

# Metcal MFR-2200 Series

## Dual Output 60W Solder / Rework Station Series



### Technical Specifications

| Part No.                                                 | MFR-2200 Series                       |
|----------------------------------------------------------|---------------------------------------|
| Ambient Operating Temp.                                  | 10 - 40°C (50 - 104°F)                |
| Max. Enclosure Temp.                                     | 55°C (131°F)                          |
| Input Line Voltage                                       | 100 - 240 VAC                         |
| Power Consumption                                        | 130W Max.                             |
| Input Line Frequency                                     | 50/60 Hz grounded circuit             |
| Output Power                                             | 60W @ 22°C/output (2 outputs)*        |
| Output Frequency                                         | 450 KHz                               |
| Power Cord (3-wire)                                      | 183cm (6'), 18/3 SJT                  |
| Dimensions (approx.) W x D x H                           | 170 x 200 x 152.5mm (7" x 8" x 6")    |
| Weight                                                   | 2.97 kg (6.55 lbs)                    |
| Surface Resistivity                                      | 10 <sup>5</sup> -10 <sup>7</sup> Ohms |
| Certification / Marking                                  | cTUVus, CE                            |
| <b>Soldering Handle and Coil Assembly Specifications</b> |                                       |
| Tip-to-Ground Potential                                  | < 2 mV RMS                            |
| Tip-to-Ground Resistance                                 | <2 ohms                               |
| Idle Temperature Repeatability                           | ± 1.1°C (2°F) in still air            |
| Handle Cord Assembly Length                              | 122cm (4') – burn proof, ESD safe     |
| Connector                                                | 8-pin circular DIN                    |
| Workstand W x D x H                                      | 100 x 200 x 100mm (4" x 8" x 4")      |
| Workstand Weight                                         | 0.69 kg (1.51 lbs)                    |

\* RF SmartHeat Technology provides greater power. More details at [www.metcal.com/smartheat](http://www.metcal.com/smartheat)



[www.metcal.com](http://www.metcal.com)  
8/2016

### MFR-2200 Series Features and Benefits

- Many options so you can create the system you need
- Dual 60W output enables you to use two hand-pieces simultaneously.
- SmartHeat® tips and cartridges sense the load and instantly delivers the right amount of heat to the joint.
- No calibration required which saves money and down-time.

### MFR-2200: 2 Outputs and 5 Handpiece Options: There Is A System That's Right For You

Metcal's MFR-2200 Soldering/Desoldering Stations are powerful, cost-effective systems that have a wide variety of **options and accessories to meet just about any application.** The MFR-2200 power supply has 2 outputs, so your operators can use 2 hand-pieces simultaneously. 5 hand-pieces are available, including a desoldering option, so the MFR-2200 can meet just about any need.

The MFR-2200 series uses SmartHeat® Technology, a microprocessor controlled heating system which operates at lower temperatures and eliminates calibration time. With both soldering and desoldering capabilities, the MFR-2200 eliminates the need for two separate units.

The MFR-2200 series is the best choice for small or large production environments which need a versatile soldering system with a small footprint.

### 5 Hand-piece Options



**Solder Cartridge Hand-piece (MFR-H1-SC2)**  
Standard equipment with MFR-2210/2211



**Tip Solder Hand-piece (MFR-H2-ST2)**  
Standard equipment with MFR-2220/2222



**SSC Cartridge Solder Hand-piece (MFR-H6-SSC).**  
Can be used with cartridges from Metcal's SP200 Soldering Station. Available as an accessory; see page 3



**Precision Tweezer Solder Hand-piece (MFR-H4-TW).**  
Standard equipment with MFR-2240/2241



**Desolder Hand-piece (MFR-H5-DS).**  
Available as an accessory; see page 3

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# Metcal MFR-2200 Series Dual 60W Solder / Rework Station

## MFR-2200 Series Stations

| Part No.        | Photo    | Qty. | Description                                        |
|-----------------|----------|------|----------------------------------------------------|
| <b>MFR-2210</b> | <b>1</b> |      | Solder Station w/Solder Cartridge Hand-piece       |
| Includes:       |          |      |                                                    |
| MFR-PS2200      | A        | 1    | MFR-PS2200 Power Supply (60W per output)           |
| MFR-H1-SC2      | B        | 1    | Soldering Cartridge Hand-piece                     |
| WS1             | E        | 1    | Universal Soldering Workstand                      |
| SxP & RxP Cart. | G        |      | Soldering/Rework Cartridges (SOLD SEPARATELY)      |
| <b>MFR-2211</b> | <b>2</b> |      | Solder Station w/2 Solder Cartridge Hand-pieces    |
| Includes:       |          |      |                                                    |
| MFR-PS2200      | A        | 1    | MFR-PS2200 Power Supply (60W per output)           |
| MFR-H1-SC2      | B        | 2    | Soldering Cartridge Hand-piece                     |
| WS1             | E        | 2    | Universal Soldering Workstand                      |
| SxP & RxP Cart. | G        |      | Soldering/Rework Cartridges (SOLD SEPARATELY)      |
| <b>MFR-2220</b> | <b>3</b> |      | Solder Station w/Solder Tip Hand-piece             |
| Includes:       |          |      |                                                    |
| MFR-PS2200      | A        | 1    | MFR-PS2200 Power Supply (60W per output)           |
| MFR-H2-ST2      | C        | 1    | Soldering Tip Hand-piece                           |
| WS1             | E        | 1    | Universal Soldering Workstand                      |
| SxV & CxV Tips  | H        |      | Soldering/Blade Tips (SOLD SEPARATELY)             |
| <b>MFR-2222</b> | <b>4</b> |      | Solder Station w/2 Solder Tip Hand-pieces          |
| Includes:       |          |      |                                                    |
| MFR-PS2200      | A        | 1    | MFR-PS2200 Power Supply (60W per output)           |
| MFR-H2-ST2      | C        | 2    | Soldering Tip Hand-piece                           |
| WS1             | E        | 2    | Universal Soldering Workstand                      |
| SxV & CxV Tips  | H        |      | Soldering/Blade Tips (SOLD SEPARATELY)             |
| <b>MFR-2240</b> | <b>5</b> |      | Solder Station w/Tweezer Cartridge Hand-piece      |
| Includes:       |          |      |                                                    |
| MFR-PS2200      | A        | 1    | MFR-PS2200 Power Supply (60W per output)           |
| MFR-H4-TW       | D        | 1    | Tweezer Cartridges Hand-piece                      |
| MFR-WSPT        | F        | 1    | Tweezer Hand-piece Workstand                       |
| TxP Cartridges  | I        |      | Tweezer Cartridges (SOLD SEPARATELY)               |
| <b>MFR-2240</b> | <b>6</b> |      | Solder Station w/Solder & Tweezer Cart. Hand-piece |
| Includes:       |          |      |                                                    |
| MFR-PS2200      | A        | 1    | MFR-PS2200 Power Supply (60W per output)           |
| MFR-H1-SC2      | B        | 1    | Soldering Cartridge Hand-piece                     |
| MFR-H4-TW       | D        | 1    | Tweezer Cartridges Hand-piece                      |
| WS1             | C        | 1    | Universal Soldering Workstand                      |
| MFR-WSPT        | F        | 1    | Tweezer Hand-piece Workstand                       |
| TxP Cartridges  | I        |      | Tweezer Cartridges (SOLD SEPARATELY)               |
| SxP & RxP Cart. | G        |      | Soldering/Rework Cartridges (SOLD SEPARATELY)      |



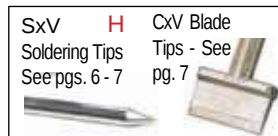
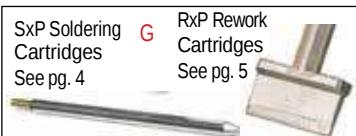
See page 3  
for additional  
accessories



Each system includes  
1 Tip Cleaner per  
hand-piece



**MFR-UK5 Desoldering Kit -**  
Desolder Hand-piece  
(MFR-H5-DS) and  
Venturi Workstand  
(MFR-WSDSX) also  
available.  
See page 3 for additional  
upgrade kits.



Unit includes a 3 position  
switch (left/both/right)  
so you can use a single  
hand-piece or 2 hand-  
pieces simultaneously

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# Metcal MFR-2200 Series

## Accessories and Replacement Parts



### Hand-pieces and replacement coils

|            |   |                                                                   |
|------------|---|-------------------------------------------------------------------|
| MFR-H1-SC2 | 3 | Cartridge Solder / Rework Hand-piece (MFR)                        |
| MFR-H2-ST2 | 4 | Tip Solder Hand-piece (MFR)                                       |
| MFR-CA3    |   | Coil Assembly for MFR-H2-ST2 Hand-piece (MFR)                     |
| MFR-H4-TW  | 5 | Precision Tweezer Hand-piece (MFR)                                |
| MFR-H6-SSC | 6 | SSC Cartridge Solder Hand-piece (MFR)                             |
| MFR-H5-DS  | 7 | Desolder Hand-piece                                               |
| MFR-HSREC  |   | Cartridge Solder / Rework Hand-piece with long cord (1.83m / 6ft) |
| MFR-HSRLR  | 8 | Cartridge Solder / Rework Hand-piece with long reach access       |



### Workstands

|            |    |                                                                                            |
|------------|----|--------------------------------------------------------------------------------------------|
| WS1        |    | Universal Auto Sleep Workstand                                                             |
| WS2        |    | Round Auto Sleep Workstand                                                                 |
| WS2-NS     | 9  | Solder Workstand (PS-900)                                                                  |
| MFR-WSPT   | 10 | Non Sleeper Precision Tweezer Workstand                                                    |
| MFR-WSDSX  | 11 | Venturi Workstand for Desolder Hand-piece                                                  |
| MFR-WSDSU  |    | Non Sleeper Workstand for Desolder Hand-piece                                              |
| WS1CB      |    | Solder Rework Cradle Replacement for WS1 Workstand                                         |
| WS2CB      |    | Solder Rework Cradle Replacement for WS2 Workstand                                         |
| MFR-WSDSCB |    | Replacement cradle for all MFR Desolder Workstands<br>* for all rectangular MFR workstands |



### Upgrade Kits

|             |  |                                                                   |
|-------------|--|-------------------------------------------------------------------|
| MFR-UK1     |  | Solder Cartridge Hand-piece (MFR-H1-SC2) and Workstand (WS1)      |
| MFR-UK2     |  | Solder Tip Hand-piece (MFR-H2-ST2) and Workstand (WS1)            |
| MFR-UK4     |  | Tweezer Cartridge Hand-piece (MFR-H4-TW) and Workstand (MFR-WSPT) |
| MFR-UK5     |  | Desolder Hand-piece (MFR-H5-DS) and Workstand (MFR-WSDSX)         |
| MFR-UK6     |  | Solder Cartridge Hand-piece (MFR-H6-SSC) and Workstand (WS2)      |
| MFR-H5-DS-C |  | Desolder Hand-piece (MFR-H5-DS) and Workstand cradle (MFR-WSDSCB) |



### Lead-Free Process Identification

|        |    |                                                           |
|--------|----|-----------------------------------------------------------|
| WS1G   | 12 | Green Universal Auto Sleep Workstand                      |
| WS1CG  |    | Green Solder Rework Cradle Replacement for WS1 Workstand  |
| WS2CG  |    | Green Solder Rework Cradle Replacement for WS2 Workstand  |
| AC-CK1 | 13 | Green Identification Ring for SxV Cartridges (Pack of 50) |
| AC-CK3 |    | Green Identification Ring for SSC Cartridges (Pack of 50) |
| AC-CK4 | 14 | Green Identification Ring for SxV Tips (Pack of 50)       |

### Miscellaneous Accessories

|          |    |                                                    |
|----------|----|----------------------------------------------------|
| AC-BRUSH | 15 | Soft Brass Brush                                   |
| AC-CP2   |    | Cartridge and Tip Removal Pad                      |
| AC-FX1   | 16 | Fume Extraction Kit                                |
| AC-IK    |    | Interlocking / Mounting Kit                        |
| MFR-PM70 |    | Power Meter for MFR Series                         |
| AC-Y10   |    | Yellow Sponge for WS1 Workstand (Pack of 10)       |
| AC-YS4   |    | Yellow Sponge Round for WS2 Workstand (Pack of 10) |
| AC-BP    |    | Brass Pad (Pack of 10)                             |

### Desoldering Accessories

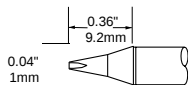
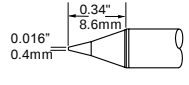
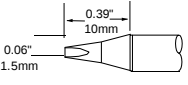
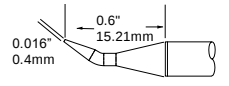
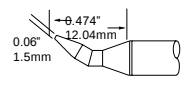
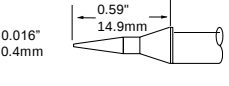
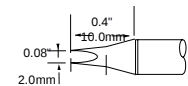
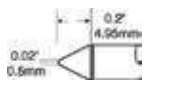
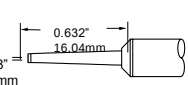
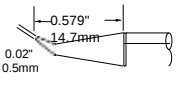
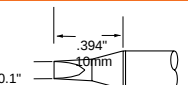
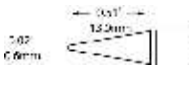
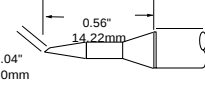
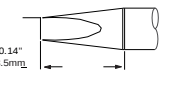
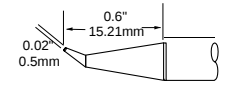
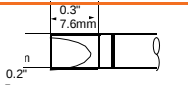
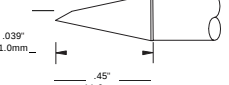
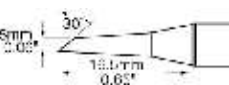
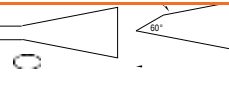
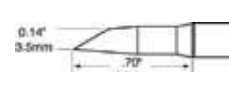
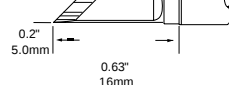
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|-----------|----|-----------------------------------------------------------|
| MFR-DC10  | 17 | Disposable Collection Chamber for MFR-H5-DS (pack of 10)  |
| MFR-DC100 |    | Disposable Collection Chamber for MFR-H5-DS (pack of 100) |
| MFR-HDCA  | 18 | Coil Assembly for MFR Desolder Hand-piece                 |
| MFR-PG    |    | Replacement Pistol grip for MFR-H5-DS Hand-piece          |
| AC-SK1    |    | Seal Kit Collection Chamber (pack of 2)                   |
| AC-VP     |    | Vacuum Port                                               |
| AC-VL     |    | ESD Air Hose                                              |
| AC-VPF    |    | Vacuum Port Filter (pack of 5)                            |
| LM-PS     |    | Power supply for MFR-WSDSX with multi plug adapters       |
| AC-TC     |    | Desoldering Tip Cleaner Tool                              |



# Metcal MFR-2200 Series SxP Solder & Rework Cartridges

## SxP SOLDERING & REWORK CARTRIDGES

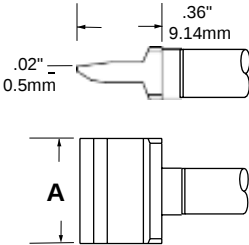
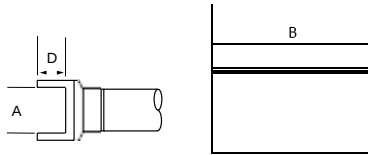
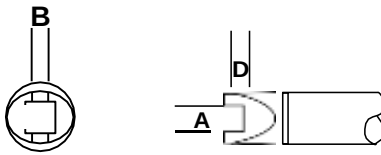
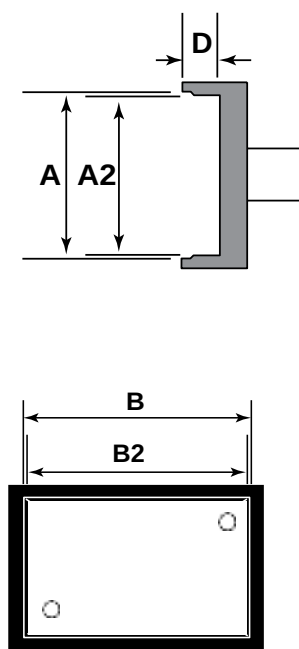
Compatible with: MFR-1110, MFR-1161, MFR-1351, MFR-2211, MFR-2241 Systems and MFR-H1-SC hand-piece

|        |                                                                                     |                                     |         |                                                                                      |                                        |
|--------|-------------------------------------------------------------------------------------|-------------------------------------|---------|--------------------------------------------------------------------------------------|----------------------------------------|
| CHISEL |    | SEP-CH10<br>STP-CH10<br>SCP-CH10    | CONICAL |    | SEP-CN04<br>STP-CN04<br>SCP-CN04       |
|        |    | SEP-CH15<br>STP-CH15<br>SCP-CH15    |         |    | SEP-CNB04<br>STP-CNB04<br>SCP-CNB04    |
|        |    | SEP-CHB15<br>STP-CHB15<br>SCP-CHB15 |         |    | SEP-CNL04<br>STP-CNL04<br>SCP-CNL04    |
|        |    | SEP-CH20<br>STP-CH20<br>SCP-CH20    |         |    | SEP-CN05<br>STP-CN05<br>SCP-CN05       |
|        |   | SEP-CHL20<br>STP-CHL20<br>SCP-CHL20 |         |    | SEP-CNB05<br>STP-CNB05<br>SCP-CNB05    |
|        |  | SEP-CH25<br>STP-CH25<br>SCP-CH25    |         |   | SEP-CNL06<br>STP-CNL06<br>SCP-CNL06    |
|        |  | SEP-CH30<br>STP-CH30<br>SCP-CH30    | BEVE    |  | SEP-BVL10<br>STP-BVL10<br>SCP-BVL10    |
| HOOF   |  | SEP-CH35<br>STP-CH35<br>SCP-CH35    |         |  | SEP-DRH05<br>STP-DRH05<br>SCP-DRH05    |
|        |  | SEP-CH50<br>STP-CH50<br>SCP-CH50    |         |  | SEP-DRH610<br>STP-DRH610<br>SCP-DRH610 |
|        |  | SEP-WV20<br>STP-WV20<br>SCP-WV20    | HOOF    |  | SEP-DRH15<br>STP-DRH15<br>SCP-DRH15    |
|        |  | SEP-WV30<br>STP-WV30<br>SCP-WV30    |         |  | SEP-DRH615<br>STP-DRH615<br>SCP-DRH615 |
|        |  | SEP-WV30<br>STP-WV30<br>SCP-WV30    |         |  | SEP-DRH35<br>STP-DRH35<br>SCP-DRH35    |
| KNIFE  |                                                                                     |                                     | KNIFE   |  | SEP-DRK50<br>STP-DRK50<br>SCP-DRK50    |

**E** = FR4 / Fiberglass, for most standard applications **T** = Temperature Sensitive **C** = Ceramic for high thermal demand applications.

# Metcal MFR-2200 Series RxP Rework Cartridges

Compatible with: MFR- 1110, MFR-1161, MFR-1351, MFR-2211, MFR-2241 Systems, MFR-H1-SC and MFR-H1-SC2 hand-pieces. All dimensions shown are in mm (inches)

| RxP REWORK CARTRIDGES |                                                                                     | Compatible with: MFR-H1-110, MFR-H1-1101, MFR-H1-1051, MFR-H1-2211, MFR-H1-2241 Systems, MFR-H1-SC and MFR-H1-SC2 hand-pieces. All dimensions shown are in mm (inches) |                                                                                    |                    |                 |                      |                 |                      |
|-----------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------|-----------------|----------------------|-----------------|----------------------|
| BLADE                 |    |                                                                                                                                                                        | A                                                                                  | B                  | D               | SMT TYPE             |                 |                      |
|                       |                                                                                     | REP-BL1<br>RCP-BL1                                                                                                                                                     | 10<br>(0.41)                                                                       | -                  | -               | -                    |                 |                      |
|                       |                                                                                     | REP-BL2<br>RCP-BL2                                                                                                                                                     | 15.6<br>(0.62)                                                                     | -                  | -               | -                    |                 |                      |
|                       |                                                                                     | REP-BL3<br>RCP-BL3                                                                                                                                                     | 22.1<br>(0.87)                                                                     | -                  | -               | -                    |                 |                      |
| TUNNEL                |    | REP-DL1<br>RCP-DL1                                                                                                                                                     | 5.18<br>(0.204)                                                                    | 10.16<br>(0.40)    | 3.22<br>(0.127) | Tunnel<br>SOIC-14-16 |                 |                      |
|                       |                                                                                     | REP-DL2<br>RCP-DL2                                                                                                                                                     | 5.18<br>(0.204)                                                                    | 4.32<br>(0.17)     | 2.29<br>(.09)   | Tunnel<br>SOIC-8     |                 |                      |
|                       |                                                                                     | REP-DL3<br>RCP-DL3                                                                                                                                                     | 6.86<br>(.270)                                                                     | 11.15<br>(0.44)    | 2.29<br>(.09)   | Tunnel<br>SOIC-16    |                 |                      |
|                       |                                                                                     | SLOT                                                                                                                                                                   |  | REP-SL1<br>RCP-SL1 | 2.34<br>(.092)  | 1.37<br>(.054)       | 1.78<br>(.07)   | 0805 Chip<br>Package |
| REP-SL2<br>RCP-SL2    | 3.48<br>(.137)                                                                      |                                                                                                                                                                        |                                                                                    | 1.63<br>(.064)     | 1.78<br>(.07)   | 1206 Chip<br>Package |                 |                      |
| QUAD                  |  |                                                                                                                                                                        | A                                                                                  | A2                 | D               | B                    | B2              | SMT TYPE             |
|                       |                                                                                     | REP-QD4<br>RCP-QD4                                                                                                                                                     | 12.70<br>(.500)                                                                    | 11.43<br>(.450)    | 3.81<br>(.150)  | 15.24<br>(.600)      | 13.97<br>(.550) | PLCC 32              |
|                       |                                                                                     | REP-QD6<br>RCP-QD6                                                                                                                                                     | 17.78<br>(.700)                                                                    | 16.76<br>(.660)    | 3.81<br>(.150)  | 17.78<br>(.700)      | 16.76<br>(.660) | PLCC 44              |
|                       |                                                                                     | REP-QD7<br>RCP-QD7                                                                                                                                                     | 25.27<br>(.995)                                                                    | 24.38<br>(.960)    | 5.59<br>(.220)  | 25.27<br>(.995)      | 24.38<br>(.960) | PLCC 68              |
|                       |                                                                                     | REP-QD10<br>RCP-QD10                                                                                                                                                   | 20.32<br>(.800)                                                                    | 19.30<br>(.760)    | 3.81<br>(.150)  | 20.32<br>(.800)      | 19.30<br>(.760) | PLCC 52              |
|                       |                                                                                     | REP-QD15<br>RCP-QD15                                                                                                                                                   | 13.34<br>(.525)                                                                    | 12.32<br>(.485)    | 2.79<br>(.110)  | 13.34<br>(.525)      | 12.32<br>(.485) | TQFP 80              |
|                       |                                                                                     | REP-QD19<br>RCP-QD19                                                                                                                                                   | 16.13<br>(.635)                                                                    | 16.13<br>(.635)    | 3.30<br>(.130)  | 16.13<br>(.635)      | 16.13<br>(.635) | QFP 44               |
|                       |                                                                                     | REP-QD20<br>RCP-QD20                                                                                                                                                   | 16.51<br>(.650)                                                                    | 16.51<br>(.650)    | 3.30<br>(.130)  | 22.48<br>(.885)      | 22.48<br>(.885) | QFP 100              |

E = FR4 / Fiberglass, for most standard applications

T = Temperature Sensitive

C = Ceramic for high thermal demand applications.

# Metcal MFR-2200 Series SxV Solder Tips



Compatible with: PS-900, MFR-1120, MFR-2220, MFR-2222 Systems,  
PS-HC3, MFR-H2-ST and MFR-H2-ST2 hand-pieces, PS-CA3, MFR-CA2 and MFR-CA3 Coil Assemblies

| SxV SOLDERING TIPS |  | Compatible with: PS-500, MFR-H120, MFR-H220, MFR-H222 Systems,<br>PS-HC3, MFR-H2-ST and MFR-H2-ST2 hand-pieces, PS-CA3, MFR-CA2 and MFR-CA3 Coil Assemblies |        |         |                                        |                                           |
|--------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------|----------------------------------------|-------------------------------------------|
| CHISEL             |  | SFV-CH10A<br>STV-CH10A<br>SCV-CH10A                                                                                                                         | CHISEL |         | SFV-CH25<br>STV-CH25<br>SCV-CH25       |                                           |
|                    |  | SFV-CH10AR<br>STV-CH10AR<br>SCV-CH10AR                                                                                                                      |        |         | SFV-CH30AR<br>STV-CH30AR<br>SCV-CH30AR |                                           |
|                    |  | SFV-CH10<br>STV-CH10<br>SCV-CH10                                                                                                                            |        |         | SFV-CH50A<br>STV-CH50A<br>SCV-CH50A    |                                           |
|                    |  | SFV-CH15A<br>STV-CH15A<br>SCV-CH15A                                                                                                                         |        |         | SFV-CH50AR<br>STV-CH50AR<br>SCV-CH50AR |                                           |
|                    |  | SFV-CH15AR<br>STV-CH15AR<br>SCV-CH15AR                                                                                                                      |        |         | SFV-CH50<br>STV-CH50<br>SCV-CH50       |                                           |
|                    |  | SFV-CHB15<br>STV-CHB15<br>SCV-CHB15                                                                                                                         |        | CONICAL |                                        | SFV-CNL03AR<br>STV-CNL03AR<br>SCV-CNL03AR |
|                    |  | SFV-CH18AR<br>STV-CH18AR<br>SCV-CH18AR                                                                                                                      |        |         |                                        | SFV-CNB04A<br>STV-CNB04A<br>SCV-CNB04A    |
|                    |  | SFV-CH20<br>STV-CH20<br>SCV-CH20                                                                                                                            |        |         |                                        | SFV-CN05A<br>STV-CN05A<br>SCV-CN05A       |
|                    |  | SFV-CH24A<br>STV-CH24A<br>SCV-CH24A                                                                                                                         |        |         |                                        | SFV-CNB04AR<br>STV-CNB04AR<br>SCV-CNB04AR |
|                    |  | SFV-CH25AR<br>STV-CH25AR<br>SCV-CH25AR                                                                                                                      |        |         |                                        | SFV-CNL04<br>STV-CNL04<br>SCV-CNL04       |

F = FR4 / Fiberglass, for most standard applications T = Temperature Sensitive C = Ceramic for high thermal demand applications.

# Metcal MFR-2200 Series SxV Solder Tips / CxV Blade Tips



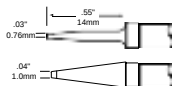
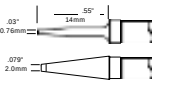
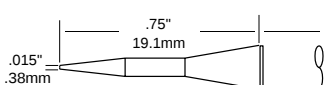
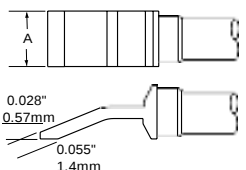
Compatible with: PS-900, MFR-1120, MFR-2220, MFR-2222 Systems,  
PS-HC3, MFR-H2-ST and MFR-H2-ST2 hand-pieces, PS-CA3, MFR-CA2 and MFR-CA3 Coil Assemblies

| SxV SOLDERING TIPS |             | Compatible With: PS-300, MFR-H20, MFR-2220, MFR-2222 Systems, PS-HC3, MFR-H2-ST and MFR-H2-ST2 hand-pieces, PS-CA3, MFR-CA2 and MFR-CA3 Coil Assemblies |              |              |
|--------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|
| CONICAL            |             | SFV-CN05AR                                                                                                                                              |              | SFV-DRH420AR |
|                    |             | STV-CN05AR                                                                                                                                              |              | STV-DRH420AR |
|                    |             | SCV-CN05AR                                                                                                                                              |              | SCV-DRH420AR |
|                    |             | SFV-CN05                                                                                                                                                |              | SFV-DRH20CP  |
|                    |             | STV-CN05                                                                                                                                                |              | STV-DRH20CP  |
|                    |             | SCV-CN05                                                                                                                                                |              | SCV-DRH20CP  |
|                    |             | SFV-CNB05                                                                                                                                               |              | SFV-DRH430AR |
|                    |             | STV-CNB05                                                                                                                                               |              | STV-DRH430AR |
|                    |             | SCV-CNB05                                                                                                                                               |              | SCV-DRH430AR |
|                    |             | SFV-CNL10A                                                                                                                                              |              | STV-DRH630AR |
|                    | STV-CNL10A  |                                                                                                                                                         | SCV-DRH630AR |              |
|                    | SCV-CNL10A  |                                                                                                                                                         | SFV-DRH420A  |              |
|                    | SFV-CNL10AR |                                                                                                                                                         | STV-DRH420A  |              |
|                    | STV-CNL10AR |                                                                                                                                                         | SCV-DRH420A  |              |
|                    | SCV-CNL10AR |                                                                                                                                                         | SFV-DRH30CP  |              |
|                    | SFV-CNL10   |                                                                                                                                                         | STV-DRH30CP  |              |
|                    | STV-CNL10   |                                                                                                                                                         | SCV-DRH30CP  |              |
|                    | SCV-CNL10   |                                                                                                                                                         | SFV-DRH440R  |              |
|                    | SFV-CNL14   |                                                                                                                                                         | STV-DRH440R  |              |
|                    | STV-CNL14   |                                                                                                                                                         | SCV-DRH440R  |              |
|                    | SCV-CNL14   |                                                                                                                                                         | SFV-DRH640AR |              |
|                    | SFV-DRH20   |                                                                                                                                                         | STV-DRH640AR |              |
|                    | STV-DRH20   |                                                                                                                                                         | SCV-DRH640AR |              |
|                    | SCV-DRH20   |                                                                                                                                                         | SFV-DRH40CP  |              |
|                    | SFV-CNL20   |                                                                                                                                                         | STV-DRH40CP  |              |
|                    | STV-CNL20   |                                                                                                                                                         | SCV-DRH40CP  |              |
|                    | SCV-CNL20   |                                                                                                                                                         | SFV-DRH440A  |              |
|                    | SFV-WV20    |                                                                                                                                                         | STV-DRH440A  |              |
|                    | STV-WV20    |                                                                                                                                                         | SCV-DRH440A  |              |
|                    | SCV-WV20    |                                                                                                                                                         | SFV-DRK30AR  |              |
|                    | SFV-DRK45A  |                                                                                                                                                         | STV-DRK30AR  |              |
|                    | STV-DRK45A  |                                                                                                                                                         | SCV-DRK30AR  |              |
|                    | SCV-DRK45A  |                                                                                                                                                         | SFV-DRK45AR  |              |
|                    | SFV-DRK50   |                                                                                                                                                         | STV-DRK45AR  |              |
|                    | STV-DRK50   |                                                                                                                                                         | SCV-DRK45AR  |              |
|                    | SCV-DRK50   |                                                                                                                                                         |              |              |

| CxV BLADE TIPS |           | A         |             |
|----------------|-----------|-----------|-------------|
|                | CFV-BL100 | CCV-BL100 | 10mm (.40") |
|                | CFV-BL250 | CCV-BL250 | 25mm (1")   |
|                | CFV-BL350 | CCV-BL350 | 35mm (1.4") |
|                | CFV-BL400 | CCV-BL400 | 40mm (1.6") |
|                | CFV-BL500 | CCV-BL500 | 50mm (2")   |

F = FR4 / Fiberglass, for most standard applications T = Temperature Sensitive C = Ceramic for high thermal demand applications.

# Metcal MFR-2200 Series TxP Tweezer Cartridges

| TxP TWEEZER CARTRIDGES |                                                                                   | Compatible with: MFR-1140, MFR-2240, MFR2241 Systems and MFR-H4-TW hand-piece |                                          |
|------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------|
| BLADE                  |  | T <u>EP</u> -BLP1<br>T <u>IP</u> -BLP1<br>T <u>CP</u> -BLP1                   | 1.0mm x 14mm (.04" x .55")               |
|                        |  | T <u>EP</u> -BLP2<br>T <u>IP</u> -BLP2<br>T <u>CP</u> -BLP2                   | 2.0mm x 14mm (.08" x .55")               |
|                        |  | T <u>EP</u> -CNP1<br>T <u>IP</u> -CNP1<br>T <u>CP</u> -CNP1                   | Conical<br>0.4mm x 19.1mm (.015" x .75") |
| HEAVY DUTY             |  |                                                                               | <b>A</b>                                 |
|                        |                                                                                   | T <u>EP</u> -BLH40<br>T <u>IP</u> -BLH40<br>T <u>CP</u> -BLH40                | 6.35mm<br>(.25")                         |
|                        |                                                                                   | T <u>EP</u> -BLH50<br>T <u>IP</u> -BLH50<br>T <u>CP</u> -BLH50                | 16mm<br>(.62")                           |
|                        |                                                                                   | T <u>EP</u> -BLH60<br>T <u>IP</u> -BLH60<br>T <u>CP</u> -BLH60                | 20.5mm<br>(.81")                         |
|                        |                                                                                   | T <u>EP</u> -BLH70<br>T <u>IP</u> -BLH70<br>T <u>CP</u> -BLH70                | 28mm<br>(1.1")                           |

**Authorized Distributor**  
**Mectronics Marketing Services**  
 313, 2nd Floor, Patparganj Industrial Area,  
 New Delhi - 110092 (India)  
 Tel : +91 (011)-43041581 / 42208256  
 E-Mail : [mectronics@mectronics.in](mailto:mectronics@mectronics.in)  
 Web : [www.mectronics.in](http://www.mectronics.in)