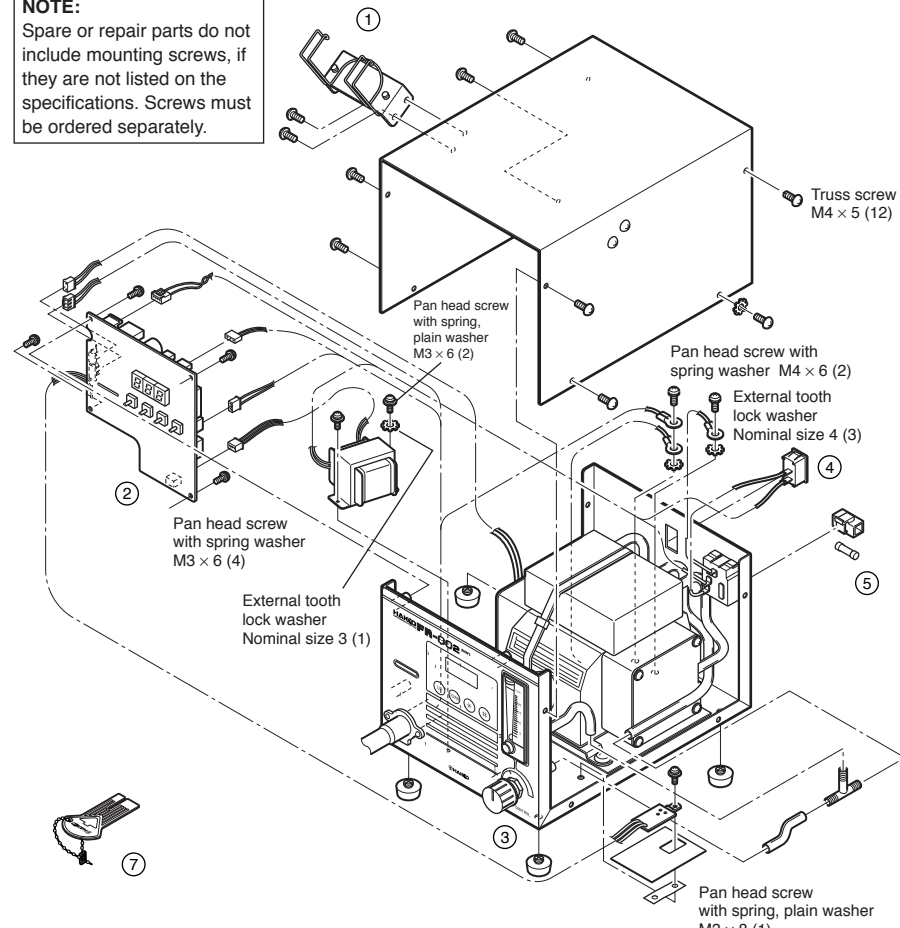


### 1. PARTS LIST / STATION

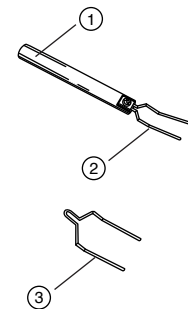
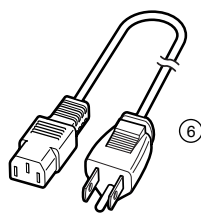
**NOTE:**  
 Spare or repair parts do not include mounting screws, if they are not listed on the specifications. Screws must be ordered separately.



Item No.	Part No.	Part Name	Specifications
①	B3006	Handpiece holder	
②	B3012	P.W.B./for temperature control	100~120V, with triac
	B3013	P.W.B./for temperature control	220~240V, with triac
③	B1028	Knob	With screw
④	B1084	Power switch	
⑤	B2468	Fuse/125V-5A	100~120V
	B1258	Fuse/250V-3.15A (S)	220~240V
⑥	B2419	Power cord, 3 wired cord & American plug	
	B2421	Power cord, 3 wired cord but no plug	India
	B2422	Power cord, 3 wired cord & BS plug	220V KTL,
	B2424	Power cord, 3 wired cord & European plug	230V CE
	B2425	Power cord, 3 wired cord & BS plug	230V CE U.K.
	B2426	Power cord, 3 wired cord & Australian plug	
	B2436	Power cord, 3 wired cord & Chinese plug	China
⑦	B2972	Control card	

#### ● Optional Parts

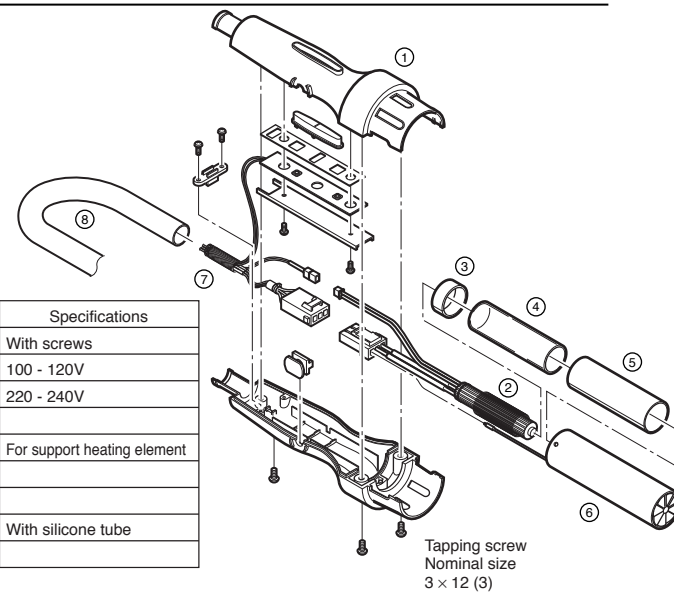
Item No.	Part No.	Part Name	Specifications
①	B1438	FP pick-up	With 1pc. of pick-up wire (S) & (L)
②	B1439	FP pick-up wire (S)	
③	B1440	FP pick-up wire (L)	



### 1. PARTS LIST / HANDPIECE

**NOTE:**  
 Spare or repair parts do not include mounting screws, if they are not listed on the specifications. Screws must be ordered separately.

Item No.	Part No.	Part Name	Specifications
①	B3010	Handle	With screws
②	A1523	Heating element	100 - 120V
	A1524	Heating element	220 - 240V
③	B3009	Mica pipe B	
④	B2995	Quartz glass pipe	For support heating element
⑤	B3008	Mica pipe A	
⑥	B3095	Pipe	
⑦	B3014	Cord assembly	With silicone tube
⑧	B1188	Silicone hose	



### 2. MAINTENANCE / INSPECTION

#### Broken Heater or Sensor

**CAUTION**  
 Replacing the heating element is very dangerous. Be sure to turn the power switch OFF and be careful of the following procedure when replacing the heating element.

#### A Open the handpiece.

1. Move the tube downward. (Figure 1)
2. Remove the three screws holding the handpiece together.
3. Remove the pipe from the protruding portion of the handle.

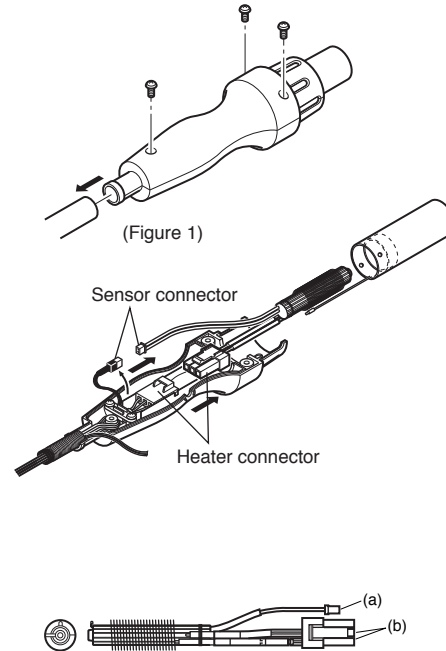
**CAUTION**  
 Quartz glass and heat insulation are inside the pipe. Be careful not to drop or lose these items.

4. Disconnect the heater sensor connector and remove the heater.

#### B Measure the resistance value.

1. Measure the resistance value (a) of the sensor. The correct value is 0Ω.
2. Measure the resistance value (b) of the heater. The correct values are approximately 33Ω (±10%) (100-120V), 85Ω (±10%) (220-240V) at room temperature. If the resistance value is incorrect, replace the part. (Refer to the instructions included with the replacement part.)

**CAUTION**  
 Handle the heating element with care. **Never rub** the heating element wire!  
 Insert the handle's projection into the hole in the pipe.



### 3. TROUBLE SHOOTING GUIDE

#### ⚠ WARNING

• Before checking the inside of the HAKKO FR-802 or replacing parts, be sure to disconnect the power plug. Failure to do so may result in electric shock.

- The unit does not operate when the power switch is turned on.
- [S-E] flashes, indicating a sensor error.
- [H-E] flashes, indicating a heater error.

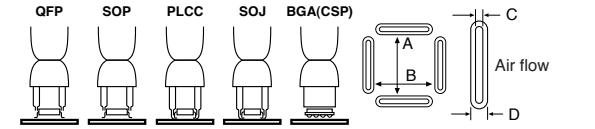
**CHECK** : Is the fuse blown?  
**ACTION** : Investigate why the fuse blew and then replace the fuse. If the fuse blows again, send the unit in for repair.

**CHECK** : Is the sensor broken?  
**ACTION** : Measure the resistance value of the sensor. The correct value is 0Ω. If the resistance value is incorrect, replace the part.

**CHECK** : Is the heater broken?  
**ACTION** : Measure the resistance value of the heater. The correct value are approximately 33Ω (±10%) (100~120V), 85Ω (±10%) (220~240V) at room temperature. If the resistance value is incorrect, replace the part.

### 4. OPTIONAL NOZZLES

**CAUTION**  
 The size in Name/Specification indicates the size of IC package.



Unit: mm

Part No.	Part Name	Specifications	Part No.	Part Name	Specifications
A1124B	Single ø2.5	(0.09)	A1125B	QFP 10 x 10	(0.39 x 0.39)
A1126B	QFP 14 x 14	(0.55 x 0.55)	A1130	Single ø4.4	(0.17)
A1127B	QFP 17.5 x 17.5	(0.68 x 0.68)	A1131	SOP 4.4 x 10	(0.17 x 0.39)
A1128B	QFP 14 x 20	(0.55 x 0.78)	A1132	SOP 5.6 x 13	(0.22 x 0.51)
A1129B	QFP 28 x 28	(1.1 x 1.1)	A1133	SOP 7.5 x 15	(0.3 x 0.59)
A1130	Single ø4.4	(0.17)	A1134	SOP 7.5 x 18	(0.3 x 0.7)
A1131	SOP 4.4 x 10	(0.17 x 0.39)	A1135B	PLCC 17.5 x 17.5	(0.68 x 0.68)
A1132	SOP 5.6 x 13	(0.22 x 0.51)	A1136B	PLCC 20 x 20	(0.78 x 0.78)
A1133	SOP 7.5 x 15	(0.3 x 0.59)	A1137B	PLCC 25 x 25	(0.98 x 0.98)
A1134	SOP 7.5 x 18	(0.3 x 0.7)	A1138B	PLCC 30 x 30	(1.18 x 1.18)
A1135B	PLCC 17.5 x 17.5	(0.68 x 0.68)	A1139B	PLCC 12.5 x 7.3	(0.49 x 0.29)
A1136B	PLCC 20 x 20	(0.78 x 0.78)	A1140B	PLCC 11.5 x 11.5	(0.45 x 0.45)
A1137B	PLCC 25 x 25	(0.98 x 0.98)	A1141B	PLCC 11.5 x 14	(0.45 x 0.55)
A1138B	PLCC 30 x 30	(1.18 x 1.18)	A1142B	Bent Single	1.5 x 3 (0.06 x 0.12)
A1139B	PLCC 12.5 x 7.3	(0.49 x 0.29)	A1180B	BQFP 17 x 17	(0.67 x 0.67)
A1140B	PLCC 11.5 x 11.5	(0.45 x 0.45)	A1181B	BQFP 19 x 19	(0.75 x 0.75)
A1141B	PLCC 11.5 x 14	(0.45 x 0.55)	A1182B	BQFP 24 x 24	(0.94 x 0.94)
A1142B	Bent Single	1.5 x 3 (0.06 x 0.12)	A1183	SOJ 15 x 8	(0.59 x 0.31)
A1180B	BQFP 17 x 17	(0.67 x 0.67)	A1184B	SOJ 18 x 8	(0.71 x 0.31)
A1181B	BQFP 19 x 19	(0.75 x 0.75)	A1185B	TSOL 13 x 10	(0.51 x 0.39)
A1182B	BQFP 24 x 24	(0.94 x 0.94)	A1186B	TSOL 18 x 10	(0.71 x 0.39)
A1183	SOJ 15 x 8	(0.59 x 0.31)	A1187B	TSOL 18.5 x 8	(0.73 x 0.31)
A1184B	SOJ 18 x 8	(0.71 x 0.31)	A1188B	PLCC 9 x 9	(0.35 x 0.35)
A1185B	TSOL 13 x 10	(0.51 x 0.39)	A1189B	PLCC 34 x 34	(1.34 x 1.34)
A1186B	TSOL 18 x 10	(0.71 x 0.39)	A1190	Dual Single	2.5 x 9.5 (100 Pins)
A1187B	TSOL 18.5 x 8	(0.73 x 0.31)	A1191	SIP 25L	(0.98)
A1188B	PLCC 9 x 9	(0.35 x 0.35)	A1192	SIP 50L	(1.97)
A1189B	PLCC 34 x 34	(1.34 x 1.34)	A1203B	QFP 35 x 35	(1.38 x 1.38)
A1190	Dual Single	2.5 x 9.5 (100 Pins)	A1214B	SOJ 10 x 26	(0.39 x 1.02)
A1191	SIP 25L	(0.98)	A1215B	QFP 42.5 x 42.5	(1.67 x 1.67)
A1192	SIP 50L	(1.97)	A1257B	SOP 11 x 21	(0.43 x 0.83)
A1203B	QFP 35 x 35	(1.38 x 1.38)	A1258B	SOP 7.6 x 12.7	(0.3 x 0.5)
A1214B	SOJ 10 x 26	(0.39 x 1.02)	A1259B	SOP 13 x 28	(0.51 x 1.1)
A1215B	QFP 42.5 x 42.5	(1.67 x 1.67)	A1260B	SOP 8.6 x 18	(0.34 x 0.71)
A1257B	SOP 11 x 21	(0.43 x 0.83)	A1261B	QFP 20 x 20	(0.78 x 0.78)
A1258B	SOP 7.6 x 12.7	(0.3 x 0.5)	A1262B	QFP 12 x 12	(0.47 x 0.47)
A1259B	SOP 13 x 28	(0.51 x 1.1)	A1263B	QFP 28 x 40	(1.1 x 1.57)
A1260B	SOP 8.6 x 18	(0.34 x 0.71)	A1264B	QFP 40 x 40	(1.57 x 1.57)
A1261B	QFP 20 x 20	(0.78 x 0.78)	A1265B	QFP 32 x 32	(1.26 x 1.26)
A1262B	QFP 12 x 12	(0.47 x 0.47)	A1325	Dual Single ø1.5 x 5-10	(0.06 x 0.2-0.39) Adjustable Pitch
A1263B	QFP 28 x 40	(1.1 x 1.57)	A1470	BGA 8 x 8	
A1264B	QFP 40 x 40	(1.57 x 1.57)	A1471	BGA 12 x 12	
A1265B	QFP 32 x 32	(1.26 x 1.26)	A1472	BGA 13 x 13	
A1325	Dual Single ø1.5 x 5-10	(0.06 x 0.2-0.39) Adjustable Pitch	A1473	BGA 15 x 15	
A1470	BGA 8 x 8		A1474	BGA 18 x 18	
A1471	BGA 12 x 12		A1475	BGA 27 x 27	
A1472	BGA 13 x 13		A1476	BGA 35 x 35	
A1473	BGA 15 x 15		A1477	BGA 38 x 38	
A1474	BGA 18 x 18		A1478	BGA 40 x 40	
A1475	BGA 27 x 27				
A1476	BGA 35 x 35				
A1477	BGA 38 x 38				
A1478	BGA 40 x 40				