



HAKKO 850

SMD REWORK STATION

INSTRUCTION MANUAL

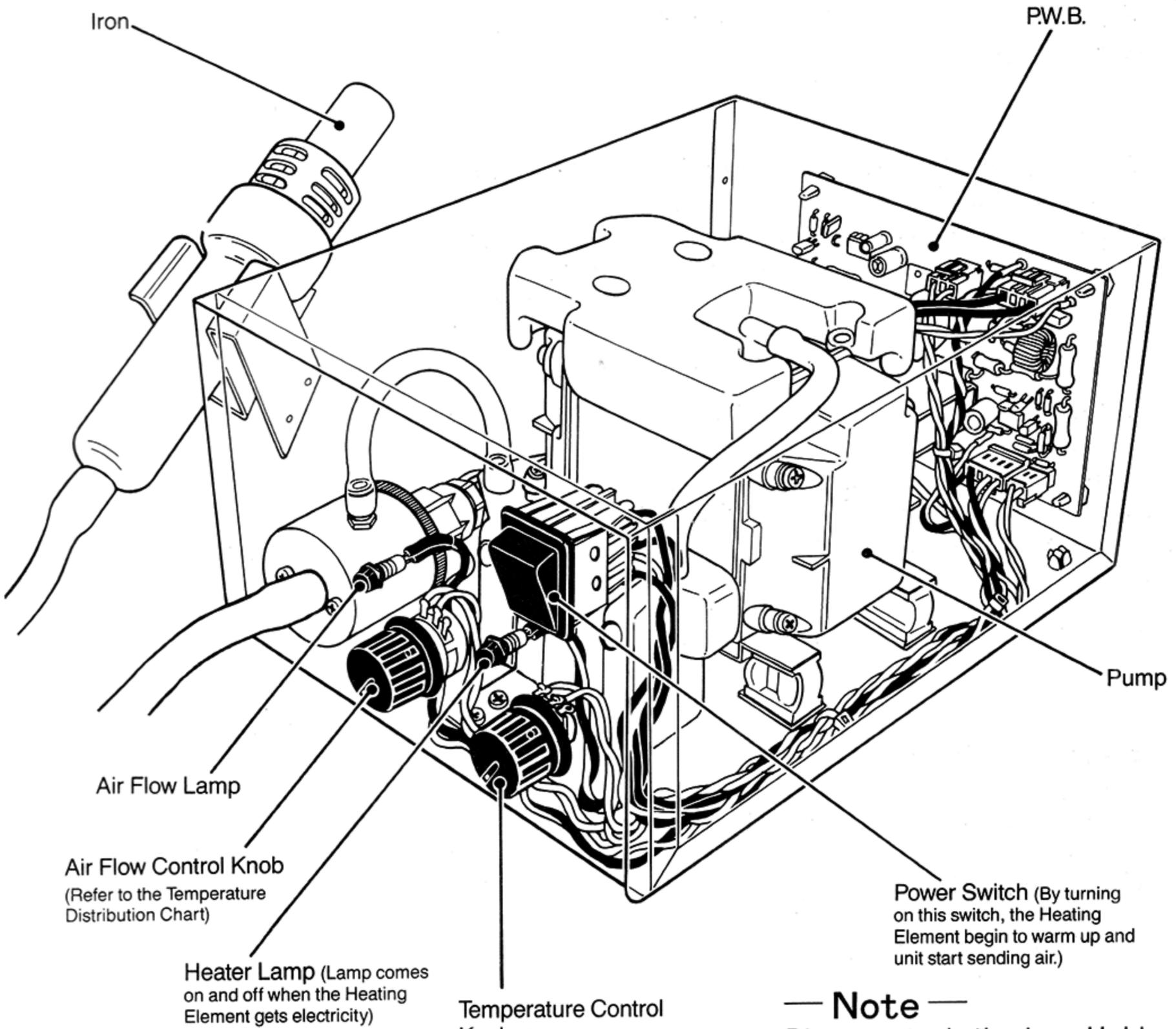
● Caution ●

Remove the pump securing screws
(M5X10 marked red) from the bottom
of the 850 station. Failure to do
so may result in serious problems.

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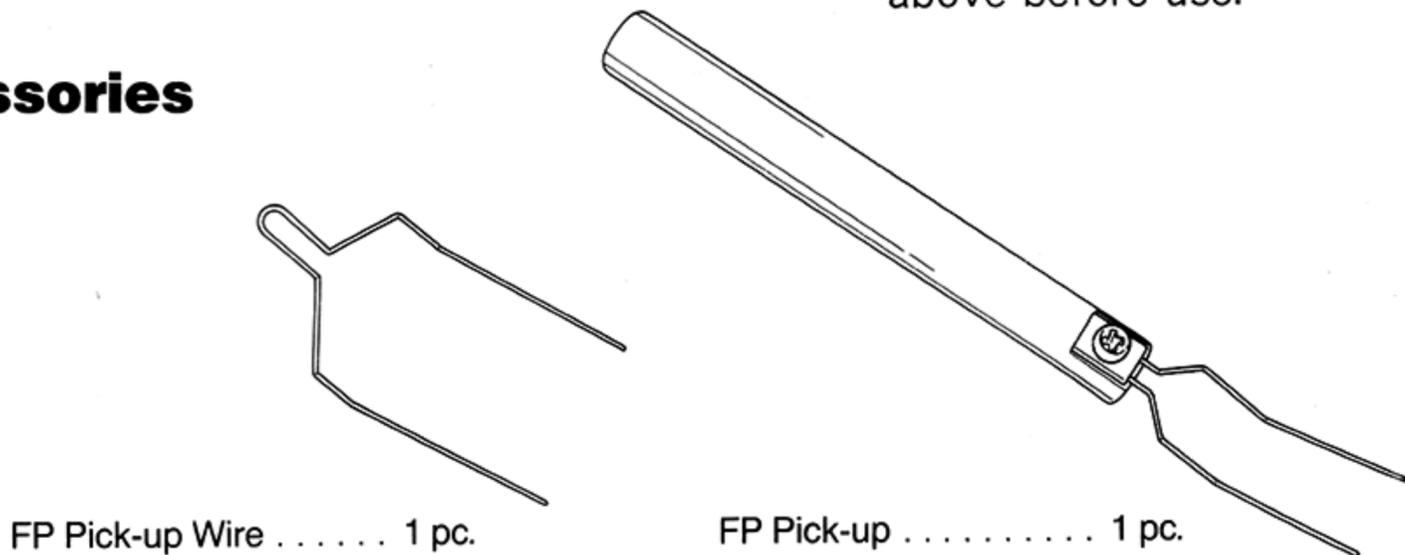
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Part Names



Note
 Please attach the Iron Holder with attached Screws as shown above before use.

Accessories



Before Operation

1. Remove the Pump Securing Screw.

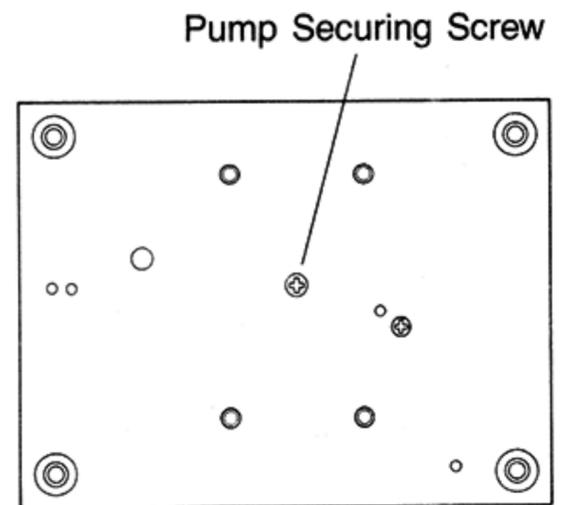
Remove the pump securing screw (M5 × 10, marked red) from the bottom of the 850 station. Failure to do so may result in serious problems.

2. Select the FP Pick-up Wire that matches the size of the IC.

The FP Pick-up has an S wire (14mm) attached to it, but an L wire (30mm) may be necessary, depending on the size of the IC. Choose the appropriate wire for the IC.

3. Select the Nozzle that matches the size of the IC.

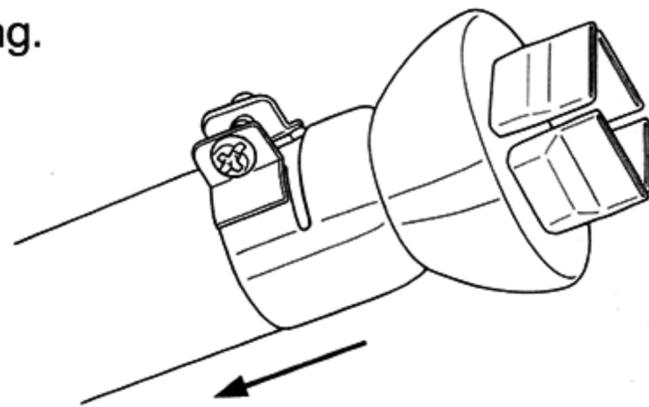
Attach the Nozzle when both the Pipe and the Nozzle are cool. Should either be warm, check to make sure that the Temperature Control Knob is set to 1.



Attaching the Nozzle.

1. Loosen the screw on the Nozzle.
2. Attach the Nozzle as shown in the drawing.

Do not force the Nozzle or pull on the edge of the Nozzle by pliers. Also, do not retighten the screw too tightly.



Precautions

1. Thermal Protector

For safety, power is automatically shut off should the unit exceed a certain temperature. Once the temperature has dropped to a safety level, power is automatically turned on.

Turn off the switch and cool the iron. After that, to continue operation, reduce the temperature setting or increase the air flow. Should the Thermal Protector be tripped and you do not wish to continue the operation or if you leave that place, be sure to turn the Power Switch off.

2. Caution—High Temperature Operation

Do not use the 850 unit near ignitable gases, paper, or other inflammable materials. Both the nozzle and the heated air are extremely hot and can cause painful burns. Never touch the heater pipe or allow the heated air to blow against your skin. Initially, the iron may emit white smoke, but this will soon disappear.

3. After use, be sure to cool the unit.

After turning off the power switch, the unit will automatically blow cool air through the pipe for a short period of time. Do not disconnect the plug during this cooling process.

4. Never drop or sharply jolt the unit.

The pipe contains quartz glass which can break if the unit is dropped or jolted sharply.

5. Do not disassemble the pump.

6. Disconnect the plug when you don't use the unit for a long time.

When the power cord is connected into the power supply, the unit has a little flow of electricity, even the Power Switch is in off position. So when you don't use the unit for a long time, disconnect the plug.

Operating Instructions

QFP Desoldering

1. Plug the power cord into the power supply.

After connection, the automatic blowing function will start sending air through the pipe, but the Heating Element remains cool.

2. Turn the Power switch on.

The Power Switch may be turned on at any time while the automatic blowing function is operating. Once the Power Switch is turned on, the Heating Element will begin to warm up.

3. Adjust the Air Flow and Temperature Control Knobs.

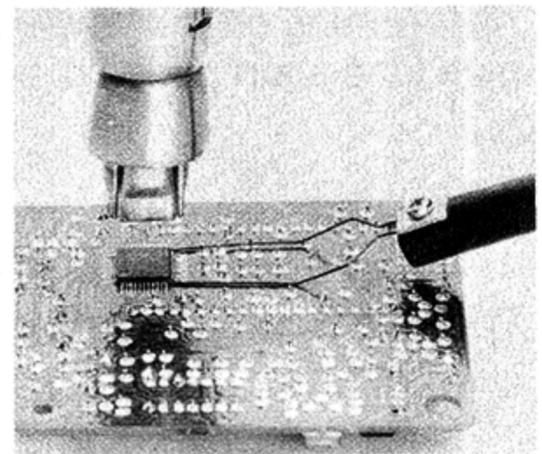
After adjusting the Air Flow and Temperature Control Knob, wait for the temperature to stabilize for a short period of time. Refer to the temperature distribution chart. For your reference, we recommend you to adjust the temperature around 300 to 350°C. As for Air Flow in case of single nozzle, set the knob 1~3, in another nozzle, set it from 4~6. When using a single nozzle, never set the Temperature Control Knob to higher than 6.

4. Place the FP Pick-up under the IC lead.

Slip the FP Pick-up Wire under the IC lead. If the width of the IC does not match the size of the FP Pick-up, adjust the width of the wire by supressing the wire.

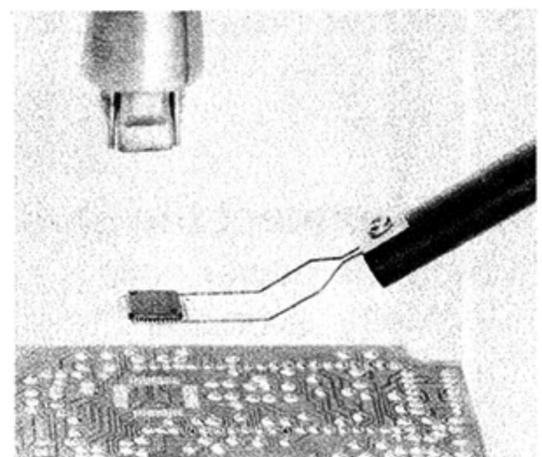
5. Melt the solder.

Hold the iron so that the Nozzle is located directly over, but not touching the IC, and allow the hot air to melt the solder. Be careful not to touch the leads of the IC with the Nozzle.



6. Remove the IC.

Once the solder has melted, remove the IC by lifting the FP Pick-up.



7. Turn the Power Switch off.

After the Power Switch is turned off, an automatic blowing function begins sending cool air through the pipe in order to cool both the heating element and the handle. So do not disconnect the plug during this cooling process. In case you don't use the unit for a long time, disconnect the plug.

8. Remove any remaining solder.

After removing the IC, remove remaining solder with a wick or desoldering tool.

Note: In case of SOP, PLCC, desolder it by using tweezers, etc.

QFP Soldering

1. Apply the solder paste.

Apply the proper quantity of solder paste and install the SMD on the PWB.

2. Preheat SMD.

Refer to the photo to preheat SMD. (Fig. I)

3. Soldering

Heat the lead frame evenly.
(Fig. II)

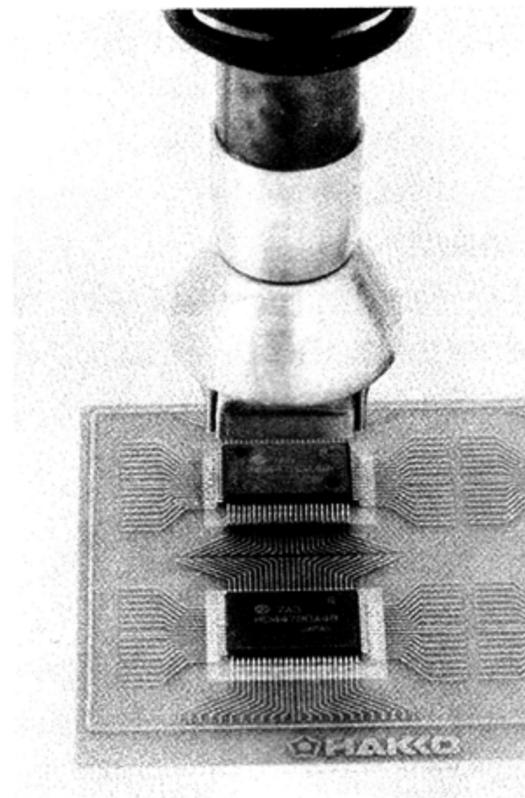


Fig. II

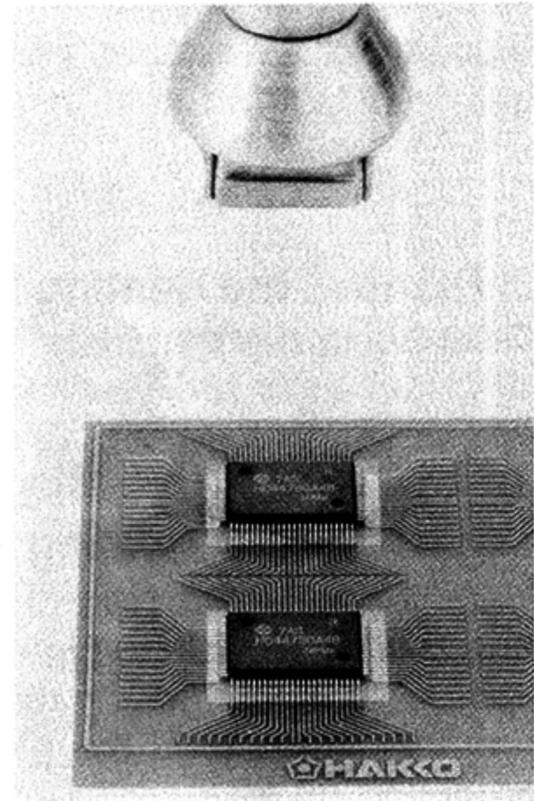


Fig. I

4. Washing

When soldering is completed, wash away the flux.

Note: While there is merits to solder by Hot air, it's also possible to cause the defects such as solder balls, solder bridges. We recommend you to examine the conditions of soldering sufficiently.

Replacing the Heating Element

1. Remove the screws, slide the tube.

Remove the 3 screws (Fig. I-1, 2, 3) which secure the Handle and slide the cord tube.

2. Open the Handle.

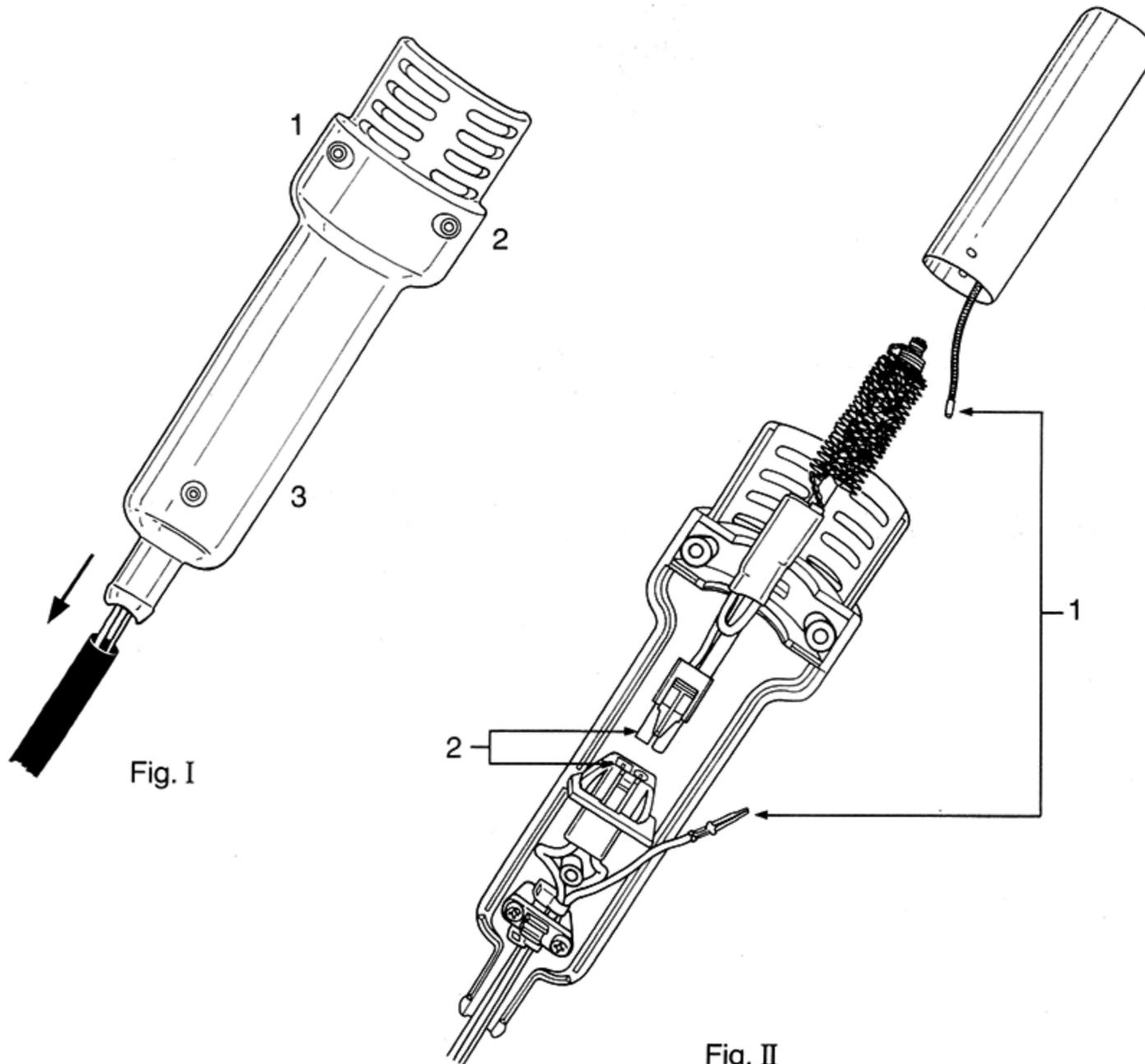
Disconnect the ground wire sleeve (Fig. II-1) and remove the pipe. In the pipe, the quartz glass and heat insulation is installed. Do not drop or miss it.

3. Remove the Heating Element.

Disconnect the terminal (Fig. II-2) and remove the Heating Element.

4. Insert a new Heating Element.

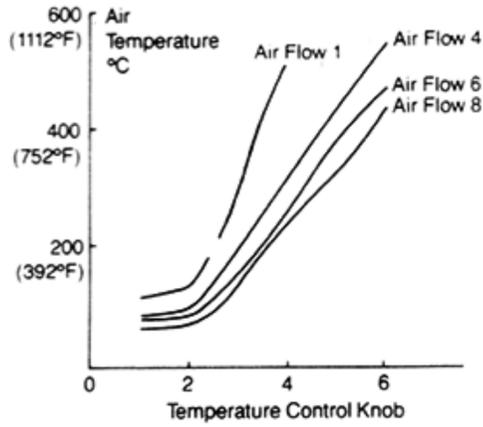
Handle it with care. Never rub the Heating Element wire. Insert a new Heating Element and reconnect the terminal. Reconnect the ground wire after replacing the element. Assemble the Handle in the reverse order of disassembly. Insert the Handle's projection into the hole in the pipe.



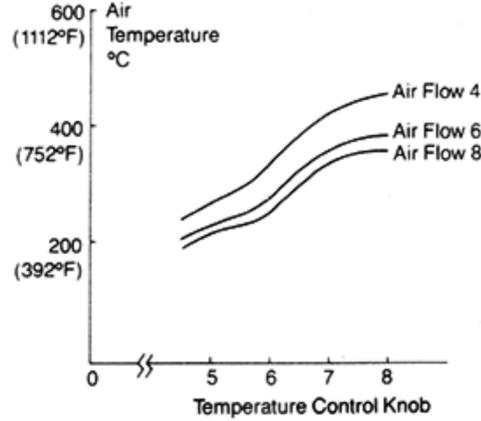
Temperature Distribution Chart

Test criteria: (A1124-A1129) Measured at the point 3mm from the Nozzle by recorder. Room Temperature 23°C (73.4°F)

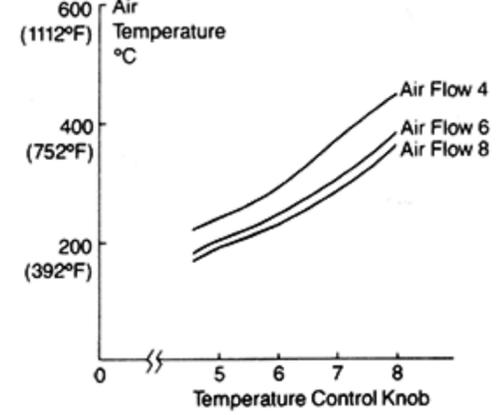
A1124 [Single ϕ 2.5 (0.09 in)]



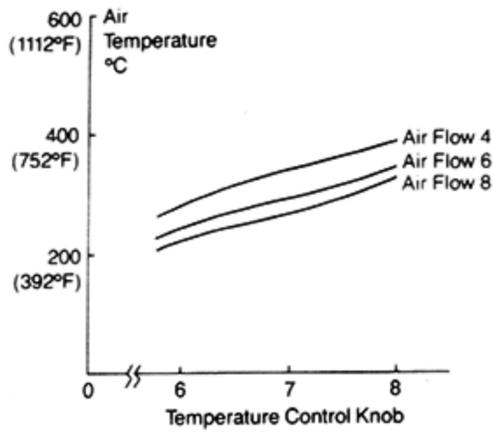
A1125 (QFP 10 × 10)



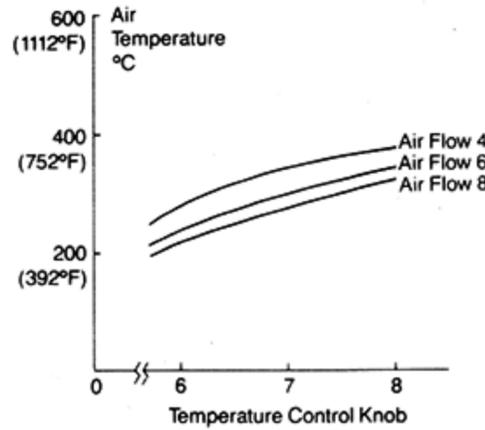
A1126 (QFP 14 × 14)



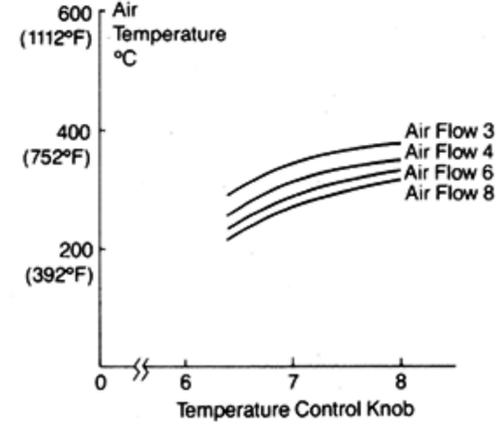
A1127 (QFP 17.5 × 17.5)



A1128 (QFP 14 × 20)

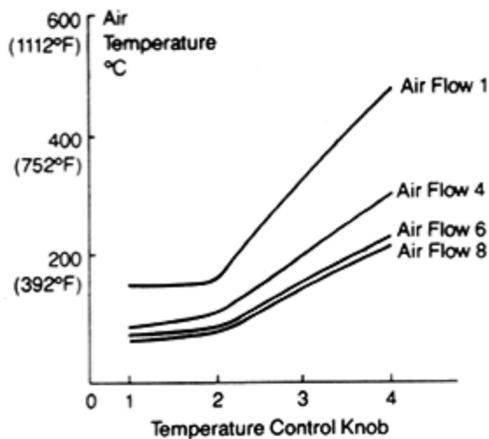


A1129 (QFP 28 × 28)

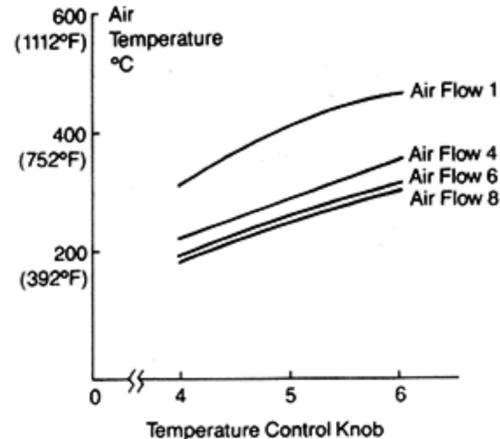


Test criteria: (A1130-A1142) Measured at the point 3mm from the Nozzle by recorder. Room Temperature 21°C (67°F)

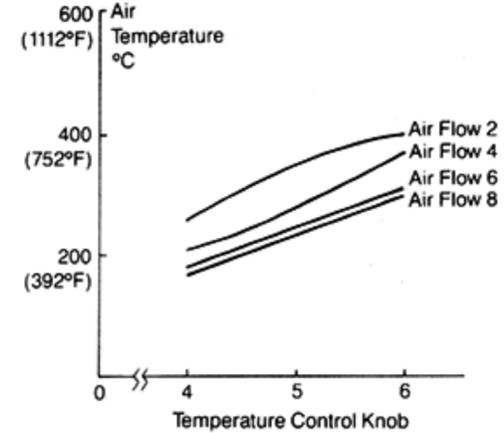
A1130 [Single ϕ 4.4 (0.17 in)]



A1131 (SOP 4.4 × 10)

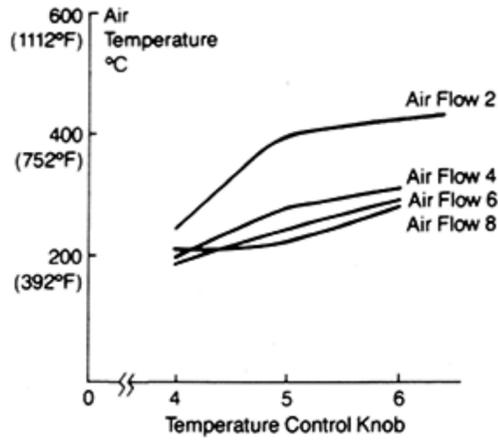


A1132 (SOP 5.6 × 13)

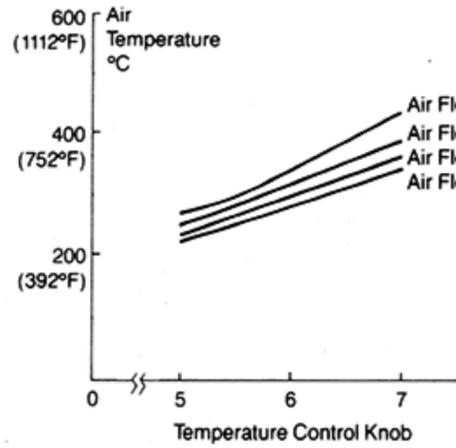


Test criteria: Measured at the point 3mm from the Nozzle by recorder. Room Temperature 21°C (67°F)

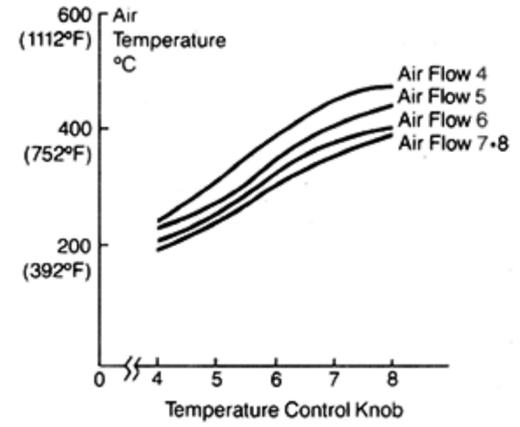
A1133 (SOP 7.5 × 15)



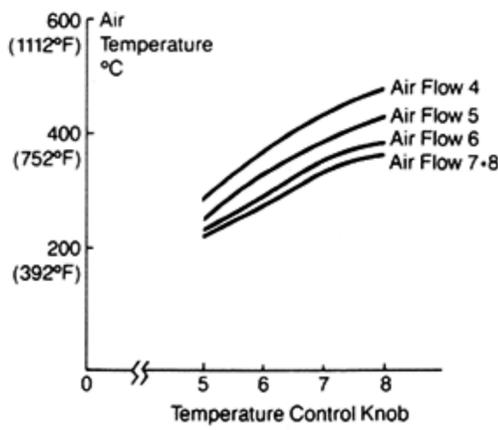
A1134 (SOP 7.5 × 18)



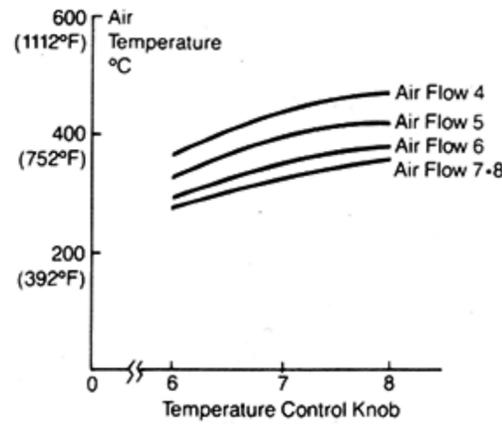
**A1135 (PLCC 17.5 × 17.5)
(44 Pins)**



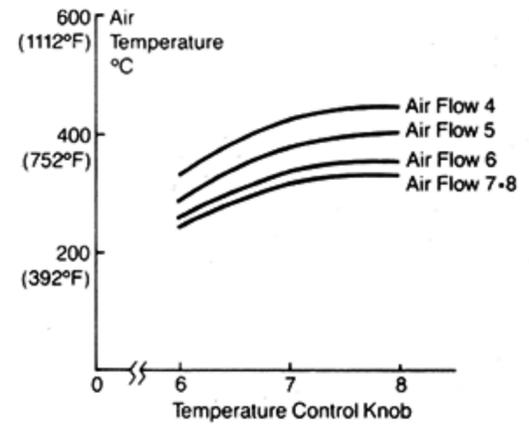
**A1136 (PLCC 20 × 20)
(52 Pins)**



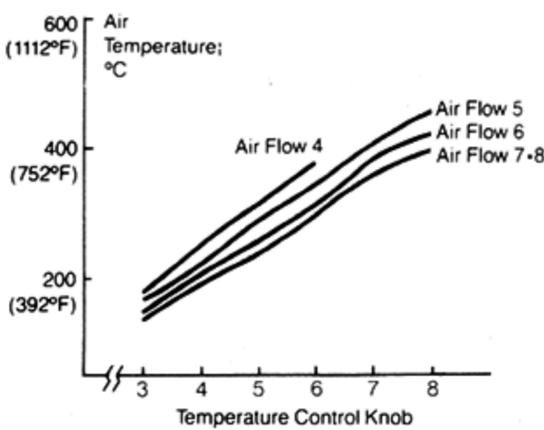
**A1137 (PLCC 25 × 25)
(68 Pins)**



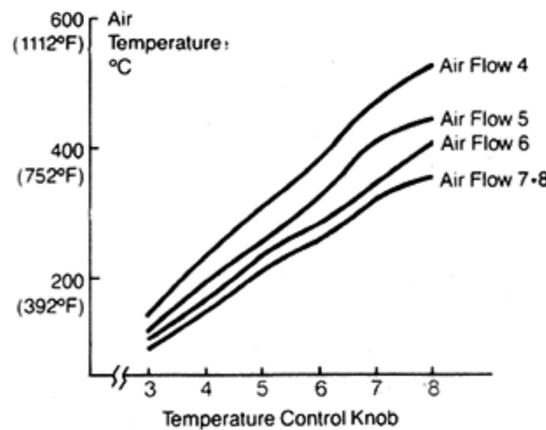
**A1138 (PLCC 30 × 30)
(84 Pins)**



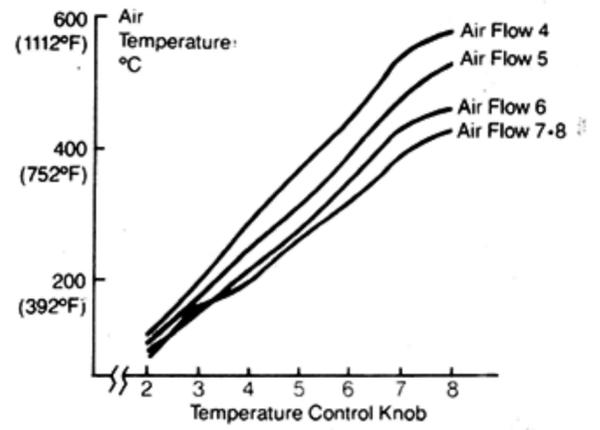
**A1139 (PLCC 7.3 × 12.5)
(18 Pins)**



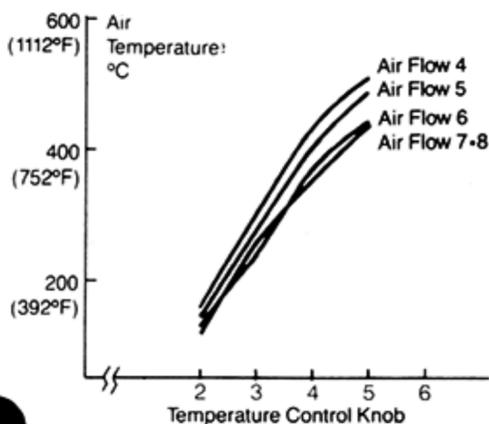
**A1140 (PLCC 11.5 × 11.5)
(28 Pins)**



**A1141 (PLCC 11.5 × 14)
(PLCC 32 Pins)**



A1142 (Bent Single 1.5 × 3)



Specifications

Name	HAKKO 850
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The specifications written here may be subject to change without notice.

•Station

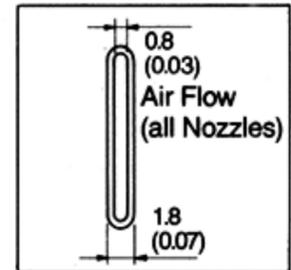
Power Consumption	20W (When the Power Switch is "OFF" 2W)
Pump	diaphragm pump
Capacity	23ℓ/min (max.)
Outer Dimensions	187(W) × 135(H) × 245(D)mm (7.36 × 5.31 × 9.64 in)
Weight	4kg (approx.) (8.81 lb)

•Iron

Power Consumption	100,110,220-240V/250W 120V/260W
Hot Air Temperature	100 ~ 420°C (212 ~ 788°F) (Use A1126)
Length	196mm (7.71 in)
Weight	120g (0.26 lb)

•Replacement Parts

No.	Name
A1143	100V/250W Heating Element
A1144	110V/250W Heating Element
A1145	120V/260W Heating Element
A1146	220V-240V/250W Heating Element
B1438	FP Pick-up (with (S) (L) Wire)
B1439	FP Pick-up Wire (S)
B1440	FP Pick-up Wire (L)



•Option Parts

mm (inch) *The size in Name/Specification indicates the size of IC package.

<p>QFP</p>	A1124 Single <p>φ2.5 (I.D) (0.09)</p>	A1125 QFP 10 × 10 (0.39 × 0.39) <p>10.2 (0.4)</p>	A1126 QFP 14 × 14 (0.55 × 0.55) <p>15.2 (0.6)</p>	A1127 QFP 17.5 × 17.5 (0.68 × 0.68) <p>19.2 (0.76)</p>	A1128 QFP 14 × 20 (0.55 × 0.78) <p>15.2 (0.6) 21.2 (0.83)</p>	A1129 QFP 28 × 28 (1.1 × 1.1) <p>28.2 (1.11)</p>		
	<p>SOP</p>	A1130 Single <p>φ4.4 (I.D) (0.17)</p>	A1131 SOP 4.4 × 10 (0.17 × 0.39) <p>4.8 (0.19)</p>	A1132 SOP 5.6 × 13 (0.22 × 0.51) <p>5.7 (0.22)</p>	A1133 SOP 7.5 × 15 (0.3 × 0.59) <p>7.2 (0.28)</p>	A1134 SOP 7.5 × 18 (0.3 × 0.7) <p>7.2 (0.28)</p>		
		<p>PLCC</p>	A1135 PLCC 17.5 × 17.5 (0.68 × 0.68) (44 Pins) <p>18.5 (0.73)</p>	A1136 PLCC 20 × 20 (0.78 × 0.78) (52 Pins) <p>21 (0.83)</p>	A1137 PLCC 25 × 25 (0.98 × 0.98) (68 Pins) <p>26 (1.02)</p>	A1138 PLCC 30 × 30 (1.18 × 1.18) (84 Pins) <p>31 (1.22)</p>		
			A1139 PLCC 7.3 × 12.5 (0.29 × 0.49) (18 Pins) <p>9 (0.35) 14 (0.55)</p>	A1140 PLCC 11.5 × 11.5 (0.45 × 0.45) (28 Pins) <p>13 (0.51)</p>	A1141 PLCC 11.5 × 14 (0.45 × 0.55) (32 Pins) <p>15 (0.59) 13 (0.51)</p>	A1142 Bent Single 1.5 × 3 (0.06 × 0.12) <p>45° 1.5 (0.06) (I.D) 3 (0.12) (I.D)</p>		

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