: Original mode is Mode 1.

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7. Sleeping mode setting

Sleeping power-off / power-on function and sleeping time can be set separately, which ensures energy saving and energy consumption reducing.

Setting method:

Press “▲” and “▼” at the same time (picture 6), enter into programming mode (picture 7).

Under programming mode, press “2” (picture 10), or press “2” for 3 times continuously, then enter into sleeping setting mode (picture 13-sleeping mode is off).

Under sleeping setting mode, press “▲” or “▼” (picture 5), input sleeping time (minute), then press “2” to save (picture 14, sleeping time is 10 minutes).

If the sleeping mode is on and there is, no welding work or any operation in set time, the device will be in sleeping (Mode2-no sleeping) and work in 200°C. If temperature is below 200°C, sleeping function won't be activated.

Under sleeping mode, press any key to restart the device, and it can work under previous temperature.



picture13



picture14

Attention: Original mode- Sleeping status is off

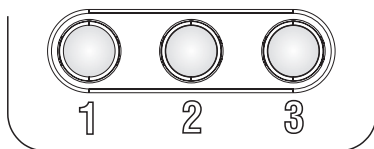
8. Password-locked setting

This device is added with password-locked function for the convenience of equipment management for production line. When the unit is locked, users can't alter the settings without password.

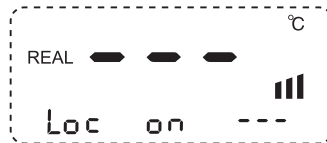
Setting method:

8.1. Press “▲” and “▼” at the same time (picture 6), enter into programming mode (picture 7).

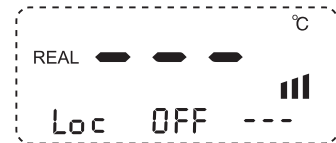
8.2. Under programming mode, press “3” (picture 15), enter into password-locked setting, current display is like picture 16 (password locked on). picture 17 (password locked off)



picture 15



picture 16



picture 17

8.3. Password setting:

When password is locked on, press “▲” or “▼” (picture 3), input first password, and then press “3” to confirm, like diagram 18.

When press “▲” or “▼”, input the password again, new password is OK, then press “3” to confirm and save.

New password is effected after restarting the device, any operation except reset password can't be done work now (picture 13).

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picture 18

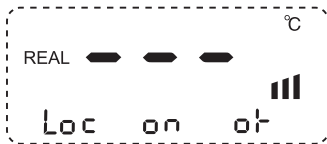


picture 19

8.4. Password changing

Before changing, the device must be locked off. (picture 17).

Press “▲” or “▼”, input new password and press “3” to confirm. If password is right, display like picture 20, wrong like picture 21.



picture 20



picture 21

When the device is locked off, set new password like before. New password works after device restarting.

8.5. Password on or off function

Under the state of right password inputting, input new password “0” and password is clear after restarting the machine.

Note: When forget password, press “REST” (refer to “part 10 of exploded-view”), to clear password or unlock the password in specified customer centre.

9. Fahrenheit and Celsius display

Fahrenheit and Celsius can be switched. When power off, press “2” to start the device, then finish switching.

10. Key-pressing sound and fault alarming function

AT90DH has key-pressing sound and fault alarm function. It can be turned on or off according to customer needs.

- Setting. When power off, press “▲” and “▼” simultaneously to restart the device, function is opened or closed.
- After starting key-pressing sound function, any valid key-pressing will be accompanied with key-pressing tone. Fault alarming when failure occurs.

11. Trouble shooting tips.

When the device does not heat, “H-E” displays (picture 22), accompanied with alarming of every 5 seconds (when opening fault alarming function). Maybe heating element or relevant parts of circuit damages, check and replace heating element.

When “S - E” displays, accompanied with alarming of every 5 seconds (when opening fault alarming function). Maybe sensor or relevant parts of circuit damages, check and replace sensor.



picture 22



picture 23

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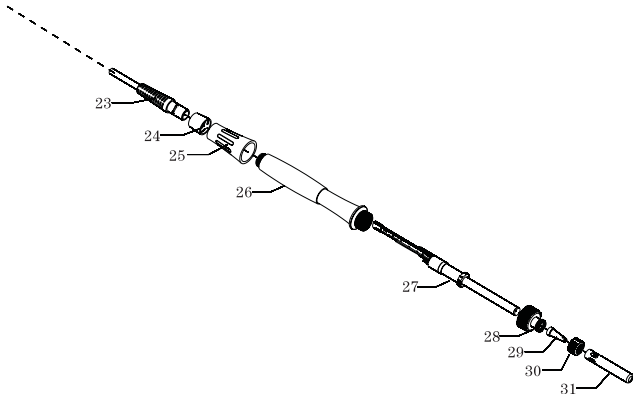


No any display on the screen, check power cord and re-connect.

Soldering tip is over - temperature or low - temperature, damaged or calibrated, please refer to "temperature calibration" or replace the tip.

If there are illegible symbols, restart the machine.

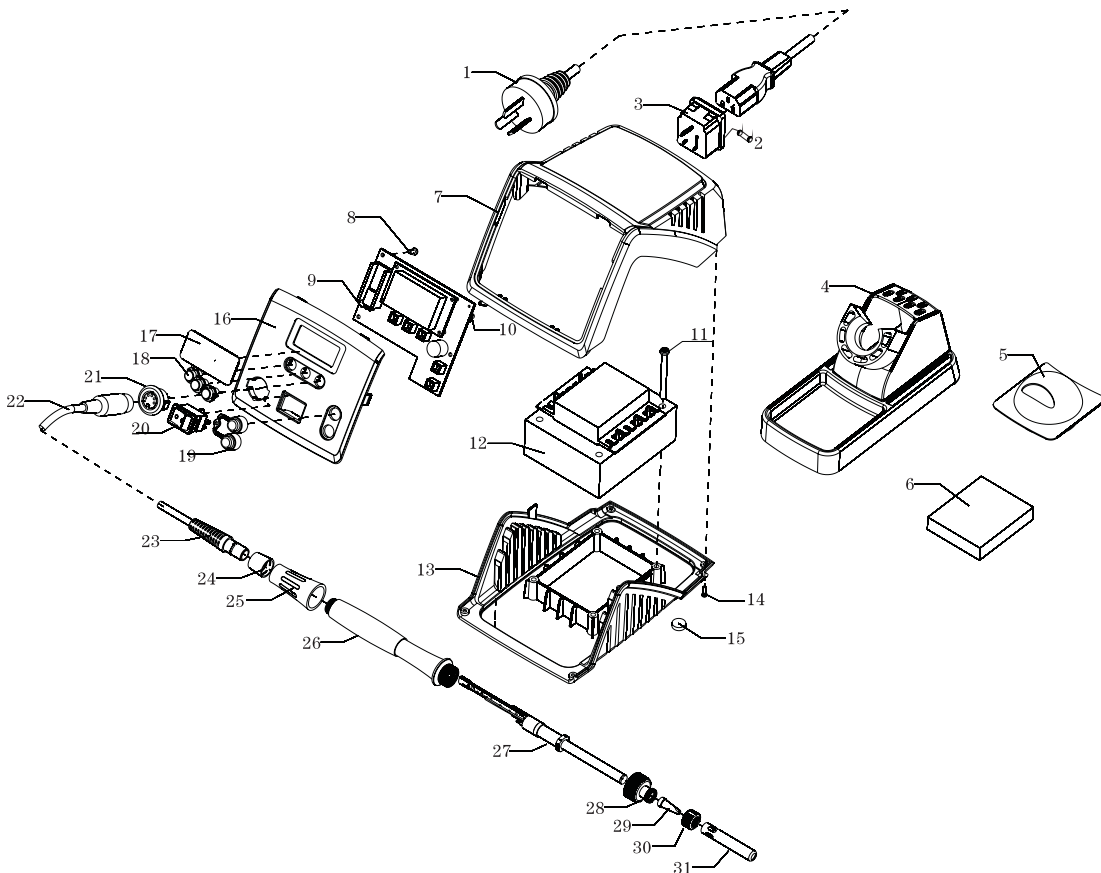
When failure happens on the machine, repaired by only specified maintenance person or highly qualified technical personnel.



Replace Soldering Tip

1. Always turn the power off when replace a soldering tip
2. Let the tip to cool down to room temperature
3. Unscrew metal cap nut.(Part 30)
4. Pull out the Tip sleeve (part 31)
5. Replace a new soldering tip (part 29)
6. Reassemble in backforward sequence.

Exploded view



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Part list

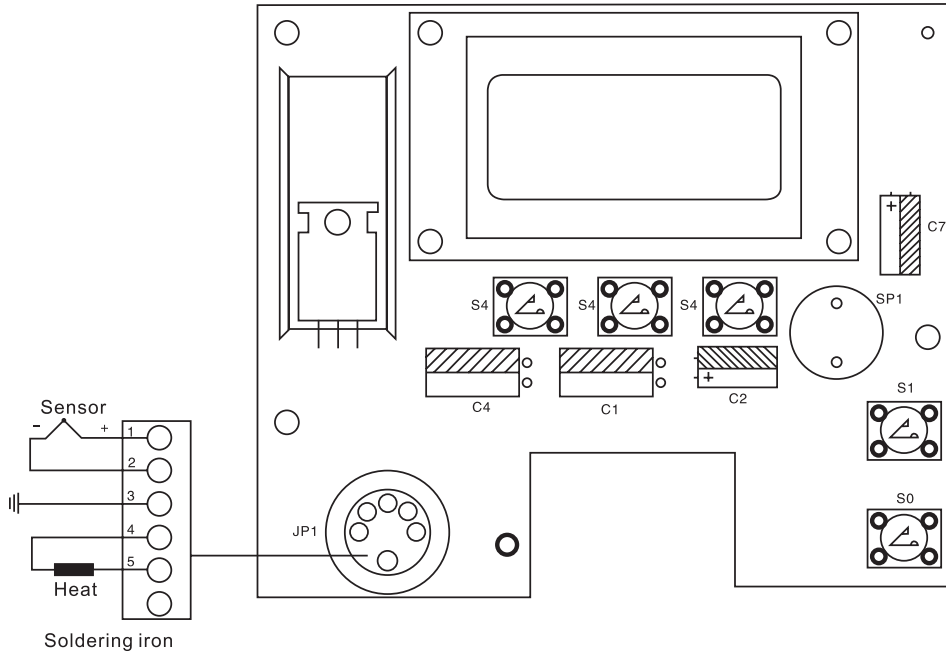
1	Power line	220V /CAX00884 Chinese standard	110V /CAX018695 American standard
2	Fuse (T1.0A/220V T2.0A/110V)	CAH024450 (T1.0A)	CAH002332 (2.0A)
3	Outlet	CAV017527	CAV017527
4	Iron stand	BC0019121	BC0019121
5	Tip cleaner	CBG022502 / CBG022503 (optional)	CBG022502 / CBG022503 (optional)
6	Sponge	BC0014342	BC0014342
7	Cover	CBE024452	CBE024452
8	PCBA Screw	CBH003364	CBH003364
9	PCBA	BA0024433	BA0024433
10	Password reset button	CAY023552	CAY023552
11	Transformer Screw	CBH024457	CBH024457
12	Transformer	CAQ024449 (220V)	CAQ024476 (110V)
13	Base	CBE024451	CBE024451
14	Base fastening screw	CBH024456	CBH024456
15	Mounting	CBF020238	CBF020238
16	Front panel	CBE023325	CBE023325
17	Transparent mask	CBE024455	CBE024455
18	Press group 1	CBE024454	CBE024454
19	Press group 2	CBE024453	CBE024453
20	Power	CAY018484	CAY018484
21	Output outlet	CAV018253	CAV018253
22	Handle cable	CAW023321	CAW023321
23	Handle tail	CBF018941	CBF018941
24	Handle tail sleeve	CBF024446	CBF024446
25	Handel sleeve	CBR023365	CBR023365
26	handle	CBE024445	CBE024445
27	Heating element	CBB024441	CBB024441
28	Fixing stand	CAV024442	CAV024442
29	Soldering tip	CBC024444	CBC024444
30	Fastening screw sleeve	CBG024354	CBG024354
31	Tip fastening sleeve	CBG023410	CBG023410

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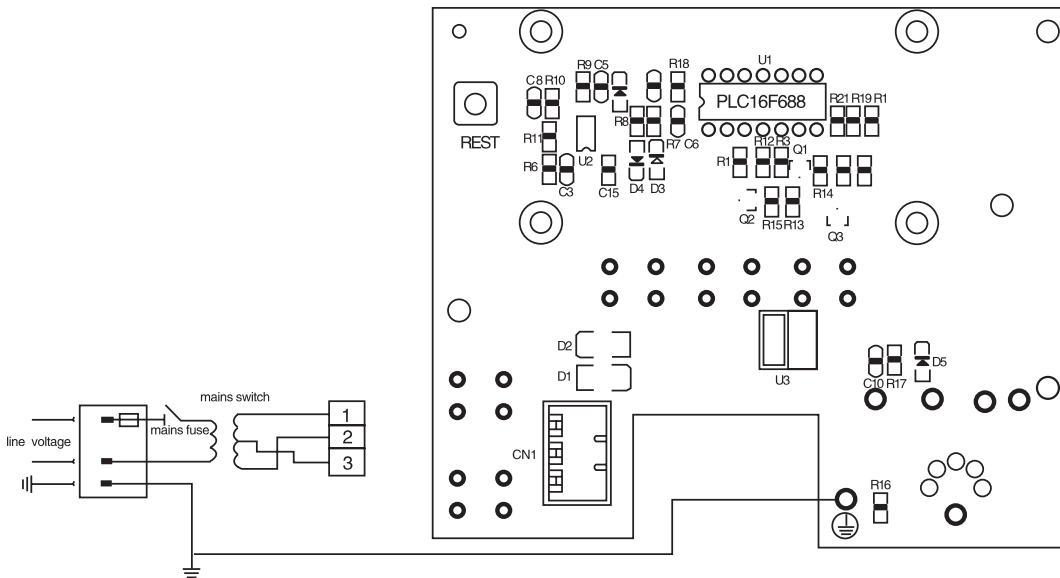
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Control board diagram



Control board TOP



Control board bottom

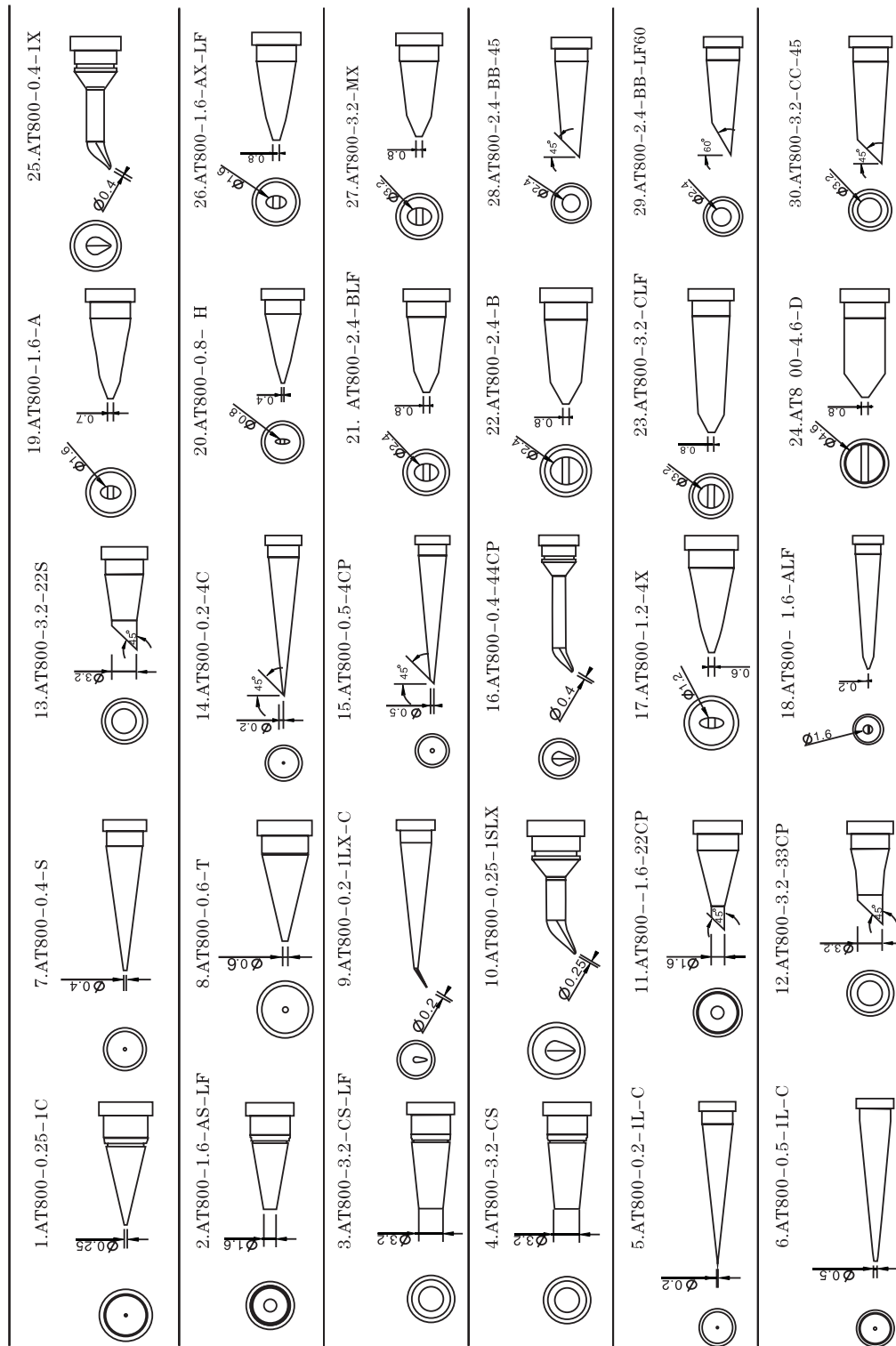


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Interchangeable Soldering Tips of ATTEN 90DH Soldering Station



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Interchangeable Soldering Tips of ATTEN 90DH Soldering Station

31. AT800-3.2-CC-60	38. AT800-2.3-GW-KR	45. AT800-1.2-KNS-LF	51. AT800-3.2-MLF	57. AT800-1.4-O
32. AT800-3.2-CC-LF60	39. AT800-2.0-GW-LF	46. AT800-1.0-KNS	52. AT800-3.2-M	58. AT800-1.0-PLF
33. AT800-3.2-CC	40. AT800-1.6-ALX	47. AT800-1.2-K	53. AT800-1.2-KLIF	59. AT800-1.2-Y
34. AT800-4.6-DD-45	41. AT800-0.8-HX	48. AT800-2.0-LLF	54. AT800-2.0-20LF	60. AT800-1.6-Y
35. AT800-1.2-FLF	42. AT800-2.4-BX	49. AT800-2.0-L	55. AT800-0.8-O	61. AT800-0.6-SMT
36. AT800-1.0-F	43. AT800-2.0-KN-LF	50. AT800-4.0-M4.0D	56. AT800-1.0-O	62. AT800-1.0-SMT
37. AT800-1.2-F	44. AT800-2.0-KN			

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