

## FM-203 ESD SAFE

### 2-Port High Performance Rework Station Digital

Tip not included



- 2 handpieces can be connected at the same time.

## FM-206 ESD SAFE

### 3-Port High Performance Rework Station Digital

Tip not included

Nozzle not included



- 3-port rework station that enables soldering, desoldering, and SMD rework all with a single unit
- Graphic LCD enables easy viewing and operation.

### Handpiece Combination Examples

FM-203



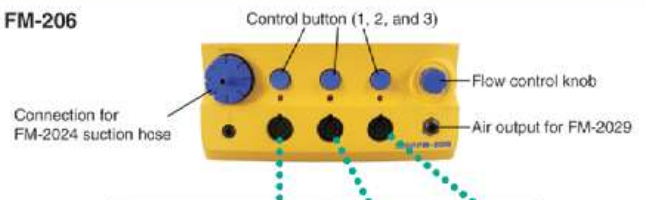
Handpiece	Channel D connector	Channel S connector
FM-2027	○	○
FM-2022 <sup>*1</sup>	○	×
FM-2023 <sup>*1</sup>	○	×
FM-2024 <sup>*2</sup>	○	○
FM-2026 <sup>*3</sup>	○	○
FM-2030 <sup>*1</sup>	○	×
FM-2031 <sup>*1, *3</sup>	○	×
FM-2032	○	○

\*1 When FM-2022, FM-2023, FM-2030 or FM-2031 is connected to the channel D connector, both channel connectors can't be used at the same time.

\*2 When two FM-2024s are connected to the channel connectors, each FM-2024 must be connected to the desolder control box.

\*3 For FM-2031 and FM-2026, each handpiece needs an N<sub>2</sub> generator (FX-780), flowmeter (FX-791), compressor, regulator, etc. For further details, see N<sub>2</sub> system (P.46 & P.47).

FM-206



Handpiece	Receptacle 1	Receptacle 2	Receptacle 3
FM-2027	○	○	○
FM-2024	○ <sup>*1</sup>	○	○ <sup>*1</sup>
FM-2029	×	×	○
FM-2022	×	○	×
FM-2023	×	○	×
FM-2026	○	○	○
FM-2030	×	○	○
FM-2031	×	○ <sup>*2</sup>	○ <sup>*2</sup>
FM-2032	○	○	○

\*1 FM-2024 can be connected to receptacle 2 and 3. However, only one FM-2024 can be used with the station.

\*2 For FM-2031 and FM-2026, each handpiece needs an N<sub>2</sub> generator (FX-780), flowmeter (FX-791), compressor, regulator, etc. For further details, see N<sub>2</sub> system (P.46 & P.47).

**NOTE:** FM-2024 and FM-2029 can't be used at the same time.

## Accessories

FM-2027 

## Soldering Iron

Tip not included

FM-2026 N<sub>2</sub> Soldering Iron

Tip not included

FM-2029 

## Hot-Air Pencil

Nozzle not included

FM-2030 

## Heavy Duty Soldering Iron

Tip not included

FM-2031 N<sub>2</sub> Heavy Duty Soldering Iron

Tip not included

FM-2032 

## Micro Soldering Iron

Tip not included

N<sub>2</sub> Soldering is available with optional parts (P.47 & P.51).FM-2022 

## SMD Hot Tweezers

Tip not included

FM-2023 

## Mini SMD Hot Tweezers

Tip included

FM-2024 

## Desoldering Tool

Nozzle not included



# High Performance Rework Station and Accessories

## Specifications

Model No.	FM-203
Power consumption	140 W
Temperature range	FM-2026/2027: 200 to 450°C FM-2022/2023: 200 to 400°C FM-2032: 200 to 450°C FM-2024: 350 to 450°C FM-2030/2031: 200 to 500°C
Temperature stability	±5°C at idle temperature

### Station

Output voltage	AC 24 V
Dimensions	120 (W) × 120 (H) × 190 (D) mm
Weight	2.7 kg

### Soldering Iron (FM-2027)

Power consumption	70 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	188 mm (with 2.4D tip)
Weight*	30 g (with 2.4D tip)

\* Without cord

Model No.	FM-205
Power consumption	410 W (450 W, max.)
Temperature range	FM-2026/2027: 200 to 450°C FM-2022/2023: 200 to 400°C FM-2024: 350 to 450°C FM-2029: 100 to 550°C FM-2030: 200 to 500°C FM-2031: 200 to 500°C FM-2032: 200 to 450°C
Temperature stability	±5°C at idle temperature

### Station

Output voltage	AC 24 V
Vacuum generator	Vacuum pump, cylinder type
Vacuum pressure	80 kPa (600 mmHg, max.)
Suction flow	14 L/min.
Air flow	6 L/min. (max.)
Dimensions	162 (W) × 136 (H) × 245 (D) mm
Weight*	6.2 kg

### Soldering Iron (FM-2027)

Power consumption	70 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	188 mm (with 2.4D tip)
Weight*	30 g (with 2.4D tip)

### Desoldering Tool (FM-2024)

Power consumption	70 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	180 mm (with ø1 mm nozzle)
Weight**	65 g (with ø1 mm nozzle)

### Hot Air Handpiece (FM-2029)

Power consumption	140 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length***	232 mm (with ø4 mm nozzle)
Weight***	50 g (with ø4 mm nozzle)

\* Without cord \*\* Without cord and hose \*\*\* Without cord and tube

Model No.	FM-2022
Power consumption	140 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	148 mm (with SOP 25L tip)
Weight*	64 g (with SOP 25L tip)

\* Without cord

Model No.	FM-2023
Power consumption	140 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Standard tip	Shape-I: 2 pcs/set (No.T9-I)
Cord length	1.2 m
Total length*	117 mm (with I tip)
Weight*	37 g (with I tip)

\* Without cord

Model No.	FM-2024
-----------	---------

### Desoldering Tool

Power consumption	70 W (24 V)
Nozzle to ground resistance	<2 Ω
Nozzle to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length**	180 mm (with ø1 mm nozzle)
Weight**	65 g (with ø1 mm nozzle)

### Desolder Control Box

Power consumption	12 W (24 V)
Vacuum generator	Ejector type
Vacuum pressure	93 kPa (700 mmHg, max.)
Suction flow	20 L/min.
Nozzle to ground potential	<2 mV
Applied air pressure	490 kPa (5 kgf/cm <sup>2</sup> ) While in use (trigger or button is pressed)
Compressed air consumption	46 L/min.
Outer dimensions	119 (W) × 45 (H) × 172 (D) mm
Weight*	1.2 kg

\* Without cord \*\* Without cord and hose

Model No.	FM-2026
Power consumption	70 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length**	205 mm (with 2.4D tip)
Weight**	45 g (with 2.4D tip and nozzle assembly C)

\* Use this N<sub>2</sub> soldering iron below 400°C.

\*\* Without cord and tube

Model No.	FM-2027
Power consumption	70 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	188 mm (with 2.4D tip)
Weight*	30 g (with 2.4D tip)

\* Without cord

## Specifications

Model No.	FM-2030
Power consumption	140 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.3 m
Total length*	224 mm (with 2.4D tip)
Weight*	41 g (with 2.4D tip)

\* Without cord

Model No.	FM-2032
Power consumption	48 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.3 m
Total length*	170 mm (with 1D tip)
Weight*	14 g (with 1D tip)

\* Without cord

Model No.	FM-2031
Power consumption	140 W (24 V)
Tip to ground resistance	<2 Ω
Tip to ground potential	<2 mV
Heating element	Composite heater
Cord length	1.2 m
Total length*	231 mm (with 2.4D tip)
Weight*	47 g (with 2.4D tip and nozzle assembly E)

\* Without cord and tube

## Packing List

<b>FM-203</b>	Station, Handpiece (FM-2027), Sleeve assembly, Connecting cable, Power cord, Control card, Iron holder, Tip tray, Heat resistant pad, Instruction manual
<b>FM-206</b>	Station, Power cord, Tip tray, Desoldering tool (FM-2024), Handle (for gun configuration for FM-2024), Iron holder (for FM-2024), Ceramic paper filter (10 pcs; for FM-2024), Nozzle remover (for FM-2024), Cleaning drill for heating element (for FM-2024), Connecting cable (for FM-2024), Handpiece (FM-2027), Iron holder (for FM-2027), Heat resistant pad (for FM-2027), Connecting cable (for FM-2027), Hot air handpiece (FM-2029), Iron holder (for FM-2029), Heat resistant pad (for FM-2029), Connecting cable (for FM-2029), Instruction manual
<b>FM-2022 (Conversion kit)</b>	Parallel remover, Heat resistant pad, Iron holder, Connecting cable, Instruction manual
<b>FM-2023 (Conversion kit)</b>	Mini parallel remover, Soldering tip (T9-I), Heat resistant pad, Iron holder, Component bed, Connecting cable, Instruction manual
<b>FM-2024 (Conversion kit, with DCB)</b>	Desoldering tool, Handle (for gun configuration), Desoldering control box, Filter pipe assembly, Iron holder, Cleaning drill for heating element, Nozzle remover, Ceramic paper filter (10 pcs), Connecting cable, Instruction manual
<b>FM-2026 (Conversion kit)</b>	Handpiece, Sleeve cover, Sleeve assembly (yellow), Heat resistant pad, Iron holder, Connecting cable, Instruction manual
<b>FM-2027 (Conversion kit)</b>	Handpiece, Sleeve assembly (yellow), Heat resistant pad, Iron holder, Connecting cable
<b>FM-2029 (Conversion kit)</b>	Handpiece (hot air), Handpiece holder, Heat resistant pad, Connecting cable, Instruction manual
<b>FM-2030 (Conversion kit)</b>	Handpiece (soldering), Heat resistant pad, Iron holder, Connecting cable, Instruction manual
<b>FM-2031 (Conversion kit)</b>	Handpiece (soldering), Heat resistance pad, Iron holder, Connecting cable, Instruction manual
<b>FM-2032 (Conversion kit)</b>	Handpiece, Heat resistant pad, Iron holder, Connecting cable, Instruction manual

## FM-2029 Features

Securely and easily remove 10 × 10 (mm) chips.



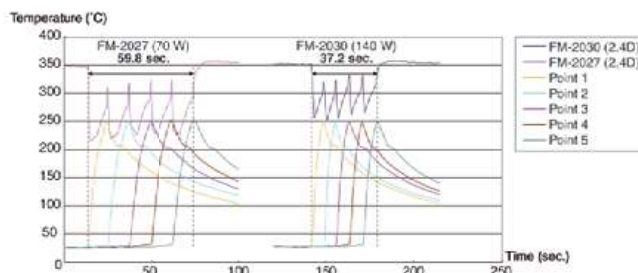
## FM-2032 Size

Unit: mm



## FM-2030 Features

Graph of a comparison of the performance of FM-2027 (70 W) and FM-2030 (140 W)



## Test criteria

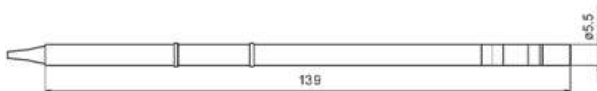



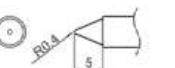
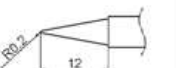
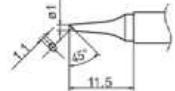
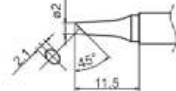
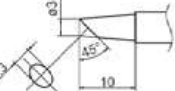
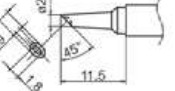
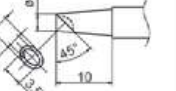
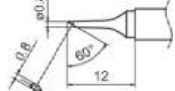
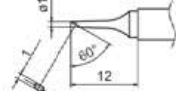

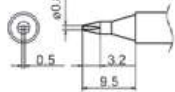
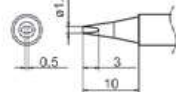

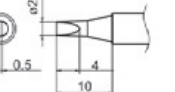
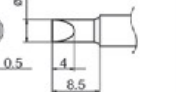
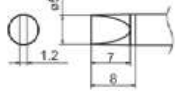
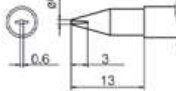
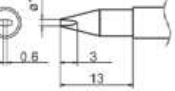
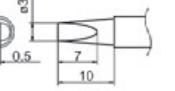
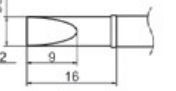

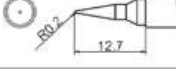
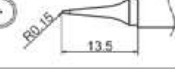
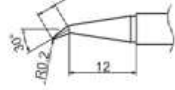
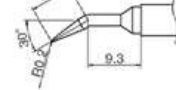
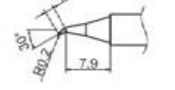
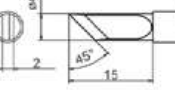
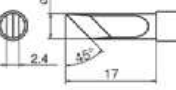
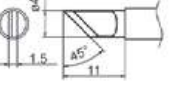
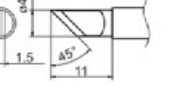
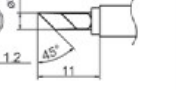
Test method	Solder at 5 points and measure the time until the temperature of the workpiece reaches 250°C.
Board	Bakelite board
Component used	Screw
Tip shape	Shape-2.4D
Temperature setting	350°C
Solder	Lead-free solder (Sn/Ag/Cu), diameter: 1 mm

# High Performance Rework Station and Accessories

## Optional Tips for FM-207

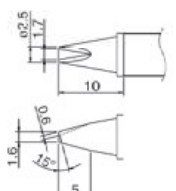
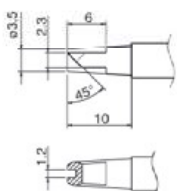
Unit: mm

### Standard type

					
<b>B</b>	<b>T12-B Shape-B</b> 	<b>T12-B2 Shape-0.5B</b> 	<b>T12-B3 Shape-0.7B</b> 	<b>T12-B4 Shape-0.4B</b> 	<b>T12-BL Shape-BL</b> 
<b>BC</b>	<b>T12-BC1 Shape-1BC T12-BCF1*</b> 	<b>T12-BC2 Shape-2BC T12-BCF2*</b> 	<b>T12-BC3 Shape-3BC T12-BCF3*</b> 	<b>T12-BCM2 Shape-2BC Bevel with indent</b> 	<b>T12-BCM3 Shape-3BC Bevel with indent</b> 
<b>C</b>	<b>T12-C08 Shape-0.8C</b> 	<b>T12-C1 Shape-1C</b> 	<b>T12-C4 Shape-4C T12-CF4*</b> 		
<b>D</b>	<b>T12-D08 Shape-0.8D</b> 	<b>T12-D12 Shape-1.2D</b> 	<b>T12-D16 Shape-1.6D</b> 	<b>T12-D24 Shape-2.4D</b> 	<b>T12-D4 Shape-4D</b> 
	<b>T12-D52 Shape-5.2D</b> 	<b>T12-DL08 Shape-0.8DL</b> 	<b>T12-DL12 Shape-1.2DL</b> 	<b>T12-DL32 Shape-3.2DL</b> 	<b>T12-DL52 Shape-5.2DL</b> 
<b>I</b>	<b>T12-I Shape-I</b> 	<b>T12-IL Shape-IL</b> 	<b>T12-ILS Shape-ILS</b> 		
<b>J</b>	<b>T12-J02 Shape-0.2J</b> 	<b>T12-JL02 Shape-0.2JL</b> 	<b>T12-JS02 Shape-0.2JS</b> 		
<b>K</b>	<b>T12-K Shape-K</b> 	<b>T12-KF Shape-KF</b> 	<b>T12-KL Shape-KL</b> 	<b>T12-KR Shape-KR</b> 	<b>T12-KU Shape-KU</b> 

\* These tips are tinned on the soldering surface only.

### Concave type

<b>T12-1610</b> 	<b>T12-1612</b> 
--	--

SMD type

Quad	T12-1201 Quad 13.6 x 8.5 	T12-1202 Quad 10.3 x 10.3 	T12-1203 Quad 12.8 x 12.8 	T12-1204 Quad 17.9 x 17.9 	T12-1205 Quad 23.4 x 17.3 
	T12-1206 Quad 22.5 x 16.5 	T12-1207 Quad 15.5 x 15.5 	T12-1208 Quad 15.8 x 15.8 	T12-1209 Quad 8.4 x 8.4 	
Tunnel	T12-1001 Tunnel 5.1 x 4.6 	T12-1002 Tunnel 5.1 x 10.4 	T12-1003 Tunnel 9.5 x 18.3 	T12-1004 Tunnel 9.5 x 15.8 	T12-1005 Tunnel 9.5 x 13.2 
	T12-1006 Tunnel 6.9 x 11.4 	T12-1007 Tunnel 7.9 x 18.8 	T12-1008 Tunnel 19.5 x 10.2 	T12-1009 Tunnel 13.4 x 20.5 	T12-1010 Tunnel 19.5 x 12 
Spatula	T12-1401 Spatula 10.4 	T12-1402 Spatula 15.7 	T12-1403 Spatula 21.2 	T12-1404 Spatula 25 	T12-1405 Spatula 32 
	T12-1406 Spatula 40 				

Long life type

T12-BZ Shape-B (Z) 	T12-B2Z Shape-0.5B (Z) 	T12-BC1Z Shape-1BC (Z) T12-BCF1Z* 	T12-BC2Z Shape-2BC (Z) T12-BCF2Z* 	T12-BC3Z Shape-3BC (Z) T12-BCF3Z* 
T12-C4Z Shape-4C (Z) T12-CF4Z* 	T12-D12Z Shape-1.2D (Z) 	T12-D16Z Shape-1.6D (Z) 	T12-D24Z Shape-2.4D (Z) 	T12-D4Z Shape-4D (Z) 
T12-KFZ Shape-KF (Z) 	T12-KRZ Shape-KR (Z) 			

\* These tips are tinned on the soldering surface only.

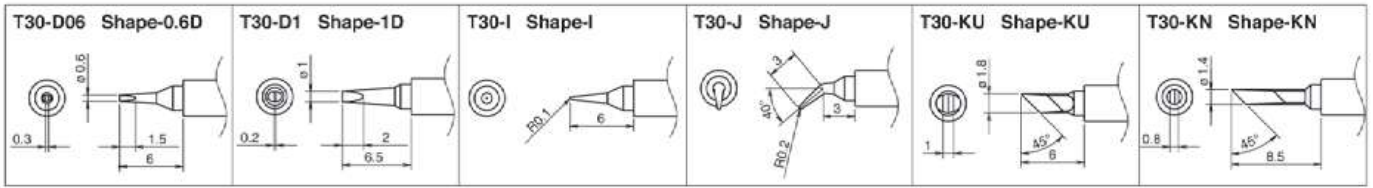
Heavy duty type

T12-WB2 Shape-0.5WB 	T12-WD08 Shape-0.8WD 	T12-WD12 Shape-1.2WD 	T12-WD16 Shape-1.6WD 	T12-WD52 Shape-5.2WD 	T12-WI Shape-WI 

# High Performance Rework Station and Accessories

## Optional Tips for FM-2032

Unit: mm

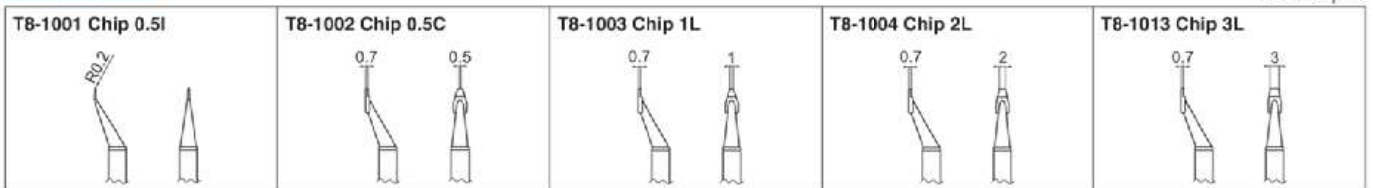


## Optional Tips for FM-2022

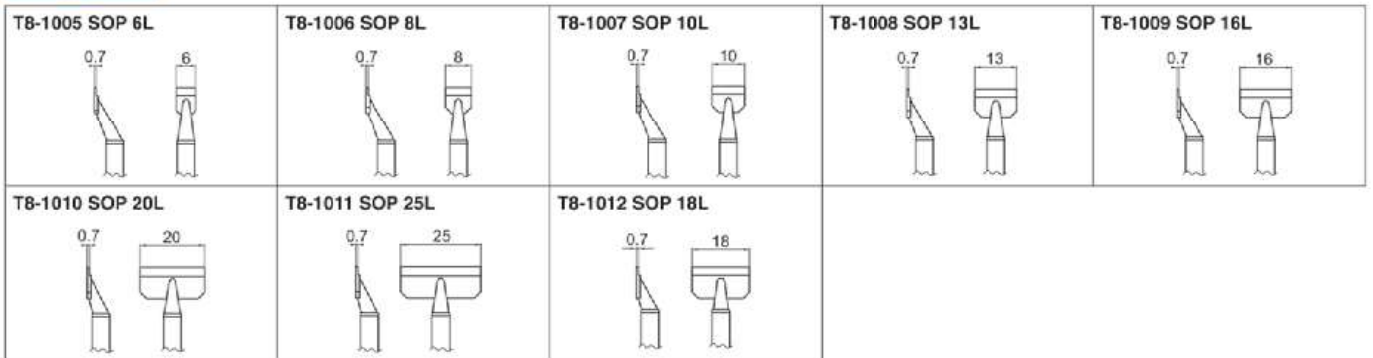
Unit: mm

### CHIP

\*1 set: 2 pcs



### SOP

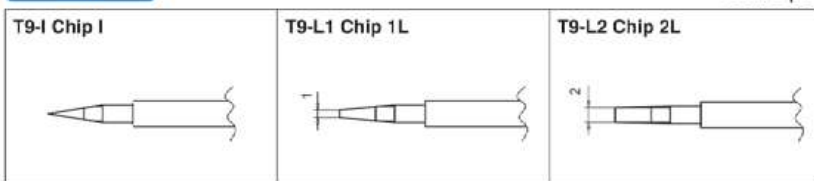


## Replacement Tips for FM-2023

Unit: mm

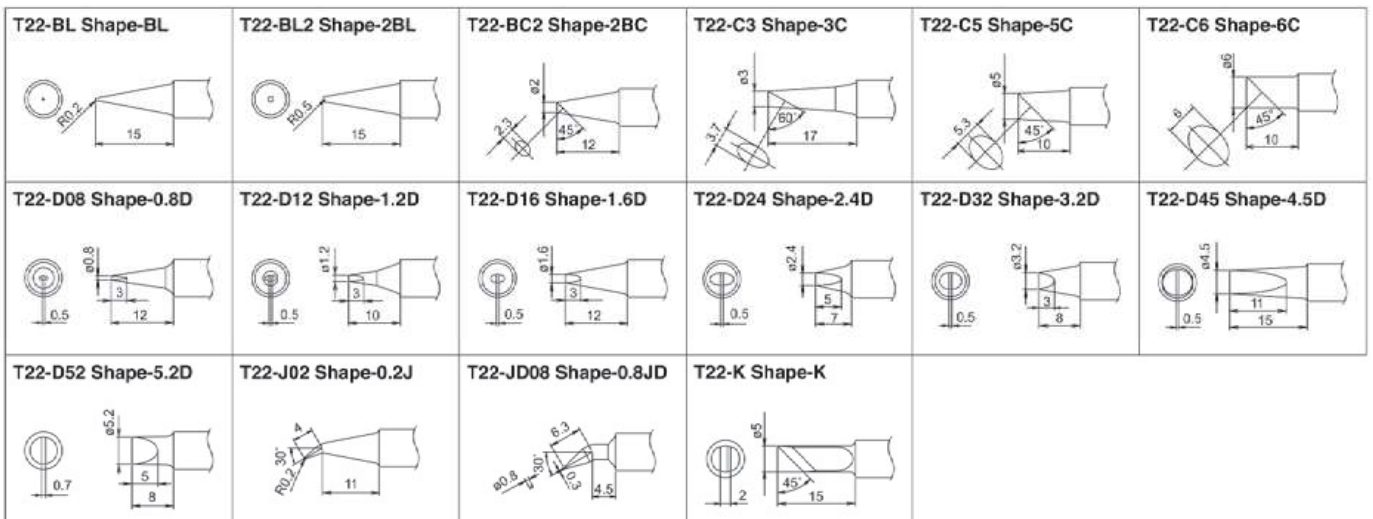
### CHIP

\*1 set: 2 pcs



## Optional Tips for FM-2030

Unit: mm



**Optional Nozzles for FM-2024**

Unit: mm

<p><b>N1-06 Nozzle <math>\phi 0.6</math></b></p>	<p><b>N1-08 Nozzle <math>\phi 0.8</math></b></p>	<p><b>N1-10 Nozzle <math>\phi 1</math></b></p>	<p><b>N1-13 Nozzle <math>\phi 1.3</math></b></p>	<p><b>N1-16 Nozzle <math>\phi 1.6</math></b></p>
<p><b>N1-20 Nozzle <math>\phi 2</math></b></p>	<p><b>N1-23 Nozzle <math>\phi 2.3</math></b></p>	<p><b>N1-L10 Nozzle <math>\phi 1</math> long</b></p>		

**Optional Nozzles for FM-2029**

Unit: mm

		$\phi A$	$\phi B$
<b>N4-01 Nozzle <math>\phi 2</math></b>		2	2.5
<b>N4-02 Nozzle <math>\phi 4</math></b>		4	5
<b>N4-03 Nozzle <math>\phi 6</math></b>		6	7
<b>N4-04 Nozzle <math>\phi 8</math></b>		8	9

**Optional Tips for the FM-2026**

Please see the optional tips on P.51.

**Optional Tips for the FM-2031**

Please see the optional tips on P.50.