BONKOTE®

LA Soldering irons

General Catalog No.GC10-E

BONKOTE®

We are tackling with environmental problems squarely!!

We are answering to the customer's need for lead-free soldering and product itself is fully aware of the environment conservation.

Exclusion of hazardous substances	Energy conservation	Saving resources
Establishment of lead-free manual soldering technique	Auto power down function and PID control	The durable soldering iron tip and heater

Innovative quality control system for lead-free manual soldering.

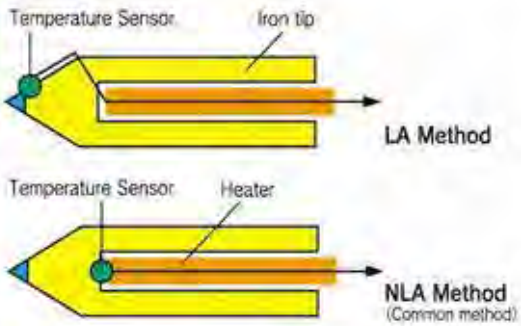
Prevention is better than a cure. To minimize defective soldering, the find and fix approach is not effective anymore, especially in lead-free soldering. In quality management for lead-free soldering, a proactive approach is essential.

We propose an innovative quality control system that scientifically monitors the whole process of the manual soldering operation, which prevents defective soldering with the data that is based on scientific evidence. This gives us the insight of knowing where to focus our attention for better soldering operations. As a result, this application enables the company to save a lot of cost in quality control activities while improving the lead-free soldering process.

The main feature of BONKOTE products

The most distinctive feature of our soldering iron is the LA (Load application temperature control) method. The LA method enables us to monitor the temperature of iron tip in real time. Therefore, it is possible to check the temperature of the iron tip not only before the operation but during soldering.
We have both two-core power supply cord and three-core power supply cord, because the mainstream of the soldering iron standard has been turning into 「MIL-STD-2000」(set a limit to Earth line resistance and Leak voltage) from 「JIS C-9211」(set a limit to insulation resistance and Leak electric current) recently. The importance of installing an Earth line has begun to be aware of.

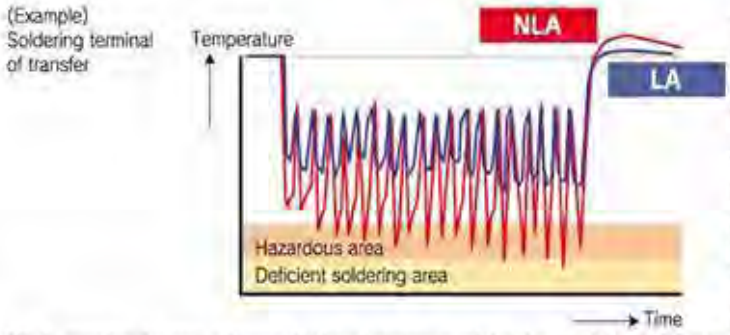
The difference between LA method and NLA (non-LA) method



In LA method, a thermal sensor is attached to the iron tip' s surface, and this enables to indicate and control the temperture of base material and iron tip.

In NLA method, which is still widely used, temperature sensor is installed between heater and iron tip. As the sensor is located near the heater, rapid temperature change of the heater affects the sensor, and as it is far from iron tip it is difficult to detect the temperature change of iron tip accurately. Compared to this, the sensor of LA method being attached near the iron tip, can detect the actual temperature change in soldering accurately and in real-time. Together with its controller temperature display and alarm function for abnormal temperature, dynamic temperature management is achieved.

LA (Temperature control during loading) : **L**oad **A**pplication temperature control method.



The left figures compare display data of controller temperature and temperature of iron tip between LA method soldering iron and NLA method soldering iron of same power. The display data and iron tip temperature in LA method fluctuates in real time. Compared to this, in NLA method data shows little change and looks stable. But measured by sensor attached to the head of soldering iron, the data shows the same fluctuation. This is the reality of iron tip, and soldering improves greatly by becoming familiar with this temperature change.

Iron tip temperature changes greatly while soldering. But,this is the reality

We have made invisible temperature into visible

Exteneding the iron tip's service life

" Set the temperature as low as possible while soldering."

This is one of the ways to extend the tip life※1

BONKOTE soldering iron "TB-1175/2175" can make it possible to do it.
First, since those soldering irons are equipped with BONKOTE original **LA method** (refer to page 2 for the details) , the tip temperature can **recover rapidly and decrease very little.**.
Moreover, since we can **measure the accurate tip temperature in real time**, there is no need to increase the set temperature unnecessarily.

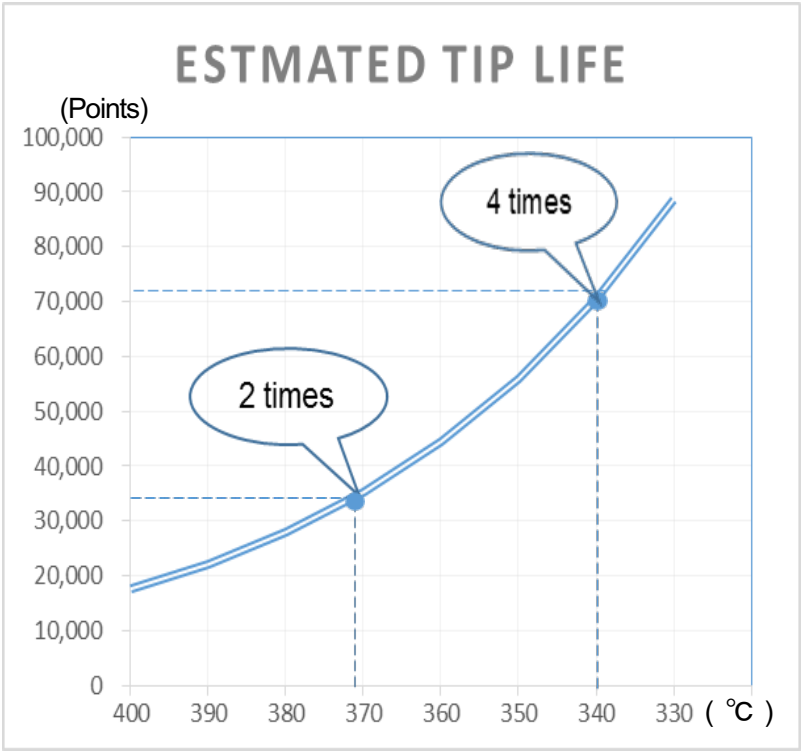
In general, the data shows that the tip service life increases double when the set temperature lowers by 30℃. According to the tip service life test we performed※2 , the tip service life of BK7-2C was **17,600 points at 400℃.**

From this result, we can estimate the tip service life to be ***35,200 points at 370℃***, and it will extend to ***70,400 points at 340℃.***

Please refer to the line graph below.

※1
It means by how many times a solder is applied until the copper core is hollowed out.

※2
Test condition:
Soldering station: M12-TB-1175-BK7-2C
Set temperature: 400℃
Soldered object: Universal circuit board
Solder wire: ϕ0.8 rosin lead-free
Sn: 96.5%, Ag: 3.0%, Cu: 0.5%
Flux content ratio: 4%
Test method:
Solder wire feed amount: About 10 mm at 3 sec.
Feed the wire for 3 sec., and rest for 2 sec.
Clean the tip with a water absorbed sponge once in 5 intermission time.



Setting temp.(℃)	400	390	380	370	360	350	340	330	320
Point	17,600	22,100	27,900	35,200	44,300	55,800	70,400	88,700	111,700

ESD SAFE PB FREE SAFETY

Low voltage & Multi use soldering iron controller

MR3 / MR4

=== SAIKY series are committed to High Power, Safety and Excellent quality.===

SAIKY 彩輝 彩りを 輝きを

LA method soldering iron
Temp.control by sensor on tip surface

24V low voltage output
Safety use

Multi use (tip: ϕ5. ϕ7. ϕ11)
Light & Heavy load

High Power
Powerful 90W & 175W

Easy to Handle
ONE-TOUCH tip replacement

Specifications (controller)

Model No.	MR3	MR4
Imput voltage	100V	220V
	±10% 50/60 Hz	
Temperature range	50 ~ 450 °C	
Power cord	3 pin plug cord	
Dimension (W. D. H.)	87 x 165 x 94 (mm)	
Weight	1900 g	
Temp. control method	PID control	
Temperature display	Set temperature and Actual tip temperature	
Error display	Over scale Sensor break	
Alarm function	Yes	Yes
Material (case)	ESD resin	ESD resin
Power consumption	10 W	10 W
Fuse	2 A	1 A
Output voltage	24V	

Specifications (soldering iron)

Model No.	JS-90	JS-175
Input voltage	24V	
Heater output	90W	175W
Iron tip	BK5 series	BK7 series
		BK11 series
Iron stand	BON-12	BON-14

ESD SAFE PB FREE SAFETY

LA method soldering iron JS-90

Feature

Even small size but high power ! JS-90 soldering iron can apply to various soldering works.

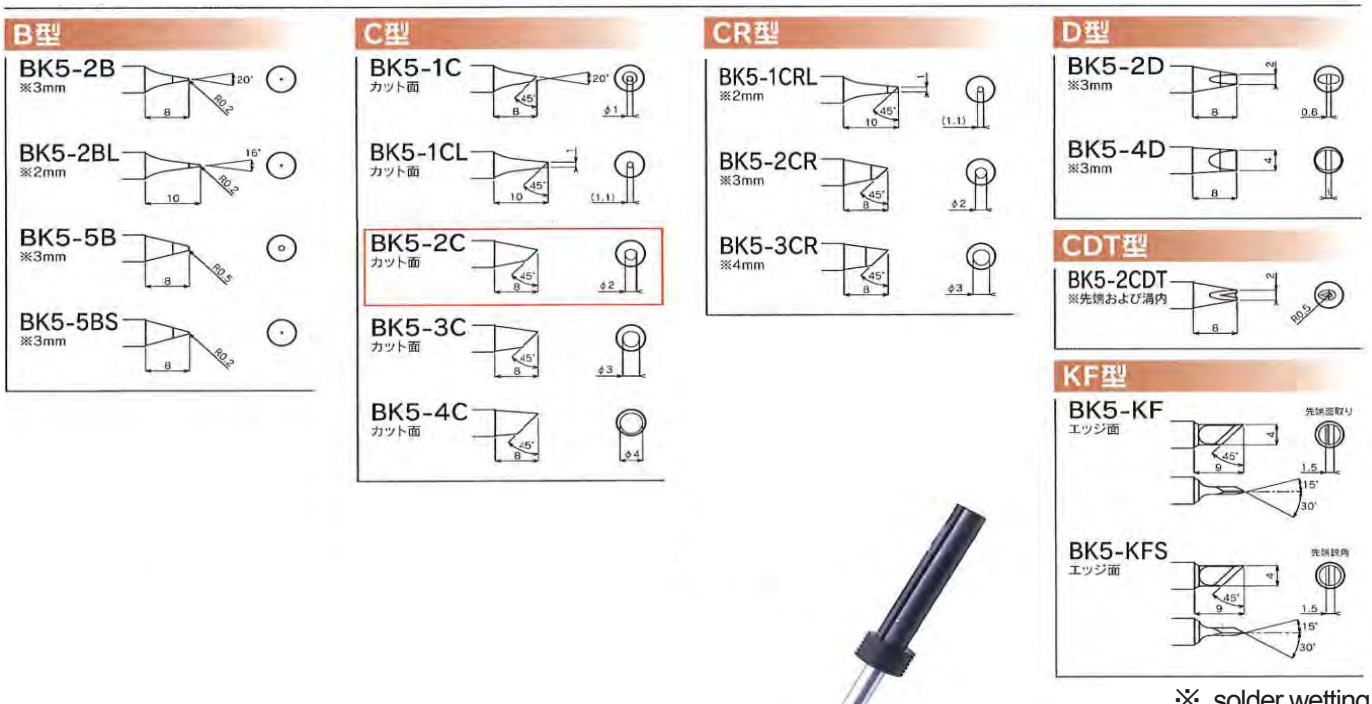
Specifications

Model No.	JS-90
Voltage / Wattage	24V / 90W
Applicable iron tip	BK5 seires
Standard iron tip	BK5-2C
Iron stand	BON-12
length (attached std.tip)	206 mm
Weight (attached std.tip)	25 g
Heater	CEA-24-90
Applicable controller	SAIKY controllers
Leak voltage	≦ 2.0 mV (default)
Ground line resistance	≦ 2.0 Ω (default)

Replacement parts

	Parts name	Model No.
1	Iron tip series	BK5 series
2	Heater	CEA-24-90
3	Grip	JS-90GP

BK5 series



※ solder wetting

Standard iron tip

BK5 series

LA method soldering iron JS-175

Feature

With newlly developed heater elements, compact yet high power.
Wide range of soldering iron tips in 2 different sizes, ϕ7 mm and 11 mm, is able to achieve multiple soldering works.

Specifications

Model No.	JS-175
Voltage / Wattage	24V / 175W
Applicable iron tip	BK7 / BK11 seires
Standard iron tip	BK7-2C
Iron stand	BON-14
length (attached std.tip)	228 mm
Weight (attached std.tip)	31 g
Heater	CE-24-175
Applicable controller	SAIKY controllers
Leak voltage	≦ 2.0 mV (default)
Ground line resistance	≦ 2.0 Ω (default)

Replacement parts

	Parts name	Model No.
1	Iron tip series	BK7 / BK11 series
2	Heater	CE-24-175
3	Grip	JS-175GP

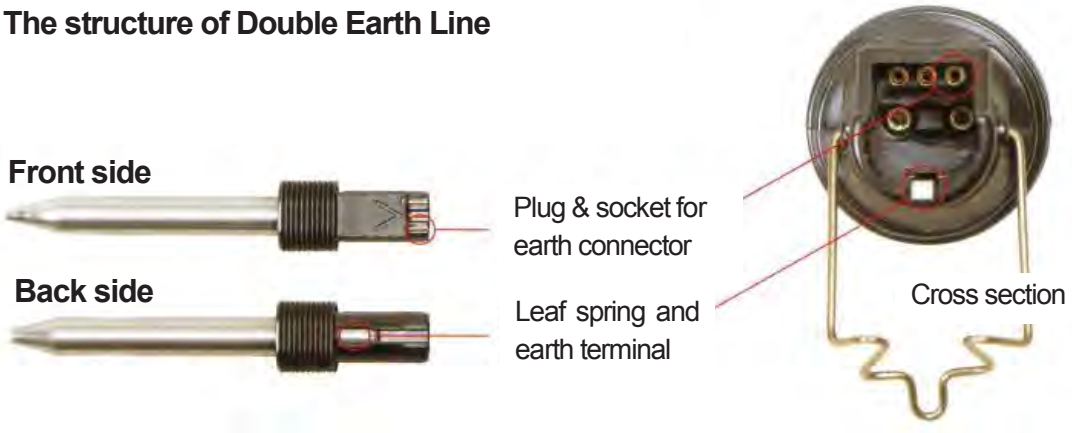
Easy

Confortable and easy to handle with a light weight flexible cable.
Just pull out and push in. Simple and Quick replacement of iron tips.

Safety design

Double earth line secure one earth line in case of disconnection of the other.
Secured earth lines protect your products from the electrical breakdown.

● The structure of Double Earth Line



Replacement Iron Tip

BK7 series

B型

BK7-0.2BL ※2mm
BK7-2B ※3mm
BK7-2BL ※3mm
BK7-7B ※3mm

C型

BK7-1C カット面
BK7-1CL カット面
BK7-1.5C カット面
BK7-2C カット面
BK7-2CL カット面
BK7-3C カット面
BK7-3CL カット面
BK7-4C カット面
BK7-5C カット面

CR型

BK7-0.5CRL ※1mm
BK7-1CR ※2mm
BK7-2CR ※3mm
BK7-3CR ※4mm
BK7-4CR ※5mm

D型

BK7-0.8DL ※3mm
BK7-1.2DL ※3mm
BK7-2D ※3mm
BK7-2.4D ※3mm
BK7-3.2D ※3mm
BK7-4D ※3mm
BK7-3D1 ※8mm

KF型

BK7-KF エッジ面
BK7-1.2KF エッジ面

CDT型

BK7-2CDT ※先端および溝内
BK7-2.7CDT ※先端および溝内
BK7-3.5CDT ※先端および溝内

Type CDT iron tip can improve thru-hole operation by holing terminals

BK11 series

C型

BK11-2C カット面
BK11-3C カット面
BK11-4C カット面
BK11-5C カット面
BK11-6C カット面
BK11-8C カット面

CR型

BK11-3CR ※4mm
BK11-5CR ※6mm

D型

BK11-5.2D ※5mm
BK11-9D ※9mm

KF型

BK11-KF エッジ面

※ solder wetting

Standard iron tip

BK7 series

BK11 series

LA method Temperature controller M12 / MW12

M12

MW12

■ Features

- Set temperature and actual temperature of iron tip are constantly indicated on the display.
- Warning alrarm / Auto power down / Auto power off functions are equipped.
- Auto PID control function maintains the optimum temperature.
- Temperature recovery speed is adjustable.

■ Specifications

Model No.	M12	MW12
Imput voltage	100V ~ 240V	
Temperature range	0 ~ 500℃	
Plug type	3 pin plug cord	
Dimension (W. D. H.)	97 x 130 x 73 mm	95 x 130 x 130 mm
Weight	≦ 750 g	≦ 1250 g
Temp. control method	PID control (Auto tuning)	
Temperature display	Both of set temperature and actual temperature	
Error display	Over scale Sensor break	
Alarm function	Yes	Yes
Material (case)	Steel	Steel
Power consumption	≦ 10VA	≦ 20VA
Fuse	3.0A	3.0A x 2 pcs
Iron stand	★ included	Option

■ Alarm Function

When the iron tip temperature exceeds the set temperature, the warning alarm starts working.
Alarm settng temperature is adjustable.

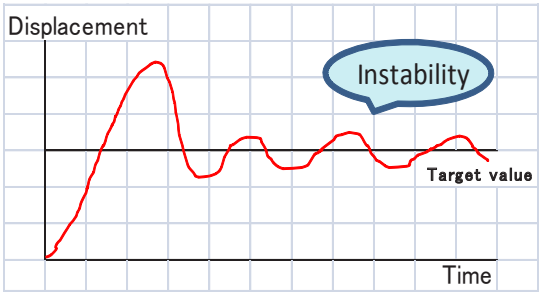
■ Lock Function

There are two types of locking methods.
One is for the set temperature, and the other for whole set items including temperature.
Only authorized people can change the setting.

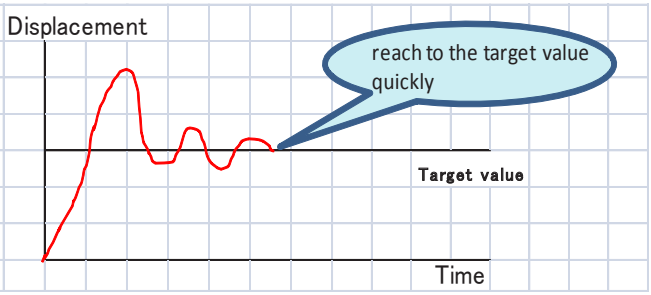
■ PID control

Better temperature control result is achieved as opposed to that of ON/OFF control.
PID control reduces temperature instability, and incerases recovery time of temperature.
Auto tuning function is equipped.

◆ ON/OFF control

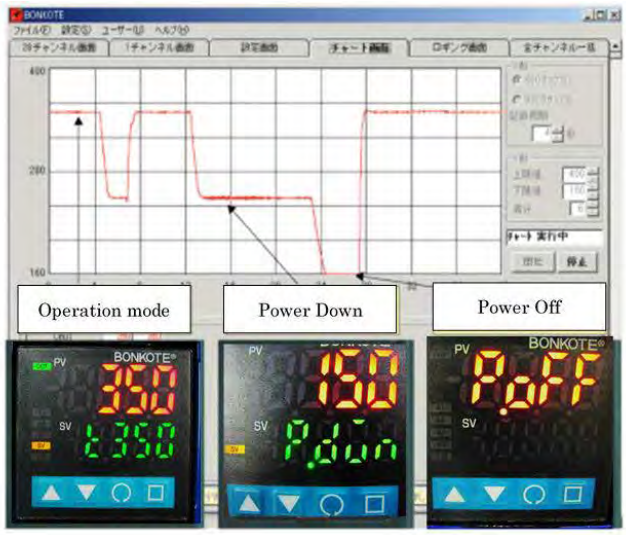


◆ PID control



■ Auto power down / Auto power off Function

The function prevents the iron tip from overheating while it is not used for a certain period of time.
The durability of iron tip will be improved by preventing from oxidation, carbonization and erosion.



■ Applicable soldering iron units

Model No.										
	100V	TB-118	TB-140JB	-	TB-150	-	TB-165	TB-170J	TB-1100	TB-1175
	220V	-	-	TB-240	-	TB-255J	-	-	TB-2100	TB-2175
Out put		18W	40W	40W	50W	55W	65W	70W	100W	175W
Iron tip series		BN5	BJ6	BN7	BN7	BJ8	BNP10	BJ8	BN12	BK7
				BN10	BN10					BK11
Iron Stand		BON-11							BON-8	BON-14

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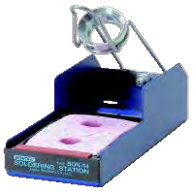
LA method soldering iron TB-1175 / TB-2175

M12 Controller

TB-2175 / TB-1175
Soldering iron unit



BON-14
Iron stand

A PATRIOT Controller is necessary to operate TB-2175 or TB-1175 soldering iron unit.

- P/N: M12-TB-2175(1175)-BKxx-xx (please select iron tip you like) Patriot Soldering Station
- P/N: TB-2175(1175) -BKxx-xx (please select iron tip you like) Soldering iron unit
- P/N: BON-14 An Iron stand comes standard with a Patriot soldering Station.

- **TB-2175 / 1175 SPECIFICATION**

	TB-1175	TB-2175
Voltage / Wattage	100V - 175W	220V - 175W
Applicable iron tip	BK7 series / BK11 series	
Standard iron tip	BK7-2C	
Length (attached BK7 tip)	228 mm	
Length (attached BK11 tip)	233 mm	
Weight (attached BK7 tip)	31 g	
Weight (attached BK11 tip)	44 g	
Leak voltage	≦ 2.0 mV (default)	
Ground resistance	≦ 2.0Ω (default)	
Iron stand	BON-14	
Applicable controller	M12	

High Power

* With newly developed heater elements, compact yet high power.
* Powerful thermal-recovery helps heavy load operation easily. e.g. multilayer board, heatsink
* Quick thermal-recovery makes soldered objects safe and iron tip's life longer.

Multi task

* Wide range of soldering iron tips in 2 different sizes, TB-2175/1175 is able to achieve multiple soldering operations.

● **BK7 tip series attached**

With a wide variety of tip lineup, it covers accurate chip repair to huge parts soldering operation.

● **BK11 tip series attached**

Overwhelming heat capacity is useful for heave duty such as huge transformer or chassis.

Easy

* Comfortable and easy to handle with light weight flexible cable.
* Just pull out and push in. Simple and Quick replacement of iron tips.

Unlock the lock-wire and just push in & pull out the iron tip.

Economical

* TB-2175/1175 is applicable to our existing Patriot controllers. (There are some exceptions.)
* Replacement parts are 2 parts only. : Heater element and Iron tip.
* Tip life of BK series is longer, and it can reduce the parts cost.

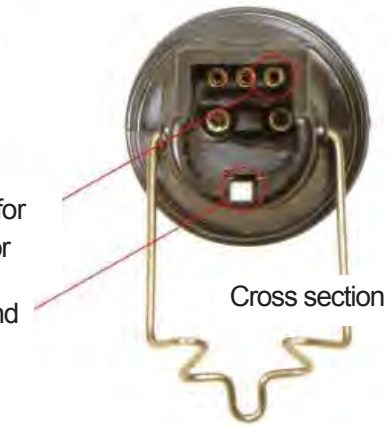
Safety design

* Double earth line secure one earth line in case of disconnection of the other.
* Secured earth lines protect your products from the electrical breakdown.

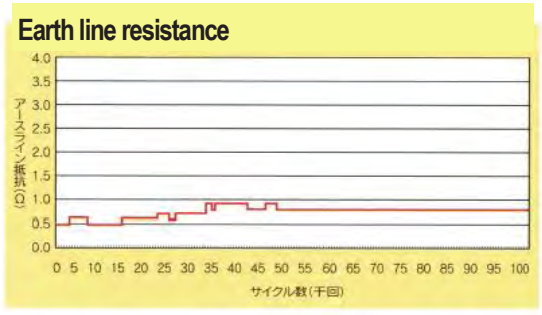
● **The structure of Double Earth Line**

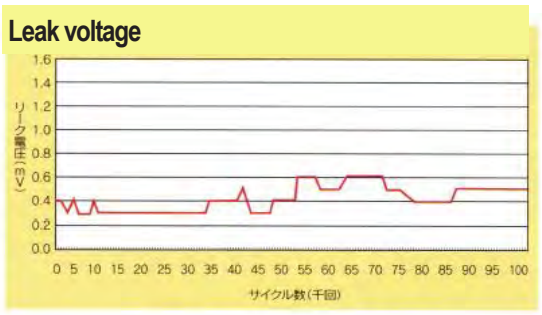
Plug & socket for earth connector

Leaf spring and earth terminal



● **Aged deterioration test data**





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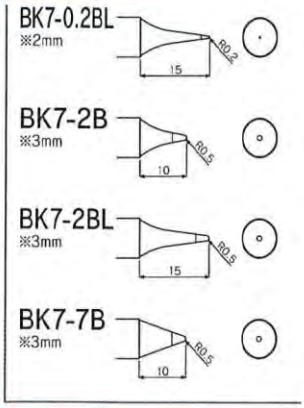
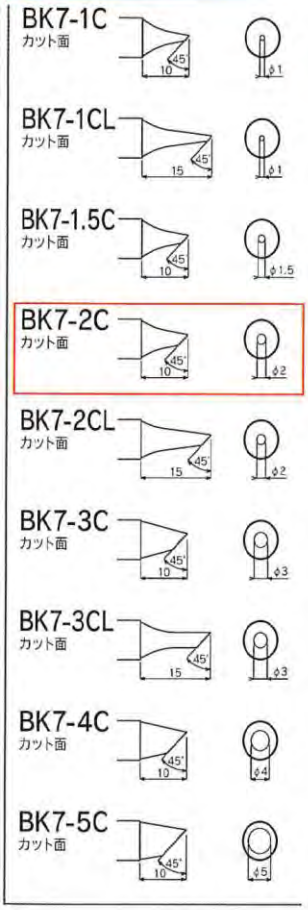
REPLACEMENT IRON TIP

BK7 series ϕ7.0 mm

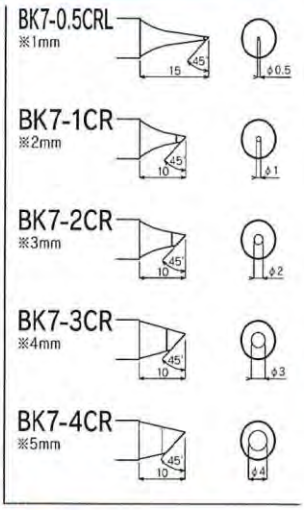
B型



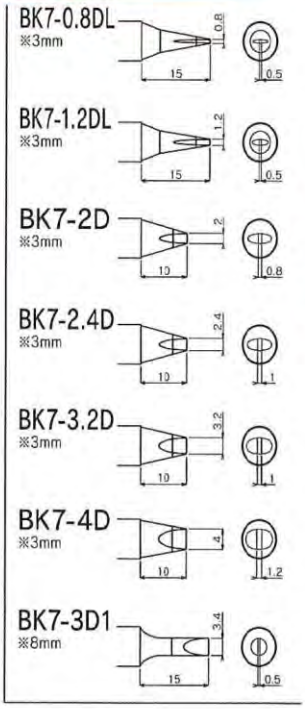
C型



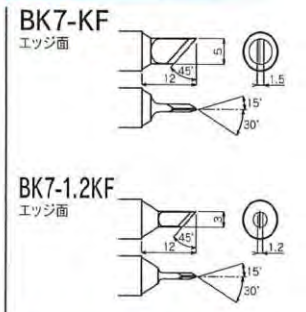
CR型



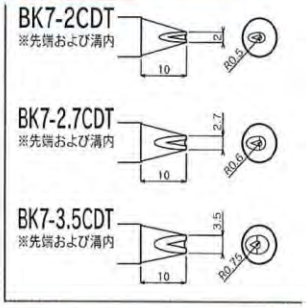
D型



KF型



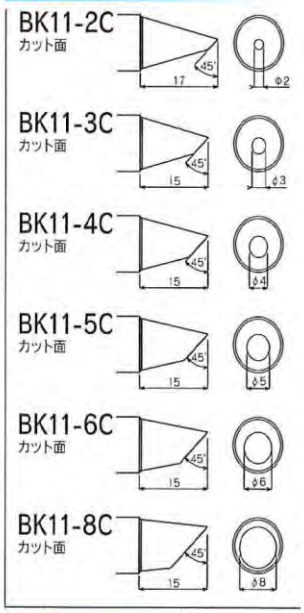
CDT型



Type CDT iron tip can improve thru-hole operation by holding terminals.

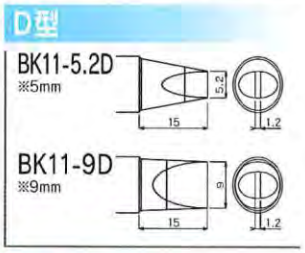
BK11 series ϕ11.0 mm

C型

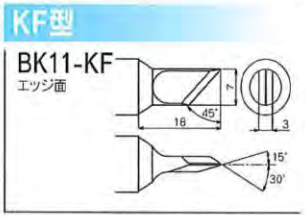


CR型

D型



KF型



※ solder wetting

Standard iron tip

BK7 series

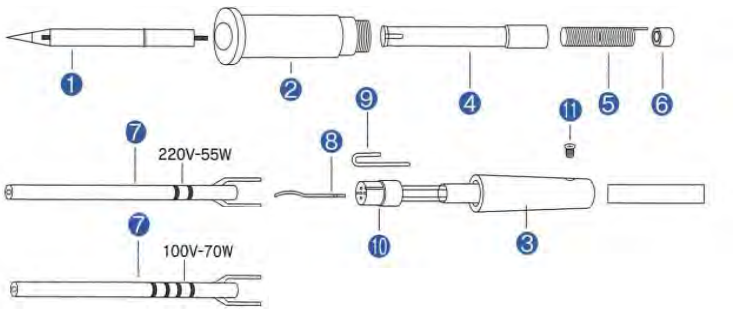
BK11 series

ESD SAFE PB FREE

LA method soldering iron TB-170J / TB-255J

■ Feature

Those are the most popular model among LA-type soldering iron.
They enable cover various soldering works and exchange the tips by one action (inserting/removing work).
Three different size (7 mm / 8 mm / 10 mm) of iron tips are available.



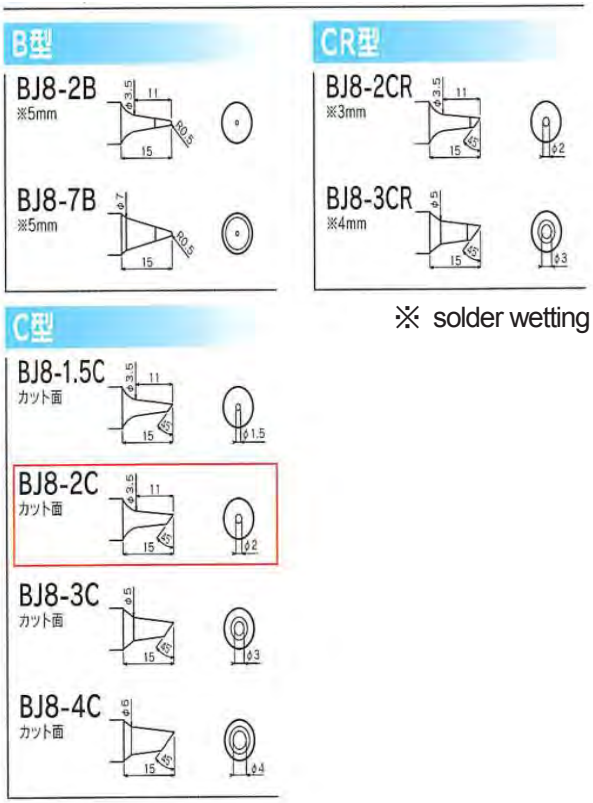
■ Specifications

Model No.	TB-170J	TB-255J
Voltage / Wattage	100V / 70W	220V / 55W
Applicable iron tip	BJ8	
Standard iron tip	BJ8-2C	
Iron stand	BON-11	
Length (attached std.tip)	203 mm	
Weight (attached std.tip)	57 g	
Heater	JCE-100-70	JCE-220-55
Applicable controller	Patriot series controllers	
Leak voltage	≦ 2.0mV (default)	
Ground line resistance	≦ 2.0Ω (default)	

■ Replacement parts

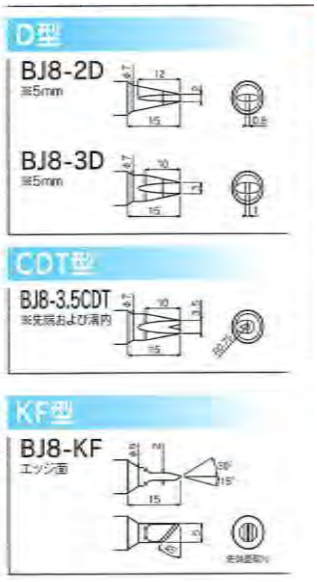
	Parts name	Model No.	
1	Iron tip series	BJ8	
2	Grip A	JK-61A	
3	Grip B	JK-61B	
4	Hold pipe	KTP-7	
5	Sensor coil	JSC-02	
6	Terminal cover	TCV-7	
7	Heater	JCE-100-70	JCE-220-55
8	Relay sensor	CSP-02	
9	U pin	UP-03	
10	Connector	RC-202	
11	Set bolt	PB-4	

BJ8 series



※ solder wetting

BJ8 series

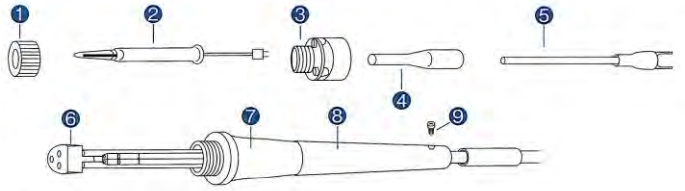


BJ8

LA method soldering iron TB-150 / TB-240

■ Feature

This is a long-seller model, and also suitable for various soldering operations.
You can choose your favorite iron tip from two different sizes. (ϕ7mm, ϕ10mm)



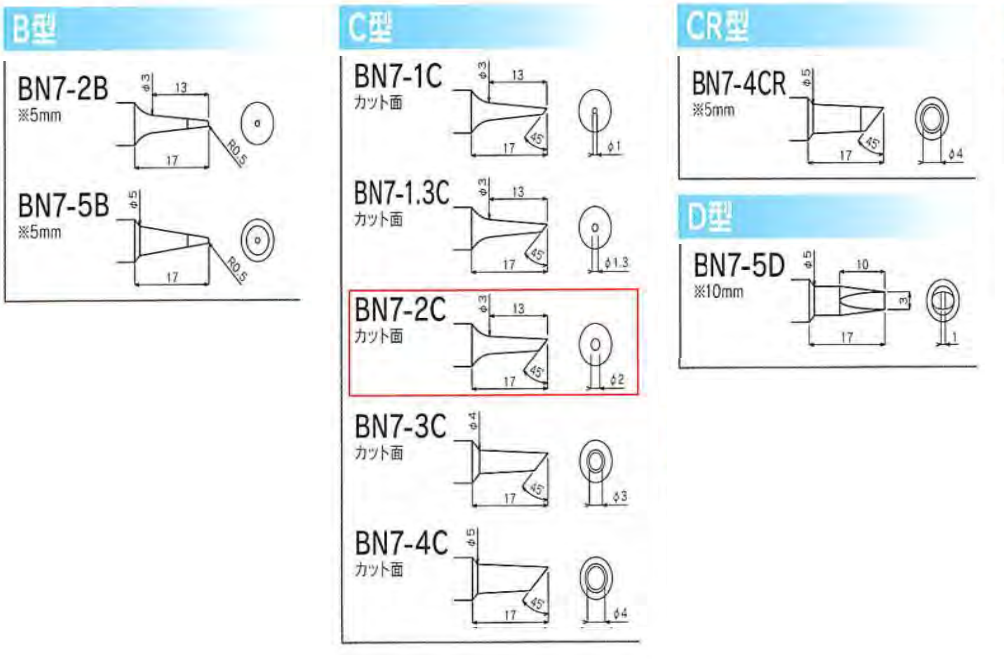
■ Specifications

Model No.	TB-150	TB-240
Voltage / Wattage	100V / 50W	220V / 40W
Applicable iron tip	BN7 / BN10 series	
Standard iron tip	BN7-2C	
Iron stand	BON-11	
Length (attached std.tip)	219 mm	
Weight (attached std.tip)	66 g	
Heater	CE-100-50	CE-220-40
Applicable controller	Patriot series controllers	
Leak voltage	≦ 2.0mV (default)	
Ground line resistance	≦ 2.0Ω (default)	

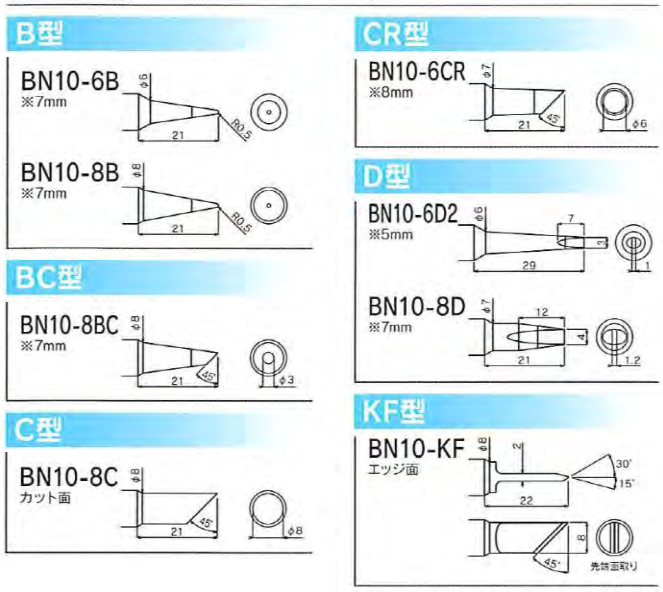
■ Replacement parts

	Parts name		Model No.	
1	Cover nut		CN-7	CN-10
2	Iron tip series		BN7 series	BN10 series
3	Radiator nut		NA-50	
4	Earth collar		EC-10	
5	Heater	100V	CE-100-50	
		220V	CE-220-40	
6	Connector with pin		RC-111	
7	Grip cover		GK-73	
8	Grip case			
9	Set bolt		PB-4	

BN7 series



BN10 series



※ solder wetting

NOTE:
When you change an iron tip series, be sure to change a related cover nut accordingly.

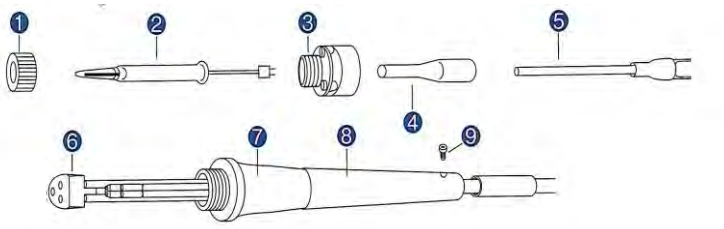
Standard iron tip

ESD SAFE PB FREE

LA method soldering iron TB-165

■ Feature

This is an upgrading model of TB-150 / TB-240 soldering iron.
Suitable for work which needs large heat conduction such like terminal parts of large thermal capacity, and continuous work with a large heat loss.



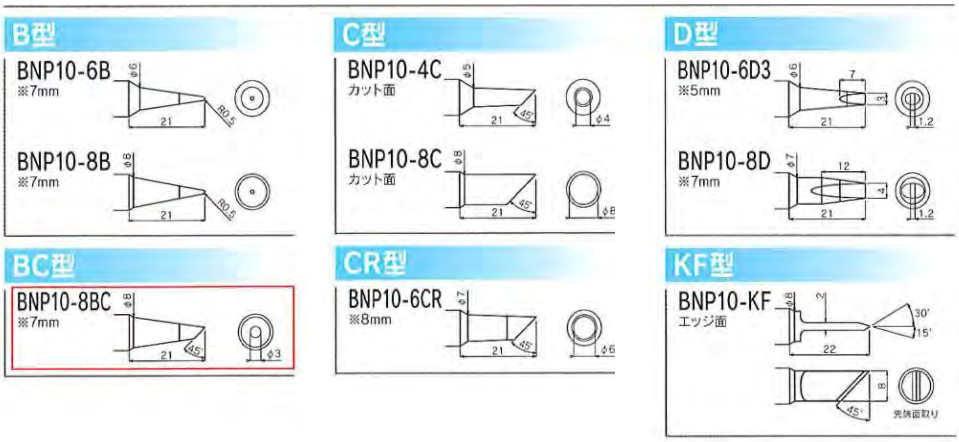
■ Specifications

Model No.	TB-165
Voltage / Wattage	100V / 65W
Applicable iron tip	BNP10
Standard iron tip	BNP10-8BC
Iron stand	BON-11
Length (attached std.tip)	222 mm
Weight (attached std.tip)	78 g
Heater	FCE-100-65
Applicable controller	Patriot series controllers
Leak voltage	≦ 2.0mV (default)
Ground line resistance	≦ 2.0Ω (default)

■ Replacement parts

	Parts name		Model No.
1	Cover nut		CN-10
2	Iron tip series		BNP10 series
3	Radiator nut		NA-50
4	Earth collar		EC-20
5	Heater	100V	FCE-100-65
6	Connector with pin		RC-111
7	Grip cover		GK-73
8	Grip case		
9	Set bolt		PB-4

BNP10 series



BNP10 series

NOTE:
When you change an iron tip series, be sure to change a related cover nut accordingly.

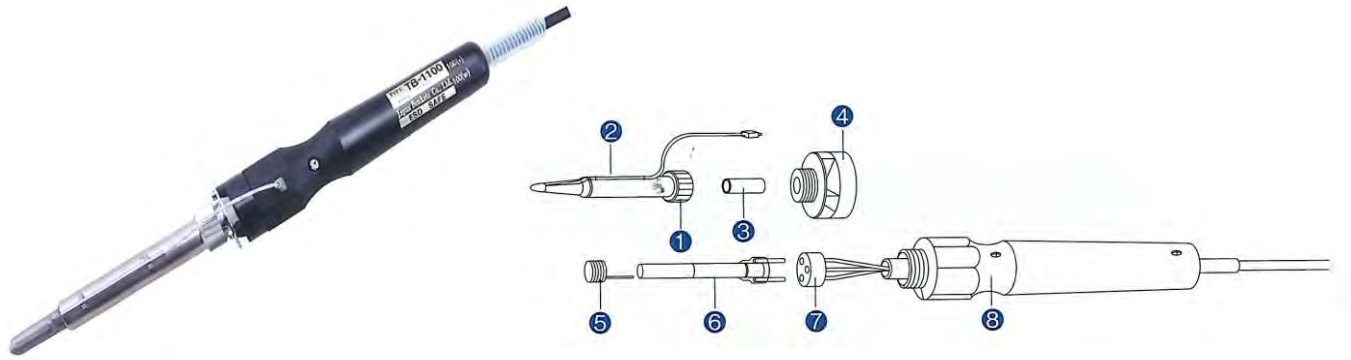
Standard iron tip

ESD SAFE PB FREE

LA method soldering iron TB-1100 / TB-2100

■ Feature

This model is applicable to large-sized transformer terminals or chassis which require large heat amount.
It shows great performance in heavy burden consecutive soldering operations.



■ Specifications

Model No.	TB-1100	TB-2100
Voltage / Wattage	100V / 100W	220V / 100W
Applicable iron tip	BN12 series	
Standard iron tip	BN12-10BC	
Iron stand	BON-8	
Length (attached std.tip)	263 mm	
Weight (attached std.tip)	152 g	
Heater	CE-100-100	CE-220-100
Applicable controller	Patriot series controllers	
Leak voltage	≦ 2.0mV (default)	
Ground line resistance	≦ 2.0Ω (default)	

■ Replacement parts

	Parts name		Model No.
1	Cover nut		CN-12 integrated with iron tip
2	Iron tip series		BN12 series integrated with cover nut
3	Heater collar		SUC-12
4	Radiator nut		NA-30
5	Earth spring		ECS-5
6	Heater	100V	CE-100-100
		220V	CE-220-100
7	Connector with pin		RC-108
8	Grip case		BSK-201

BN12 series

※ solder wetting

BN12 series

Standard iron tip

QSS-3000 Temperature Management System

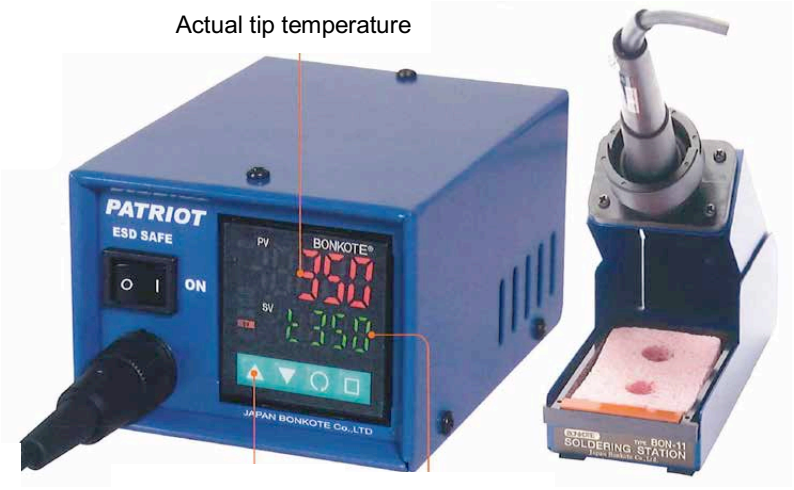
Features

- Centralized temperature management by PC.
- Alarm and display of upper/lower limit
- Recovery speed adjustment function equipped
- Digital display of actual and set temperature
- PID value auto tuning

QSS-3000 applicable

M50 controller

Modular jack



Specifications (controller)

Model No.	M50	MW50
Input voltage	100V ~ 240V	
Temperature range	0 ~ 500 ℃	
Plug type	3 pin plug cord	
Dimension (W.D.H)	97 x 130 x 73 mm	95 x 130 x 130 mm
Weight	≦ 800 g	≦ 1300 g
Temp. control method	PID control	
Temperature display	Set temperature and Actual tip temperature	
Error display	Over scale and Sensor break	
Alarm function	Yes	Yes
Case material	Steel	Steel
Power consumption	≦ 10VA	≦ 20VA
Fuse	3.0A	3.0A x 2 pcs
Iron stand	★ included	Option

★ Soldering station (controller + iron unit)

QSS-3000 applicable

MW50 controller

Modular jack

Applicable soldering iron units

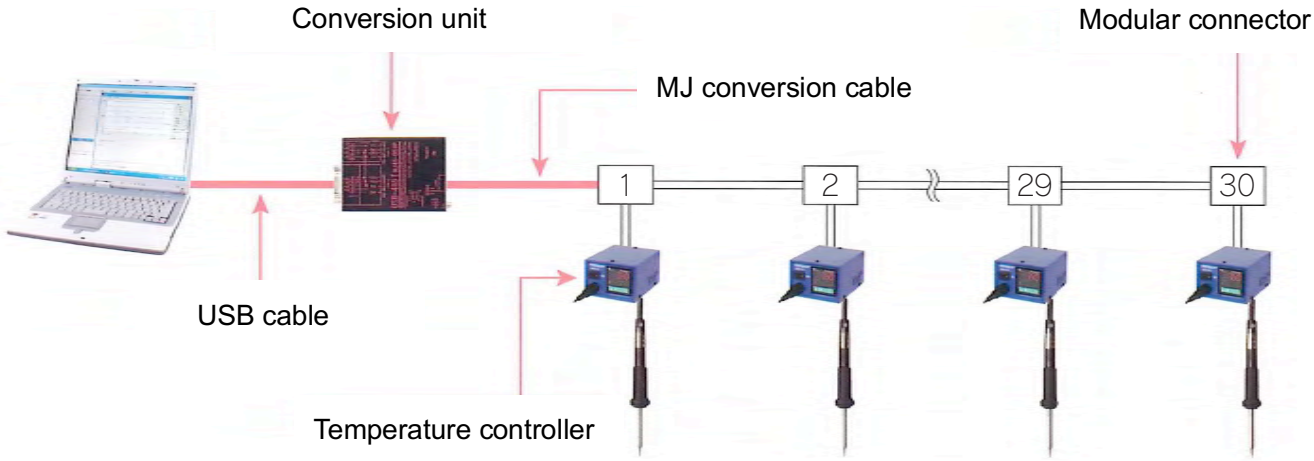
Model No.	100V	TB-118	TB-140JB	-	TB-150	-	TB-165	TB-170J	TB-1100	TB-1175
	220V	-	-	TB-240	-	TB-255J	-	-	TB-2100	TB-2175
Out put		18W	40W	40W	50W	55W	65W	70W	100W	175W
Iron tip series		BN5	BJ6	BN7	BN7	BJ8	BNP10	BJ8	BN12	BK7
				BN10	BN10					BK11
Iron Stand		BON-11							BON-8	BON-14

QSS-3000 Temperature Management System is designed to centralize and control up to 95 units of soldering irons on one PC, which enable to set each soldering iron's temperature, or warn of any errors.
This system can collect the soldering logging data, so that it can monitor the whole manual soldering operation.
Operators can monitor the temperature of the soldering irons through the office computers.

Advantages of QSS-3000 (Quality improvement and Cost reduction)

- ✧ Analysis of a correlation between iron tips and objects can provide suitable soldering conditions.
- ✧ Alarm function can find and prevent soldering defects in advance.
- ✧ Tracking the production process of defective items are available.
- ✧ The production process submitted to customers can help to gain (large amount) of trust.
- ✧ The tip temperature management by the centralized PC saves time.
- ✧ In accordance with ISO 9001 certification process.

System structure



Required accessories:

QSS-3000 software	1
Conversion unit with USB cable and MJ conversion cable	1
★ Modular distribution connector	(the number of connection) － 1
★ Communication cable	(the number of connection) x 2 － 1

※ Modular distribution connectors and communication cables are necessary for 2 or more units.

※ ★marked items can be prepared by customers own.

Specification of computer

CPU	Intel processor Pentium Ⅲ 800MHz and later
OS	Windows 7 / 8 / 10 /11
PC memory	Guaranteed performance by OS.
Communication port	USB serial port selected in COM1 ~ COM8
Applicable controller and iron unit	M50 / MW50 and TB series iron unit
Connectable controllers	Up to 95 units

QSS-3000 Temperature Management System

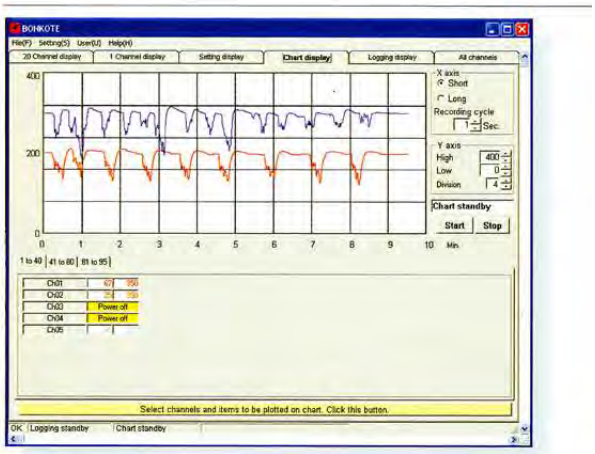
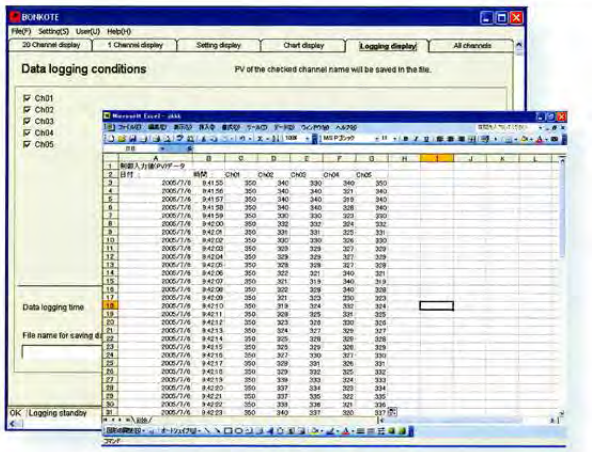


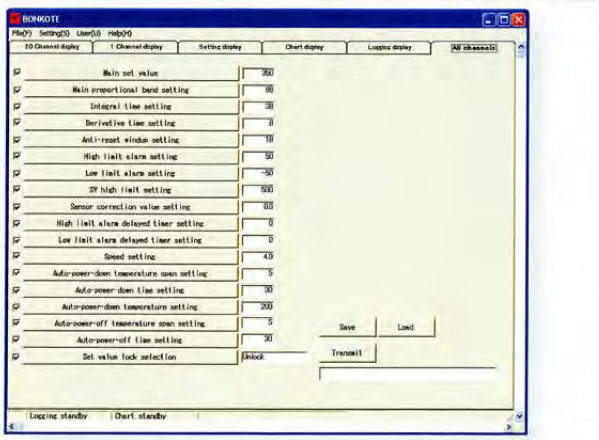
CHART DISPLAY

The temperature of connected soldering Irons can be monitored on this screen.



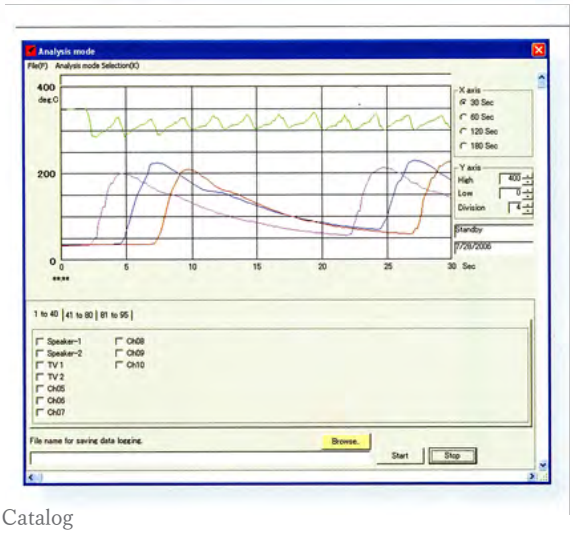
LOGGING DISPLAY

The temperature of the iron tips can be recorded on this screen.
The temperature during the whole soldering process is managed, and it can be utilized quality assurance.
The record is saved in the CSV file.



ALL CHANNEL DISPLAY

Every value you set on this screen is applicable to all the connected soldering irons.
It is very convenient to manage every soldering irons performance in the same production line.



ANALYSIS MODE

The data of actual tip temperature of the selected soldering irons (max. 5 iron units) is saved every 0.3 seconds and is shown on the screen.
It is possible to judge if the set temperature is suitable or not.
Besides, it is possible to judge the appropriate iron tip is used.

Resin Calking

■ Key point for Resin calking

The important point of resin calking is accuracy of surface temperature of the heating parts.
To maintain the quality of base materials, precise temperature control is required.

■ Sensing on the head of iron tip

A temperature sensor is equipped on the head of iron tip.
It helps feedback against the temperature deviation smoothly, so that we can perform resin calking under stable temperature.

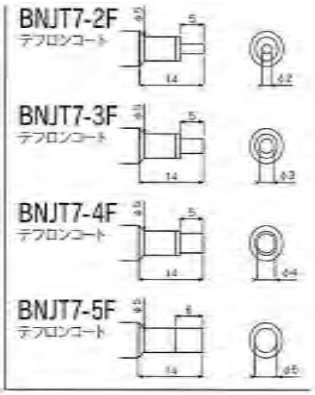
■ Teflon coating finish

To prevent stringing of resin, a Teflon work is applied on the surface of the iron tip (5~6 mm from the point of tip). It can support continuous soldering operation.

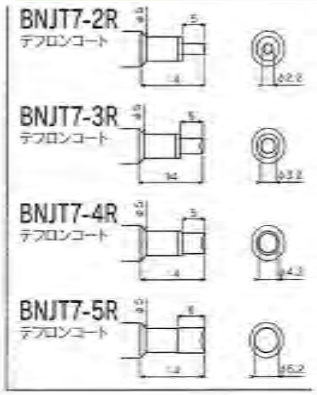
LA type soldering iron tip

Controller: M12 / M50
Soldering iron: TB-150 / TB-240
Iron tip: BNJT7 series

Flat shape



Dome shape

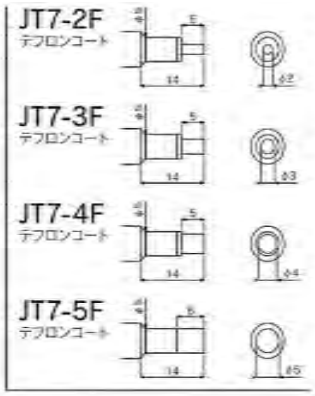


※ **Teflon coated pin parts are on sale**.

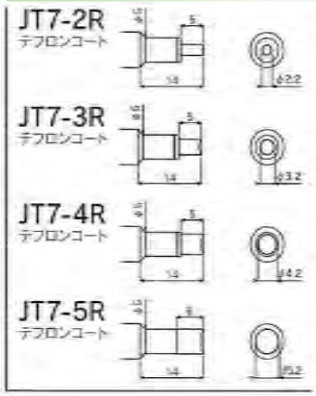
NLA type soldering iron tip

Soldering iron: DSS-140A / 240A
Iron tip: JT7 series

Flat shape



Dome shape



■ Support stand: SRM-20

For resin calking purpose
For removing modules (e.g. IC) purpose
For soldering purpose

Support stand	Dimension (W x D x H) mm	Weight
P/N: SRM-20	161 x 241 x 455 (without a vertical handle)	3.6 kg

DSS series soldering iron

Built-in thermoregulator & Digital display

■ Feature

Easy to set and compensate temperatures by push-buttons.
ON / OFF control is available while connecting power source.
Easy reading by digital display.
LED lamp shows iron tip temperatures.

※ 100V version is also available

DSS-240A

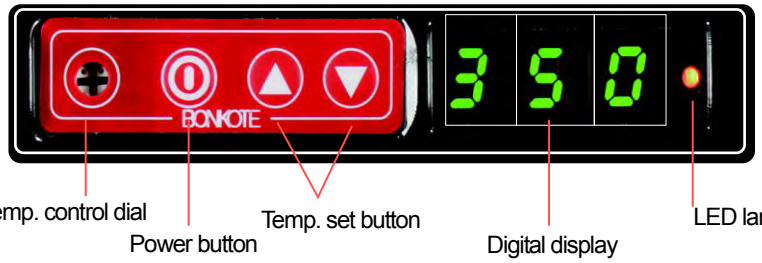
DSS-240B

DSS-2100

■ Specifications

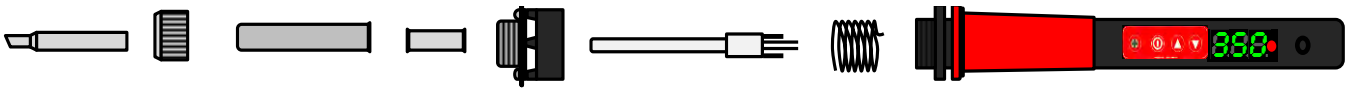
Model No.	DSS-240A	DSS-240B	DSS-2100
Voltage / Wattage	220V / 40W	220V / 40W	220V / 100W
Temperature range	50℃ ~ 500℃		
Applicable iron tip	SG7 series	SG10 series	SG12 series
Standard iron tip	SG7-2C	SG10-8BC	SG12-10BC
Length (with tip)	270 mm	274 mm	300 mm
Weight (with tip)	94 g	106 g	140 g
Plug cord	2 pin plug cord		
Cord length	1.5 m		
Insulation resistance	20MΩ ≦		
Leak voltage	≦ 2.0 mV		
Earth line resistance	≦ 2.0 Ω		
Iron stand	BON-11		

■ Control panel



LED lamp status:
* Flashing: Rise in temperature
* ON : Suitable temperature for work
* OFF : Drop in temperature e.g. over shooting

■ Structure



■ Replacement parts

Model No.	DSS-240A	DSS-240B	DSS-2100
Iron tip series	SG7	SG-10	SG12
Cover nut	CN-7	CN-10	CN-12
Heater cover	HCL-7	HC-10	HC-12
Heater collar	SUC-10		SUC-12
Radiator nut	NA-11D		NA-30D
Heater	CES-220-40E		CES-220-100E
Earth spring ※	ECS-5 ※ For ground spec, only		

★ Refer to page 24~25 for iron tip series.

SR series soldering iron

■ Feature

A simple model without thermoregulator. You can start using just by pulgging to power supply.

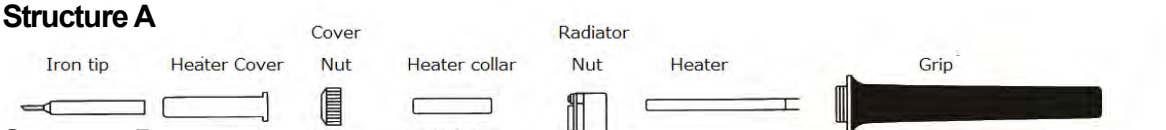
SRL-1072FP, 1082, 100A
SRL- 1172FP, 1182, 110A
SRL-2282, 220A

■ Specifications

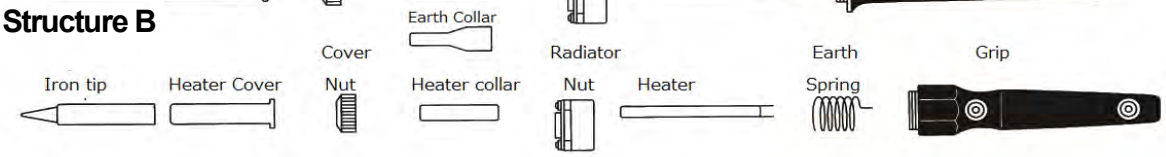
Structure	Model No. / Input voltage			Power consumption	Average temp.	Insulation resistance	Leak voltage	Earth line resistance	Total length	Weight
	100V	110V	220V							
A	SR-1032	SR-1132	SR-2232	18W	400℃	50MΩ ≦	≦ 2.0mV (default)	≦ 2.0Ω (default)	195mm	60 ~ 62 g
	SR-1052F	SR-1152F	SR-2252F	25W	400℃					62 ~ 65g
	SR-1062F	SR-1162F	-	30W	470℃				213mm	80 ~ 82 g
	SR-1072	-	SR-2272	40W	550℃					
B	SR-1072FP	SR-1172FP	-	65W	600℃				235mm	125 ~ 127 g
	SR-1082	SR-1182	SR-2282	60W	500℃				260mm	165 ~ 167 g
	SR-100A	SR-110A	SR-220A	100W	600℃					

■ Structure and Replacement parts

Structure A



Structure B



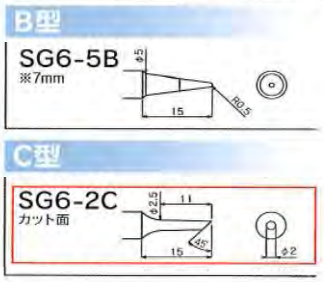
Model No.			Heater			Standard iron tip	Heater cover	Cover nut	Heater collar	Radiator nut	Earth collar Earth spring
100V	110V	220V	100V	110V	220V						
SR-1032	SR-1132	SR-2232	CE-100-18	CE-110-18	CE-220-18	SG6-2C	HC-6	CN-6	SUC-7	NA-11 NA-20	EC-10 Earth collar
SR-1052F	SR-1152F	SR-2252F	CE-100-25	CE-110-25	CE-220-25	SG7-2C	HC-7	CN-7			
SR-1062F	SR-1162F	-	CE-100-30	CE-110-30	-	SG10-8BC	HC-10	CN-10	SUC-10	NA-11 NA-30	
SR-1072	-	SR-2272	CE-100-40	-	CE-220-40						
SR-1072FP	SR-1172FP	-	CE-100-65	CE-110-65	-	SGP10-8BC	HC-10	CN-10	SUCP-10	NA-20	ECS-5 Earth spring
SR-1082	SR-1182	SR-2282	CE-100-60	CE-110-60	CE-220-60	SG12-10BC	HC-12	CN-12	SUC-12	NA-30	
SR-100A	SR-110A	SR-220A	CE-100-100	CE-110-100	CE-220-100						

※ Radiator nut for earth specification irons is NA-20 or NA30.

SG series iron tips

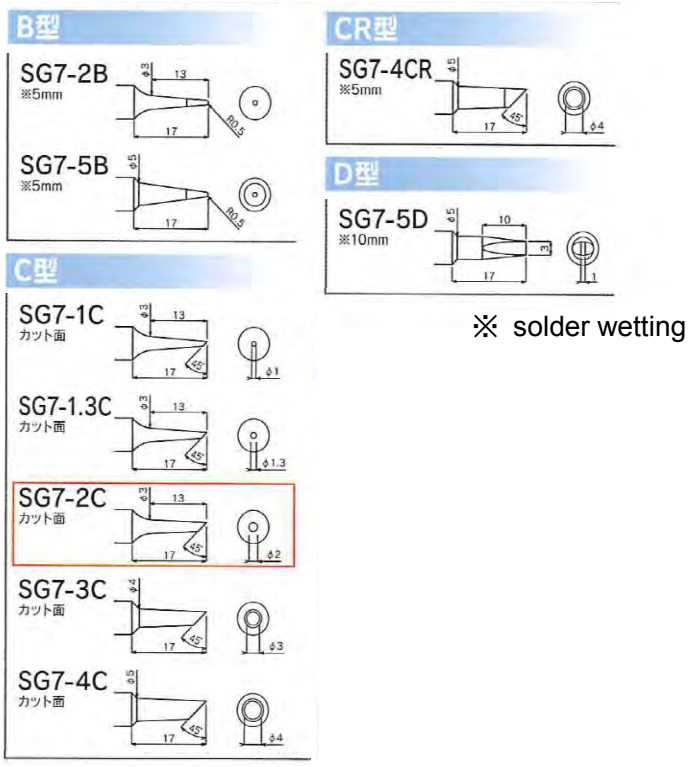
SG6 series for:

SR-1032/SR-1132/SR-2232



SG7 series for:

SR-1052F/SR-1152F/SR-2252F
DSS-140A/DSS-240A



※ solder wetting

Standard iron tip

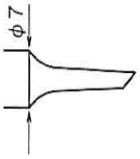
Description:

SG7-2C

SG・・・Type of the tip

7・・・・Diameter φ7 (in this example)

C ・・・Shape of the tip



PB FREE

SG10 series for:

SR-1062F/SR-1162F/SR-2262F
SR-1072/SR-2272
DSS-140B/DSS-240B

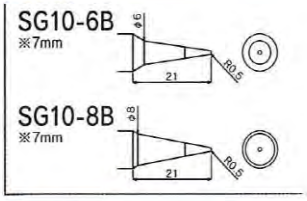
SGP10 series for:

SR(L)-1072FP/SR(L)-1172FP
DSS-165

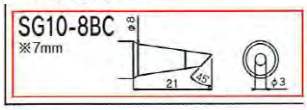
SG12 series for:

SR(L)-1082/SR(L)-1182
SR(L)-2282/SR(L)-100A
SR(L)-110A/SR(L)-220A
DSS-1100/DSS-2100

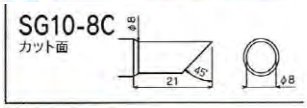
B型



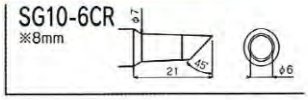
BC型



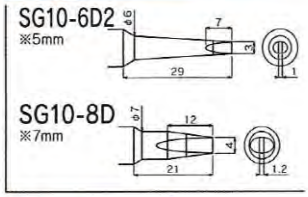
C型



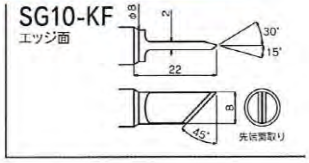
CR型



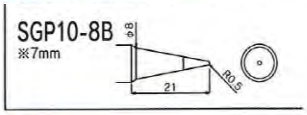
D型



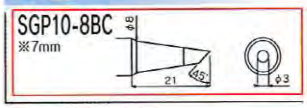
KF型



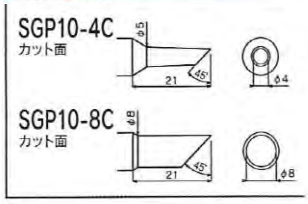
B型



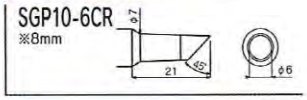
BC型



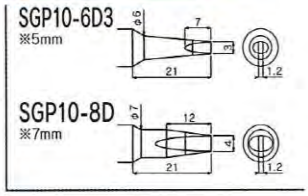
C型



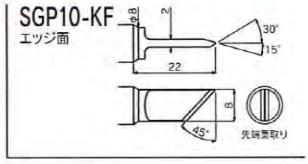
CR型



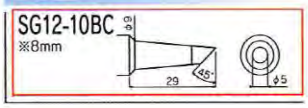
D型



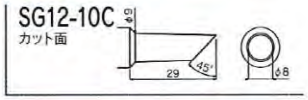
KF型



BC型



C型



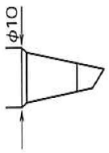
※ solder wetting

Standard iron tip

Description:

SGP10-8BC

SGP・・・Type of the tip
10・・・Diameter φ10 (in this example)
BC・・・Shape of the tip



Flux dispenser pen type container
BONPEN

BON-102 series

Best for your flux applying

Ultra fine brush type BON-102S

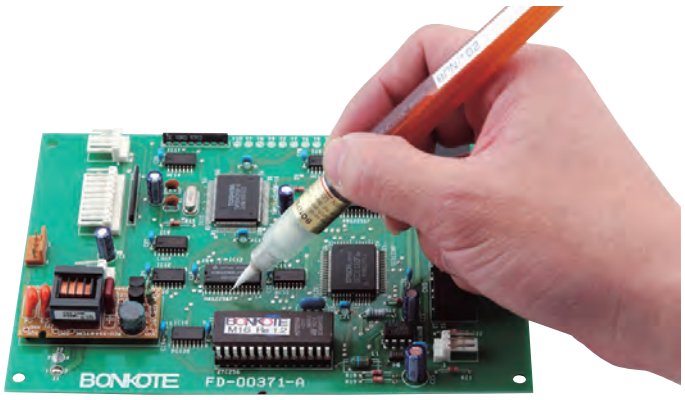
Specifications

Excellent for fine and accurate applicatoin of flux.
No flux evaporation.
Flux density can be kept constant.
Refillable, economical and hand pen-type container.

Purpose

Apply flux to base materials before soldering work.
Effective for alcohol cleaning, adhesive quickening materials.
Remove oxidation film and improve so lderability.

※This is flux dispenser pen type container which is **empty** when shipment.



Model	replacement Cartridge
CA-102	

BON-102 series

BRUSH TYPE

BON-102	Thin 
BON-102T	Thick 
BON-102D	Flat 
BON-102S	Ultra fine 

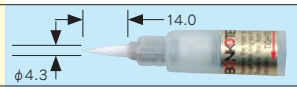
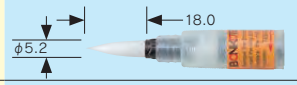
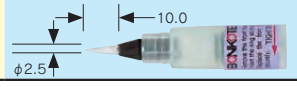
FELT TYPE

BON-102B	Thin 
BON-102F	Flat 
BON-102K	Knife 

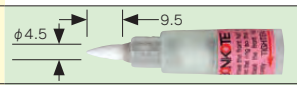
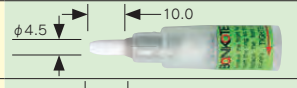
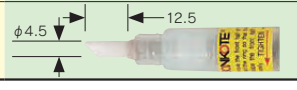
■5 pcs is packed.

REPLACEMENT PEN TIP BR-102 series

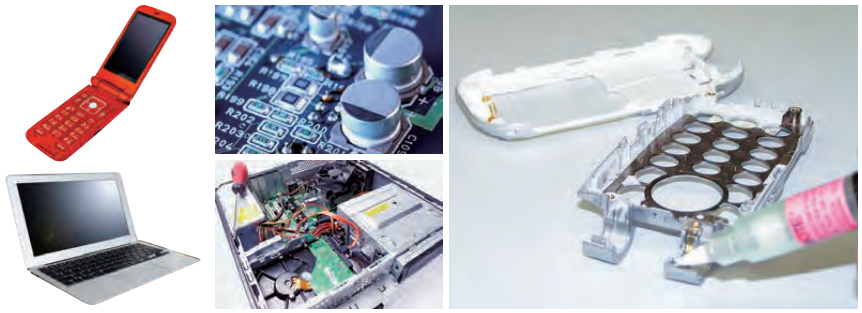
BRUSH TYPE

Model	Dimension	Features
BR-102		For fine and precise point application
BR-102T		For fine point to large space application
BR-102D		For large space application
BR-102S		Extra fine and precise point application

FELT TYPE

Model	Dimension	Features
BR-102B		For lubricator application
BR-102F		Forlarge space application
BR-102K		For point, line and large space application

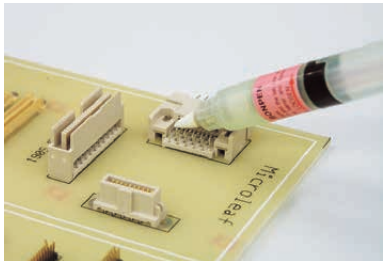
For applying fluoric lubricant



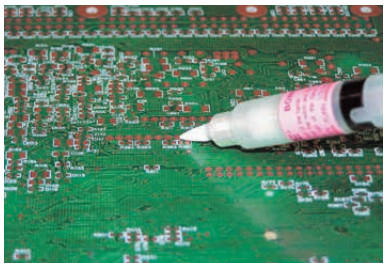
■Flat type series, BON-102B, 102F and 102K, are suitable for fine point application such as micro moter or orating axis.
■Flat type pen tip is harder and more durable than brush type pen tip. They are suitable for pin-point application.
■Various shapes of pen tip are available.

Example of BONPEN useage

Adhesive quickening material



Flux prevention material



Alcohol cleaning

TRLAL KIT
BON-102A

CONTENTS

● 7 kinds of BONPEN are packed
● When you use special flux or solution, try small portion first.

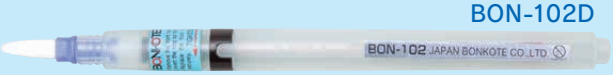
BON-102

BON-102B

BON-102T

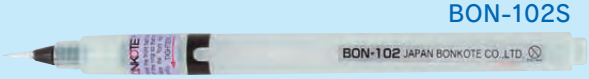
BON-102F

BON-102D



BON-102K

BON-102S



DMDS series Mini solder pot for solder dip

■ Feature

Small, Light and Portable solder pot
Good enough for a space-saving workplace
2 different size of mini pots are available
Small amount of solder is enough.

DMSD-2100-30

■ Control panel

Temp. UP
Power ON/OFF
Temp. DOWN
Temp. control

■ How to pre-tinning

Very convenient for various soldering works !

■ Specifications

※ 100V version is also available.

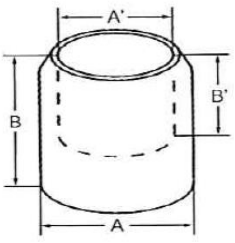
Model No.	Volt. / Watt.	Pot	Heater	Weight	Dimension (W x L x H) mm
DMSD-240-10	220V / 40W	SG10-DP10	CES-220-40E	465 g	80 x 285 x 60
DMSD-2100-30	220V / 100W	SG12-DP30	CES-220-100E	620 g	80 x 285 x 67

※ Weight and Length excludes solder and a power cord.

■ Mini solder pot

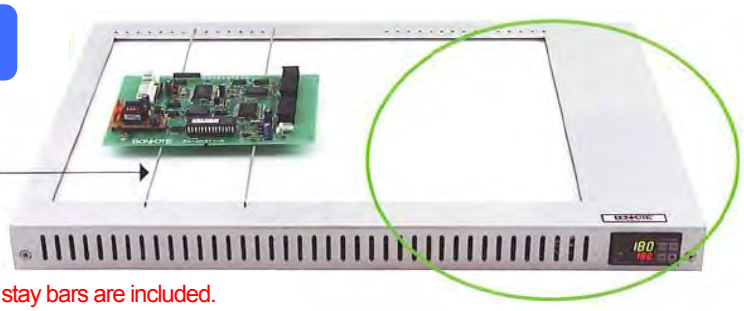
(mm)

Pot No.	Outer diameter		Inner diameter		Thickness
	A	B	A*	B*	
DP-10	15	24	10	10	2.5
DP-30	35	39	30	18	2.5



Far Infrared method Pre-heater

PHN-3040

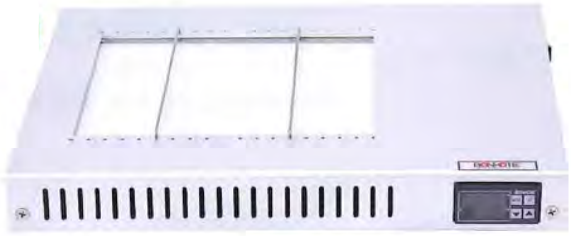


※ 2 pcs of stay bars are included.

※ Extra stay bars are also available to order.

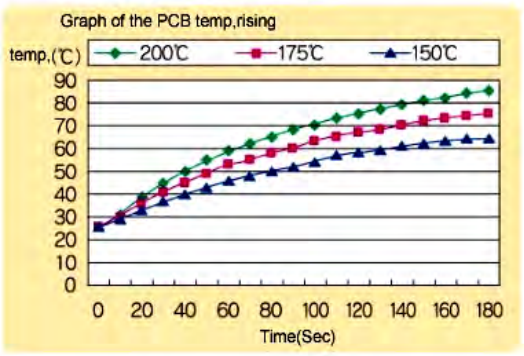
The optional stay bars help different size of materials heat up at the same time.

PHN-1520



Features

Far infrared heater can heat the whole of the objects uniformly.
It is very helpfule for lead-free soldering work.
The temperature rise characteristics of objects is adjustable.
By changing the positions of the stay bars, various size of objects can be heated.



As for the preheated board,the temp, drop of the iron tip is small,and the heat rise of the object is quick. Soldering of through holes is easy.

Preheating for

- PCB which mounts patterns with large heat loss.
- Through-hole mounting on a multilayer board.
- Objects that detest rapid temperature change
- Assistance of detaching parts while repairing.
- Flow / Reflow soldering.
- Drying pre-flux

Specifications

Model No.	PHN-1520	PHN-3040
Input voltage	100V	
Power cord	L=1.5 m 3pin plug cord	L=2.0m 3pin plug cord
Heating method	Far Infrared radiation method (Ceramic heater)	
Temp. range	Room temperature ~ 200℃	
Temp. control method	PID control	
Environment of usage	Temp.: 0~40℃ Humidity: 35~85%RH	
Dimension (W. D. H.)	325 x 214 x 40 mm	485 x 330 x 40 mm
Panel size (W.D.)	180 x 125 mm	380 x 270 mm
Weight	1.9 kg	4.8 kg
Power consumption	500W	1000W
Fuse	5A	10A

Heater Lid (optional accessory)

MATERIAL: STAINLESS (Lid part)
DIMENSION: 343 x 283 x 40 cm

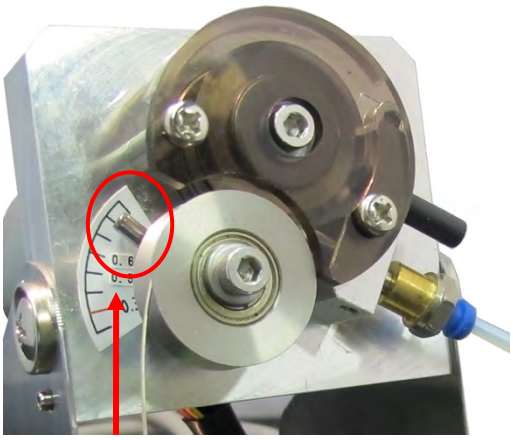
The lid makes temperature of objects can rise higher and faster.
In addition, power consumption and CO^2 emission can be reduced.
This is detachable.

V-cut Solder Machine Prevention of solder bell scattering

ESD SAFE PB FREE

BON-8103 / BON-8203 Extra fine solder wire

Applicable Solder Wire: ϕ 0.3~0.8 mm



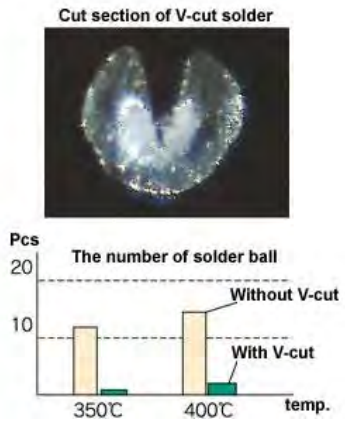
Set the lever to your desired position.

■ Features

By making V-groove just before soldering, it prevents deterioration of flux and solder ball scattering.
In addition, the oozing flux from the V-groove improves the solderability.
Using the V-cut machine and BONKOTE LA type soldering iron together at the same time, the prevention of solder ball scattering enable to obtaine its effect more.
Solder wires from 0.3 ~ 0.8 mm diameter are usable by adjusting the lever.

■ Specifications

Model No.	BON-8103	BON-8203
Input voltage	100V	220V
Cord plug	3 pin plug cord	BS1363
Applicable solder diameter	ϕ 0.3 ~ 0.8 mm	
Frequency Solder wire feeding	50 Hz / 37 mm / sec 60 Hz / 44 mm / sec	
Operation method	Foot switch	
Dimension (W. D. H.)	70 x 104 x 160 mm	
Weight	1390 g	



■ Introduction

Higher temperature is required in high density lead free soldering.
When apply solder to the iron tip, the flux inside solder will be vaporized and scattered.
Scattered solder balls cause short circuit.
V-groove on the solder wire can avoid these matters.
Please make V-groove just before use for optimum performance.

New Release

V-cut Solder Machine

Prevention of solder ball scattering.

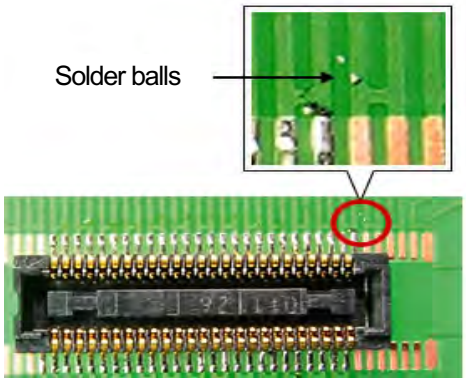
Applicable solder wire: ϕ 1.0~1.6 mm.
Easy to select the solder wire dimensions.
No replacement parts.

Adjuster lever:
Set the lever to your desired position.

BON-8116 / 8216 for
ϕ 1.0 ~ 1.6 mm solder wire

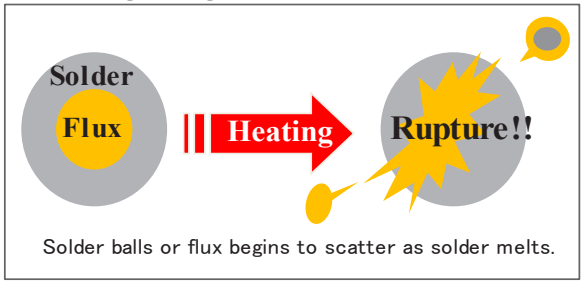
Higher temperature is required in the high density lead free soldering.
When apply solder to the iron tip, the flux inside solder wire will be vaporized and scattered.
Scattered solder balls cause short circuit.
V-groove on the solder wire can avoid these matters.

Cross section of solder wire with V-groove.

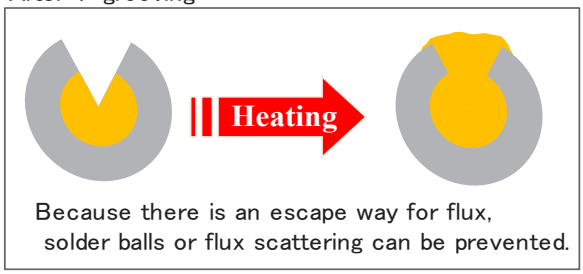


※ Cross section

Before V-grooving



After V-grooving



Model No.	BON-8116	BON-8216
Input voltage	100VAC	220VAC
Cord plug	3 pin plug cord	BS1363
Solder wire diameter	1.0 ~1.6 mm	
Frequency Solder wire feeding	50 Hz / 34 mm / sec. 60 Hz / 40 mm / sec.	
Operation method	Foot switch	
Dimension (W. D. H.)	180 x 100 x 115 mm	
Weight	2200 g	
Fuse	1.0 A	

※ Please contact us for solder wire with O.D. 2.0 mm.

Measurement Instrument

MCA-700II

■ Features

Iron tip temperature, Leak voltage and Earth line resistance can be meausred. No necessary to calculate, but read the digital indicating. The sensor and the LR pin are replaceable with ease. MCA-700Ⅱ allows you to perform the quality control which meets ISO-9000, QS-9000 and MIL STD.

■ Specifications

Input voltage	100V, 120V, 220V	
Dimension (W. D. H.)	180 x 140 x 70 mm	
Weight	1380g	
Temperature	Indication range	Accuracy
	0~600℃ / 32~999℉	±4℃ / ±6℉
Leak voltage	0~99.9 mV	±(3% rdg + 0.3 mV)
Earth line resistance	0~99.9Ω	±(4% rdg + 0.3 Ω)
Plug type	3 pin plug cord	

◆ Temperature measurement

◆ Leak voltage/Earth line resistance

■ Excerpt from MIL-STD-2000A

- Power supply of the soldering iron shall use 3-core cable.
- Leak voltage must not exceed 2mV(RMS).
- Earth line resistance must not exceed 5Ω

※ Temperature sensor, SC-006, and LR pin, LR-01, are consumable itmes.
We recommend early replacement of those parts when deteriorations appear.
(e.g. spread of solder, oxidation, strong dirt)

◆ The price includes " Initial calibration " " SAT-1 and MTU-1 ".
◆ Regular calibration is chargeable.
◆ When order, specify the voltage (e.g. MCA-700Ⅱ-220V)

MCA-900II

■ Features

Since the heat loss of the sensor is small, MCA-900Ⅱ can measure the iron tip temperature accurately.
This is a handy type, it can be used for many kinds of work. Three kinds of thermal sensors are available for various purpose.

How to measure:
Wipe the iron tip lightly with a cleaner.
Put some amount of solder on the tip.
White smoke will rise from the tip.
Touch the tip to the center of SC-006 when white smoke disappear.

■ Specifications

Resolution	0.1℃ (0~199.9℃) / 1℃ (All range of measurement)
Measurement range	0~1000℃
Detection edge	Type K
Accuracy	±(3% rdg + 2℃) (23℃±5℃ body only)
Display	3.5 digits LCD display
Power supply	DC9V (Dry cell 006P x 1 pc)
Battery life	Consecutive 250 hrs. (alkaline battery)
Environment of usage	0~40℃ / ≦80%RH
Dimension (W. D. H.)	80 x 48 x 156 mm (body only)
Weight	305 g

◆ The price does NOT include " Initial calibration".
◆ Regular calibration is chargeable.
◆ " Initial calibration " and all sensors are option.

Temperature sensor unit
SAT-1

Surface sensor
SC-008

Dipping sensor
SC-007

Fine Cleaner (solder residue remover)

ESD SAFE PB FREE

! ATTENTION !

How do you clean up your iron tip ?

Do you still use a sponge absorbing water ?

Iron tip is damaged with the thermal shock whenever you clean up with watered sponge because the temperature of the iron tip drops by 50 to 100℃ instangly.

Soldering quality is unstable if you use the iron tip with low temperature before temperature recovering.

B-500 **B-250**

! Features !

- **Making iron tips life longer:**
  Thermal shock to the iron tip is quite small, only 2 to 3℃ drop.
- **Continuous Operation:**
  You don't have to wait for the temperature recovery.
- **No scars or scratches to the iron tip:**
  Heatproof rubber does not hurt the surface of the iron tip.
- **Easy disposal:**
  Easy to collect and dispose the solder residue

Model No.	Diameter of hole	Outer Dimension	Weight	Material
B-500	Φ50	Φ87×30H	185g	Heatproof rubber
B-250	Φ25	Φ50×22H	65g	Heatproof rubber

Fine cleaner consists of a rubber part and a magnet.

You can attach a magnet at the bottom of the cleaner body in Order to be secured.

For small or nomal amount of solder residues, rub the tip on the edge of rubber to remove them.

For carbides or more heavy amount of residues, use the metal clip to remove them.

BONKOTE®

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ISO9001 ISO14001

■BONKOTE Shop

202409300500