

Products & Applications

Soldering and Rework System

Cartridge heater technology provides soldering and rework performance to suit even the most demanding SMT removal and placement applications. The cartridges provide fast thermal performance and respond quickly to the load demands. A small shaft diameter provides access to tightly cramped rework areas and enables the most difficult operations to be performed effortlessly.

| MFR-SRC SOLDERING & REWORK SYSTEM | |
|-----------------------------------|---|
| Part No. | Description |
| MFR-SRC | Soldering and Rework System |
| INCLUDES | |
| MFR-PS1K | Two Port Universal Voltage Power Supply |
| MFR-HSR | Soldering and Rework Hand-piece |
| MFR-WSSR | Soldering Workstand |

Contents subject to change without notice

Standard Soldering Tip Cartridges

The Standard Soldering Tip Cartridges are used with the MFR-HSR Soldering & Rework Hand-piece and have been designed to deliver outstanding performance for the majority of point-to-point



Technical Specifications

MFR-PTZ, MFR-SRC, MFR-PST, MFR-STZ

Ambient Operating Temperature: 10- 40°C

Maximum Enclosure Temperature: 55°C

Input Line Voltage: 100- 240 VAC, grounded circuit

Input Line Frequency: 50/60 Hz

Power Consumption: 65 Watts max.

Output Power:

50 Watts max. at 22°C ambient temperature

Output Frequency: 450 KHz

Power Cord 3-Wire: 183cm (18/3") SJT

Power Supply Dimensions w x d x h:

122mm x 200mm x 152.5mm (4.8" x 8" x 6")

Agency Tested Per: IEC 61000-6-1, EC 61000-6-3 and

UL499, FCC CFR Part 15

Tip-to-Ground Potential: < 2mV

Tip-to-Ground Resistance: < 2 ohms

Idle Temperature Stability: ± 1.1°C in still air

Hand-piece Cable Length:

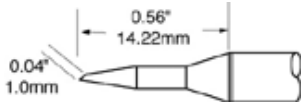
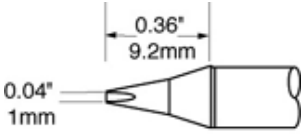
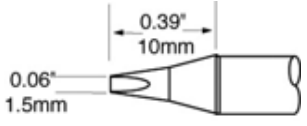
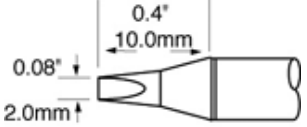
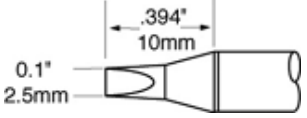
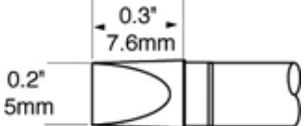
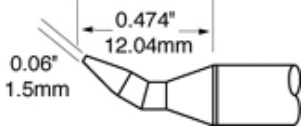
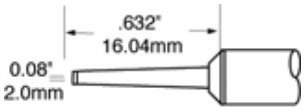
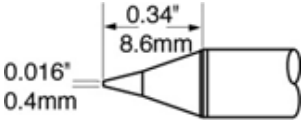
L=71cm (48"), burn proof, ESD safe

Connector: 8-pin power connector

Workstand Dimensions w x d x h:

100 mm x 200 mm x 100 mm (4" x 8" x 4")

soldering and basic rework applications. The geometries within this range have been optimized to deliver maximum accessibility combined with optimal thermal efficiency within a narrow cartridge diameter.

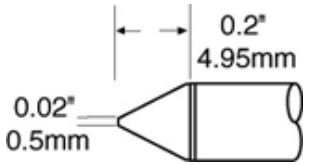
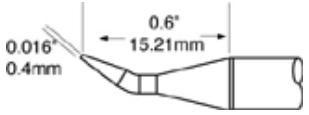
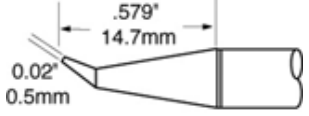
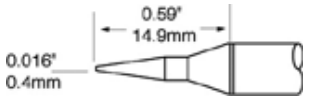
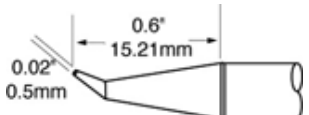

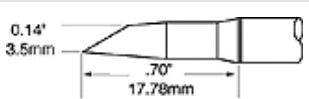

| | |
|---|---|
|  | <p>SFP-BVL10 Bevel Cartridge, 60° 1.0mm (.04")</p> |
|  | <p>SFP-CH10 Chisel Cartridge, 30° 1.0mm (.04")</p> |
|  | <p>SFP-CH15 Chisel Cartridge, 30° 1.5mm (.06")</p> |
|  | <p>SFP-CH20 Chisel Cartridge, 30° 2.0mm (.08")</p> |
|  | <p>SFP-CH25 Chisel Cartridge, 30° 2.5mm (.10")</p> |
|  | <p>SFP-CH50 Chisel Cartridge, 30° 5.0mm (.20")</p> |
|  | <p>SFP-CHB15 Chisel Cartridge, 30° Bent 1.5mm (.06")</p> |
|  | <p>SFP-CHL20 Chisel Cartridge, 60° Long Reach 2.0mm (.08")</p> |
|  | <p>SFP-CN04 Conical Cartridge, 0.4mm (.016")</p> |

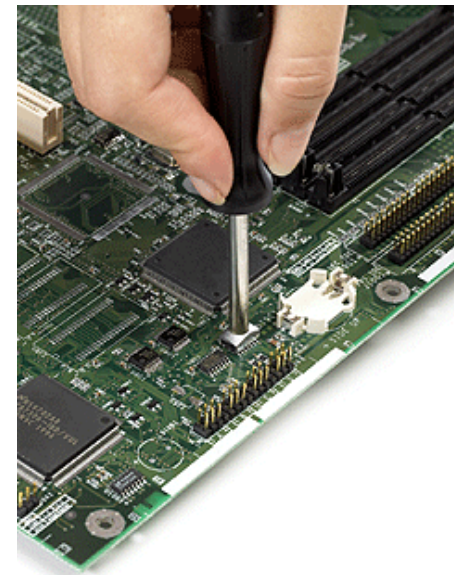
Soldering Tip Heater Options

With hand soldering, the task is to make a quality solder connection, without damaging the substrate and without negatively impacting throughput. All of the standard MFR Series power tips & rework cartridges are designed for use with glass fiber (FR4) PCB substrates. This is denoted by the second letter in the part number: "F". For example: **SFP-CH10**, **DFP-CN3**, and **SFV-CNL10**.

However, some specialist applications require working with thermally demanding or temperature sensitive substrates, such as ceramic hybrids or flexible circuits. OK International has developed specialty heaters that quickly deliver the necessary power, but operate at temperatures that minimize the risk of substrate damage. These are denoted by replacing the "F" in the part number with a "T" for temperature sensitive or a "C" for demanding loads. Please contact your local representative for information and availability of specialty tip heaters. For example: **STP-CH10** and **DCP-CN3**.

- F** = Standard FR4 Substrate
- T** = Temperature Sensitive
- C** = Ceramic or Heavy Load

| | |
|--|--|
|  | <p>SFP-CN05 Conical Cartridge, 0.5mm (.02")</p> |
|  | <p>SFP-CNB04 Conical Cartridge Bent, 0.4mm (.016")</p> |
|  | <p>SFP-CNB05 Conical Cartridge Bent, 0.5mm (.02")</p> |
|  | <p>SFP-CNL04 Conical Cartridge Long Reach, 0.4mm (.016")</p> |
|  | <p>SFP-DRH05 Drag Soldering Cartridge, Hoof 0.5mm (.02")</p> |
|  | <p>SFP-DRH15 Drag Soldering Cartridge, Hoof 1.5mm (.06")</p> |
|  | <p>SFP-DRH35 Drag Soldering Cartridge, Hoof 3.5mm (.14")</p> |
|  | <p>SFP-DRK50 Drag Soldering Cartridge, Knife 5.0mm (.20")</p> |



MFR-SMT in Action

To order specialty versions of the Soldering Tip Cartridges replace the "F" in the part number with the appropriate letter designate for your application when ordering:

T = Temperature Sensitive C = Ceramic or Heavy Load

Rework Cartridges

The Rework Cartridges are used with the MFR-HSR Soldering & Rework Hand-piece for conduction rework of surface mount components. The geometries are compatible with common SMT Chip and SOIC components.

Blade Cartridges

| | Part No. | Description | A |
|--|----------|-----------------|--------------|
| | RFP-BL1 | Blade Cartridge | 10mm (0.4") |
| | RFP-BL2 | Blade Cartridge | 16mm (0.63") |
| | RFP-BL3 | Blade Cartridge | 22mm (0.87") |

Slot Cartridges

| | Part No. | SMT Type | A |
|--|----------|-------------------|----------------|
| | RFP-SL1 | 0805 Chip Package | 2.34mm (.092") |

| | | | |
|--|---------|-------------------|----------------|
| | RFP-SL2 | 1206 Chip Package | 3.48mm (.137") |
|--|---------|-------------------|----------------|

Tunnel Cartridges

Dimensions in mm (")

| | Part No. | SMT Type | A2 | A | B | D |
|--|----------|------------|----------------|----------------|----------------|----------------|
| | RFP-DL1 | SOIC 14-16 | 5.18 (.204) | 5.18 (.204) | 4.32 (.17) | 3.22 (.127) |
| | RFP-DL2 | SOIC 8 | 5.18 (.204) | 5.18 (.204) | 4.32 (.17) | 2.29 (.090) |
| | RFP-DL13 | SOIC 16 | 6.86 (.270) | 6.86 (.270) | 11.18 (.44) | 2.29 (.090) |

Quad Cartridges

Dimensions in mm (")

| | Part No. | SMT Type | A2 | A | B2 | B | D |
|--|----------|----------|-----------------|-----------------|-----------------|-----------------|----------------|
| | RFP-QD4 | PLCC 32 | 11.43 (.450) | 12.70 (.500) | 13.97 (.550) | 15.24 (.600) | 3.81 (.150) |

| | | | | | | | |
|--|------|------|--------|--------|--------|--------|--------|
| | RFP- | PLCC | 16.76 | 17.78 | 16.76 | 17.78 | 3.81 |
| | QD6 | 44 | (.660) | (.700) | (.660) | (.700) | (.150) |
| | RFP- | PLCC | 24.38 | 25.27 | 24.38 | 25.27 | 5.59 |
| | QD7 | 68 | (.960) | (.995) | (.960) | (.995) | (.220) |
| | RFP- | PLCC | 19.30 | 20.32 | 19.30 | 20.32 | 3.81 |
| | QD10 | 52 | (.760) | (.800) | (.760) | (.800) | (.150) |
| | RFP- | TQFP | 12.32 | 13.34 | 12.32 | 13.34 | 2.79 |
| | QD15 | 80 | (.485) | (.535) | (.485) | (.535) | (.110) |
| | RFP- | QFP | 16.13 | 16.13 | 16.13 | 16.13 | 3.30 |
| | QD19 | 44 | (.635) | (.635) | (.635) | (.635) | (.130) |
| | RFP- | QFP | 16.51 | 16.51 | 22.48 | 22.48 | 3.30 |
| | QD20 | 100 | (.650) | (.650) | (.885) | (.885) | (.130) |

The second digit denotes substrate material (damage tolerance). **F** = FR4 / Glass Fiber, for most standard applications. Two other series are also available; just replace F with either T or C.

T = Temperature Sensitive **C** = Ceramic or Heavy Load



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