

# Hand Soldering, Desoldering &

## Single Port



**PS-900**



**MFR-1100 Series**

## Dual Port Switchable



**MFR-1300 Series**

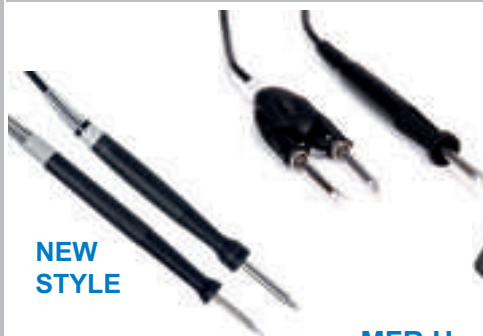


**NEW MX-500 Series**

M U L T I F U N C T I O N



**PS-900 Tip Hand-Piece**



**NEW  
STYLE**

**MFR Hand-pieces**



**MX Hand-pieces**

## SmartHeat® Technology

OK International is the original supplier of SmartHeat® Soldering Technology. SmartHeat® senses the exact thermal requirement for each solder joint and responds by delivering the precise amount of thermal energy required to create a reliable connection.

The result is a high degree of control without resorting to higher tip idle temperatures required by conventional heater process technologies. Consequently, the risk of component and board damage is minimized. This is especially important with the greater thermal demands required by lead-free applications.



# Rework Systems Overview

## Dual Port Simultaneous



**MFR-2200 Series**



**MX-5200 Series**

R E W O R K   S Y S T E M S



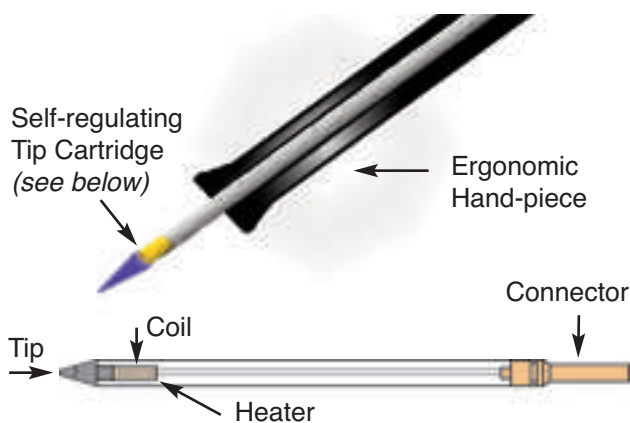
**NEW  
STYLE**

**MFR Hand-pieces**



Also compatible with the  
New MX-500 System

**MX Hand-pieces**



## SmartHeat® Soldering Technology = Variable Power / Fixed Temperature

- ▶ SmartHeat® tips and cartridges sense the load and instantly deliver the right amount of heat directly to the solder joint.
- ▶ The required solder joint temperature drives the heating process, as opposed to the idle tip temperature setting (as in a conventional iron).
- ▶ Operates at lower and safer temperatures. Power is delivered in proportion to the load. SmartHeat® technology eliminates overshoot.
- ▶ No calibration required - saves money and eliminates system down-time.

**Watch our SmartHeat® Video on YouTube or [www.metcal.com](http://www.metcal.com)**

# MX-5200 Dual Simultaneous

## Soldering, Desoldering & Rework Systems

The new MX-5200 Soldering, Desoldering and Rework Series offers the same increased power and process control as the MX-5000 Series, now with dual-simultaneous ports.

**For two users or single user with dual applications.** The MX-5200 can be operated with two hand-pieces dynamically sharing the 80 watts output power based on demand adding even more application flexibility and speed.

**Fast time-to-recovery.** Delivering increased production rates and throughput. No matter the application. The challenges of high mass components, multilayered boards and lead-free solders are seamlessly tackled by the MX-5200 super-charged power supply.

**SmartHeat process control.** Our Technology built-in every Metcal System means that soldering and rework are always performed at safe, controlled temperatures. Metcal users know that moderate fixed temperatures, where power is varied, provide the best assurance for a well controlled soldering and rework process.

**TipSaver™ Workstand improves** tip life as well as operator ergonomics. This “Auto-Sleep” Workstand reduces the power to the hand-piece when it is placed in the Metcal TipSaver™ Workstand.

Reduction in power will substantially decrease tip oxidation, a major cause of reduced tip life.

**Ergonomic Hand-pieces.** The aluminium hand-pieces for soldering and rework provides a cooler, lighter weight and more comfortable feel for the operator. And, the Metcal UltraFine™ Hand-piece features a new generation of extremely fine diameter cartridges in a slim profiled handle. Both of these hand-pieces uniquely offer users a choice of three interchangeable grips.

**ESD safe and features incoming AC ground monitoring circuitry.** This AC (mains) ground monitor detects power line ground failures and immediately alerts the operator and shuts down the system. Only after the power line ground has been restored, can the MX-5200 be restarted and soldering operations can be resumed.

**Built-in power indication meter** with digital display and bar graph that visually provides the operator with feedback on the status of the soldering operation. Whether using a large mass rework tip for QFPs or a fine-point soldering tip, the power indication meter is a valuable resource for making consistent, acceptable solder joints.

#### Four mode indicators:

**Ready Mode:** The hand-piece is removed from the workstand, ready for soldering or rework.

**Power Mode:** The hand-piece's tip is in contact with the load. The power indication meter provides graphical and numeric feedback on the system power output.

**Sleep Mode :** The hand-piece is at rest in the workstand; power is reduced to the hand-piece.

**Powersave Mode:** Power to the hand-piece is shut off. This programmable sleep feature allows an operator to set the desired time to cut off power to the hand-piece (from 10 to 120min).



# MX-5200 Dual Simultaneous

## Soldering, Desoldering & Rework Systems

### SYSTEMS CONFIGURATION

PART NUMBER	MX-PS5200 Power Supply	Hand-pieces				TipSaver™ Workstands		
		MX-H1-AV	MX-H2-UF	MX-PTZ	MX-DS1	MX-W1AV	MX-W4PT	MX-W5DS
MX-5210	✓	✓				✓		
MX-5211	✓	✓ ✓				✓ ✓		
MX-5220	✓		✓			✓		
MX-5241	✓	✓		✓		✓	✓	
MX-5250	✓				✓			✓
MX-5251	✓	✓			✓	✓		✓

#### SYSTEMS WITH ONE HAND-PIECE



**MX-5210 Soldering and Rework System**  
Configured with the Advanced™ Hand-piece. Highly effective for soldering applications including: lead-free, high mass components or boards, thermally sensitive components requiring low operating temperature, high volume production soldering and touch-up soldering operations.

Soldering cartridges: STTC Series and SMTC Series

#### SYSTEMS WITH TWO HAND-PIECES



**MX-5211 Soldering and Rework System**  
Same features as MX-5210 but configured with two Advanced™ Hand-pieces and two TipSaver™ Workstands.

Best Seller

Soldering cartridges: STTC Series and SMTC Series



**MX-5220 UltraFine™ Soldering System**  
Configured with the UltraFine™ Soldering Hand-piece which is a speciality tool for soldering and touch-up of very small components, restricted access or high density component packaging on a PCB.

Soldering cartridges: UFTC cartridges featuring small tip geometries and low mass, suited for small part soldering.



**MX-5241 Precision Tweezers, Soldering and Rework System**  
Combines both the Advanced™ Hand-piece and the Precision Tweezers Hand-piece. Users get maximum application flexibility for soldering and reworking the widest range of surface mount components.

Tweezer cartridges: PTTC Series.  
Soldering Cartridges: STTC and SMTC Series



**MX-5250 Plated-Through-Hole Component Desoldering System**  
Includes the MX-DS1 Desoldering hand-piece designed for through-hole desoldering.

Desoldering cartridges: STDC Series provide assurance for fast, high quality results

NOTE: Unit requires shop air for desoldering.



**MX-5251 Soldering, Desoldering and Rework System**  
For through-hole desoldering, general soldering, and SMD rework applications. Includes two hand-pieces: the Advanced™ Hand-piece and the MX-DS1 Desoldering hand-piece. Ideal for mixed technology boards. Provides versatility for addressing soldering & rework tasks.

Desoldering cartridges: STDC Series  
Soldering cartridges: STTC and SMTC Series.

NOTE: Unit requires shop air for desoldering.



# MX-500 Dual Switchable Output

## Soldering, Desoldering & Rework Systems

Metcal's MX-500 Soldering and Rework System has been reimagined, adding features and a new look to a bench top icon. The system utilizes SmartHeat® Technology, where each cartridge is equipped with a self-regulating heater which 'senses' its own temperature and closely maintains its pre-set idle temperature for the life of the heater-tip. The tip temperature is determined by the inherent metallurgical properties of the heater; no external adjustment or equipment is required. The MX-500 retains switchable dual port, 40W operation while introducing numerous new features in a new housing.



### Key Features & Benefits

- ▶ A built in Net Power Meter which will display a graphical and numerical representation of the power applied to the cartridge.
- ▶ User Programmable PowerSave Mode: the time to enter PowerSave Mode is adjustable from 10 to 120 minutes.
- ▶ Ground Fault Interrupt: AC ground monitor detects power line ground failures and immediately alerts the operator and shuts down the system. Only after the power line has been restored, can the MX-500 be restarted and soldering operations can be resumed.
- ▶ Universal Power Supply: automatically senses the input line voltage and adjusts accordingly, which allows for worldwide operation without adaptors or a change in performance.
- ▶ Full compatibility with existing and previous MX upgrade kits, tip-cartridges, hand-pieces and accessories.
- ▶ Greater process control with SmartHeat® Technology
- ▶ Reduced space requirements

### SYSTEM WITH ONE HAND-PIECE



**MX-500S Soldering / Rework System**  
Includes: Power supply, MX-RM3E soldering and rework hand-piece and WS1 sleeper workstand

Soldering cartridges:  
STTC Series and SMTC Series

MX-500 System configuration with MX-H2-UF hand-piece coming soon.  
Check [www.metcal.com](http://www.metcal.com) for more details.

### POWER SUPPLY WITH NO HAND-PIECE



**MX-500P**  
MX-500 dual port switchable power supply

### SYSTEMS WITH TWO HAND-PIECES



**MX-500SPT Rework System**  
Includes: Power supply, MX-PTZ precision tweezer hand-piece with MX-W4PT TipSaver workstand and MX-RM3E soldering and rework hand-piece and WS1 sleeper workstand.

Tweezer cartridges:  
PTTC Series.  
Soldering Cartridges:  
STTC and SMTC Series



**MX-500DS Desoldering System**  
Includes: Power supply, MX-DS1 desoldering hand-piece with MX-W5DS TipSaver workstand and MX-RM3E soldering and rework hand-piece and WS1 sleeper workstand

Desoldering cartridges:  
STDC Series  
Soldering cartridges:  
STTC and SMTC Series.

NOTE: Unit requires shop air for desoldering.

NOTE: Additional Hand-pieces and Upgrade Kits are available, see pages 7 and 8

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

# MX Series Hand-pieces

## Soldering, Desoldering & Rework Systems

The MX-500 AND MX-5200 Series offers users a choice of hand-pieces to meet the customer's application needs. Each hand-piece has its own range of cartridges with many choices available for tip geometry and temperature. The hand-pieces below are compatible with existing MX-500 and MX-5200 Systems as well as backward compatible with previous MX-500 and MX-5000 Systems



### Hand-pieces

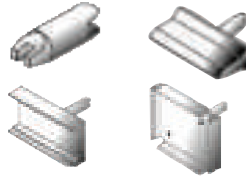
### Cartridges

**MX-RM3E**  
Metcal  
Hand-piece



**STTC Soldering Cartridges**  
See pages 10-11.

**MX-H1-AV**  
Metcal  
Advanced™  
Hand-piece



**SMTC Rework Cartridges**  
See pages 13-14.

**MX-H2-UF**  
Metcal  
UltraFine™  
Hand-piece



**UFTC Ultra Fine Soldering Cartridges.** See page 12.

**MX-PTZ**  
Metcal  
Precision  
Tweezer  
Hand-piece



**PTTC Tweezer Cartridges.**  
See page 15.

Also available are TATC Cartridges for the previous TALON hand-piece and the existing MX-TALON-01 upgrade kit. See page 15.

**MX-DS1**  
Metcal  
Desoldering  
Hand-piece



**STDC Desoldering Cartridges.**  
See page 16.

### Hand-pieces and Grips

MX-H1-AV	1	Metcal Advanced™ Hand-piece with cord, soldering and rework, two grips included (see *)
MX-H1GR	2	Grip Metcal Advanced™ Hand-piece with black sleeve in ring pattern (*)
MX-H1GS	3	Grip Metcal Advanced™ Hand-piece with black scallop pattern
MX-H1GKG	4	Grip Metcal Advanced™ Hand-piece with green knob pattern (*)
MX-H1-BSR-5		Replacement Sleeve only, black ring pattern (pack of 5) - For MX-H1-AV and MX-H1GR
MX-H1-BSS-5		Replacement Sleeve only, black scallop pattern (pack of 5) - For MX-H1-AV and MX-H1GS
MX-H1-GSK-5		Replacement Sleeve only, green knob pattern (pack of 5) - For MX-H1-AV and MX-H1GKG
MX-H2-UF	5	Metcal UltraFine™ Hand-piece with cord, fine soldering, two grips included (see **)
MX-H2GR	6	Grip Metcal UltraFine™ Hand-piece with black sleeve in ring pattern (**)
MX-H2GRS	7	Short grip Metcal UltraFine™ Hand-piece with black sleeve in ring pattern
MX-H2GS		Grip Metcal UltraFine™ Hand-piece with black sleeve in scallop pattern
MX-H2GKG		Grip Metcal UltraFine™ Hand-piece with green sleeve in knob pattern (**)
MX-H2-BSR-5		Replacement Sleeve only, black ring pattern (pack of 5) - For MX-H2-UF and MX-H2GR
MX-H2-BSS-5		Replacement Sleeve only, black ring pattern (pack of 5) - For MX-H2-UF and MX-H2GS
MX-H2-GSK-5		Replacement Sleeve only, black ring pattern (pack of 5) - For MX-H2-UF and MX-H2GKG
MX-RM3E	8	Metcal Soldering / Rework Hand-piece
MX-PTZ	9	Metcal Precision Tweezer Hand-piece, SMD rework
MX-DS1	10	Metcal Desoldering Hand-piece
MX-RM8E		Metcal Desoldering Hand-piece Cord for MX-DS1
MX-RM5E		Standard Robotic cable (1.83m / 6ft) with connector for Soldering/Rework cartridges
MX-RM6E		Metcal Soldering / Rework Hand-piece for long reach cartridge access

NOTE: Cartridges are not included with hand-pieces. A cartridge removal pad (MX-CP1 see page 8) is included with every hand-piece.

# MX Series Accessories

Workstands and Accessories		
MX-W1AV	1	Metcal TipSaver™ Workstand, for Metcal Advanced™ and UltraFine™ Hand-pieces
MX-W1CR		Cradle for TipSaver™ Workstand, Advanced™ and UltraFine™ Hand-pieces, incl. knobs
MX-W4PT	2	Metcal TipSaver™ Workstand, for MX-PTZ Hand-piece
MX-W4CR		Cradle for Metcal TipSaver™ Workstand, MX-PTZ Hand-piece, includes knobs
MX-W5DS		Metcal TipSaver™ Workstand, for MX-DS1 Hand-piece
MX-W5CR		Cradle for Metcal TipSaver™ Workstand, MX-DS1 Hand-piece, includes knobs
WS1	3	Sleeper Soldering Workstand for MX-RM3E hand-piece
WST		Talon Workstand for MX-TALON hand-piece
AC-Y10	4	Yellow sponge, pack of 10
AC-YS3-P		Yellow sponge, pack of 50
AC-BP	5	Brass pad, pack of 10
AC-BRUSH		Soft Brass Brush
MX-CP1	7	Cartridge removal pad
AC-CK2		Green Lead Free identification ring for STTC cartridges (pack of 50)
AC-PTP1		Rubber tip cleaning pad insert for all MX workstands (pack of 1)
AC-PTP3		Rubber tip cleaning pad insert for all MX workstands (pack of 3)
AC-PTP10		Rubber tip cleaning pad insert for all MX workstands (pack of 10)

Accessories for MX-DS1 Desoldering Hand-piece		
MX-DCF1		Chamber Liners (pack of 15) and Filters (pack of 6)
MX-DCF1L		Chamber Liners (pack of 40)
MX-DCF1F		Filters (pack of 20)
AC-TC	8	Desolder Tip Cleaner
AC-CB1-P		Desolder Chamber Cleaning Brush (pack of 25)
AC-CB2-P		Tube Cleaning Brush (pack of 6)
MX-DSL2		Seal Cartridge
MX-DSB		Swivel Connector
MX-DLA		Desolder Gun Latch Adjustment (pack of 10)
MX-DMK1		Maintenance Kit
MX-DAH4		ESD air hose for MX-DS1 Desoldering Hand-piece
MX-DSL1		Seal Chamber
MX-DVC1		Venturi Cartridge
MX-DAR1		Air Regulator and Filter



All Metcal TipSaver Workstands can be configured as shown above.



UPGRADE KITS GUIDE: HAND-PIECE AND WORKSTAND							
PART NUMBER	Hand-pieces				Workstands		
	MX-H1-AV Metcal Advanced™	MX-H2-UF Metcal UltraFine™	MX-PTZ Precision Tweezers	MX-DS1 Desoldering	MX-W1AV	MX-W4PT	MX-W5DS
MX-UK1	✓				✓		
MX-UK2		✓			✓		
MX-UK4			✓			✓	
MX-UK5				✓			✓

MX-TALON-01 Upgrade kit is also available for the MX-500 Series. It includes the previous MX-TALON hand-piece and WST workstand (as shown right). The TALON hand-piece is for use with TATC cartridges only.

All upgrade kits include a hand-piece and a workstand.



# MX Series Specifications

## Soldering, Desoldering & Rework Systems



MX-500

MX-5200

### MX-5200

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
Rated Power Consumption	125W
<b>Output Power</b>	<b>Single mode: 80 Watts max. per channel *</b> <b>Dual Mode: 80 Watts shared dynamically *</b>
<b>Output Frequency</b>	<b>13.56 MHz *</b>
Power Supply Dimensions w x d x h	12.1 cm (4.8") x 13.0 cm (5.1") x 23.5 cm (9.3")
Certification / Marking	cTUVus, CE
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=182 cm (72"), burn proof, ESD safe
Hand-piece Connector	F connector
Weight of the power supply	7.4 lbs (3.35 kg)

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

### MX-500

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
Rated Power Consumption	70 W
<b>Output Power</b>	<b>40 Watts max. RF SmartHeat Power *</b>
<b>Output Frequency</b>	<b>13.56 MHz *</b>
Power Supply Dimensions w x d x h	12.1 cm (4.8") x 12.1 cm (4.8") x 2.2 cm (8.8")
Certification / Marking	cNRTLus, CE
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=182 cm (72"), burn proof, ESD safe
Hand-piece Connector	F connector
Weight of the power supply	5.85 lbs (2.65 kg)

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



# STTC Soldering Cartridges



## STTC SOLDERING CARTRIDGES

Compatible with: MX-500, MX-5000 and MX-5200 Systems / MX-RM3E and MX-H1-AV hand-pieces

CHISEL		STTC-125P STTC-825P	CHISEL		STTC-136P STTC-836P
		STTC-525 STTC-025 STTC-125 STTC-825			STTC-536 STTC-036 STTC-136 STTC-836
		STTC-138P STTC-838P			STTC-513 STTC-013 STTC-113 STTC-813
		STTC-538 STTC-038 STTC-138 STTC-838			STTC-020 STTC-120 STTC-820
		STTC-599 STTC-099 STTC-199 STTC-899			STTC-517 STTC-017 STTC-117 STTC-817
	STTC-137P STTC-837P	CONICAL		STTC-565 STTC-065 STTC-165 STTC-865	
	STTC-537 STTC-037 STTC-137 STTC-837			STTC-590 STTC-090 STTC-190 STTC-890	
	STTC-598 STTC-098 STTC-198 STTC-898			STTC-526 STTC-026 STTC-126 STTC-826	
	STTC-542 STTC-042 STTC-142 STTC-842			STTC-522 STTC-022 STTC-122 STTC-822	
	STTC-514 STTC-014 STTC-114			STTC-145P STTC-845P	

5 = 500 Series and 0 = 600 Series for temperature sensitive applications - 1 = 700 Series for most standard applications.  
8 = 800 Series for Ceramic and high thermal demand applications.

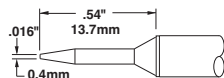
# STTC Soldering Cartridges



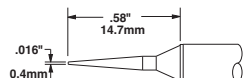
## STTC SOLDERING CARTRIDGES

Compatible with: MX-500, MX-5000 and MX-5200 Systems / MX-RM3E and MX-H1-AV hand-pieces

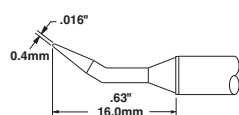
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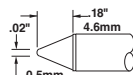
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STTC-106  
STTC-806



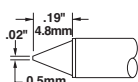
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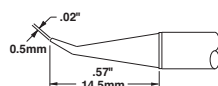
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STTC-140  
STTC-840



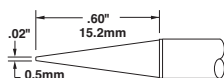
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STTC-111



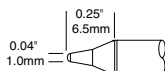
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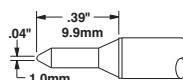
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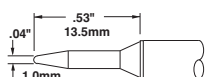
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STTC-101P  
STTC-801P

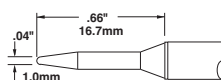


STTC-531  
STTC-031  
STTC-131



STTC-501  
STTC-001  
STTC-101

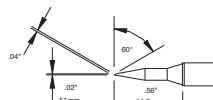
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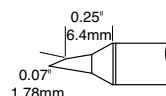
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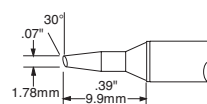
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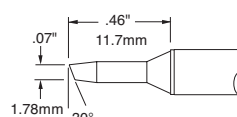
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STTC-846



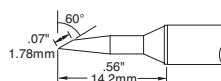
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STTC-847P



STTC-535  
STTC-035  
STTC-135



STTC-505  
STTC-005  
STTC-105



STTC-547  
STTC-047  
STTC-147  
STTC-847

BEVEL

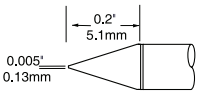
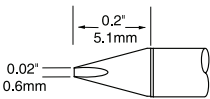
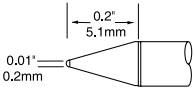
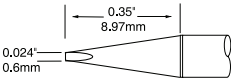
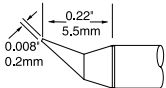
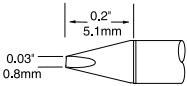
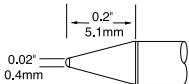
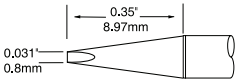
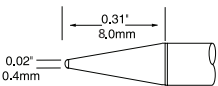
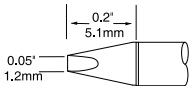
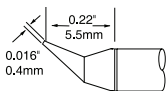
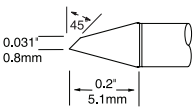
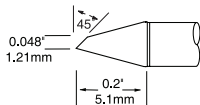
5 = 500 Series and 0 = 600 Series for temperature sensitive applications - 1 = 700 Series for most standard applications.  
8 = 800 Series for Ceramic and high thermal demand applications.

# UFTC UltraFine Soldering Cartridges



## UFTC UltraFine Soldering Cartridges

Compatible with: MX-500, MX-5000 and MX-5200 Systems and MX-H2-UF hand-piece

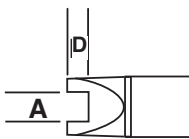
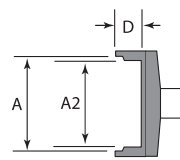

CONICAL		UFTC-7CN01	CHISEL		UFTC-7CH06
		UFTC-7CN02			UFTC-7CHL06
		UFTC-7CNB02			UFTC-7CH08
		UFTC-7CN04			UFTC-7CHL08
		UFTC-7CNL04			UFTC-7CH12
HOOF		UFTC-7CNB04			
		UFTC-7DRH408			
		UFTC-7DRH412			

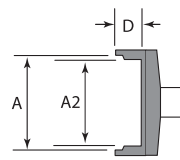
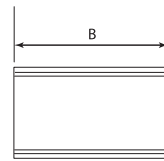
7 = 700 Series for most standard applications

# SMTC Rework Cartridges

## SMTC REWORK CARTRIDGES

Compatible with: MX-500, MX-5000 and MX-5200 Systems / MX-RM3E and MX-H1-AV hand-pieces  
All dimensions shown are in mm (inches)

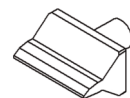
SLOT			A	D	B	SMT TYPE
		SMTC-505 SMTC-005 SMTC-105	1.7 (.068)	1.27 (.05)	2.5 (.10)	SOT-32
		SMTC-596 SMTC-096 SMTC-196	1.78 (.070)	1.02 (.040)	1.02 (.040)	Chip 0402, 0603
		SMTC-588 SMTC-088 SMTC-188	2.03 (.080)	1.52 (.60)	1.27 (.050)	Chip 0402, 0603, 0805
		SMTC-501 SMTC-001 SMTC-101	2.3 (.090)	1.8 (.070)	1.3 (.050)	Chip 0805
		SMTC-502 SMTC-002 SMTC-102	3.6 (.14)	1.8 (.07)	1.5 (.06)	Chip 1206,1210
		SMTC-132	3.81 (.150)	2.54 (.10)	2.41 (.095)	Chip Box B EIA SOPM-3528
		SMTC-536 SMTC-036 SMTC-136	4.8 (.190)	4.06 (.16)	2.8 (.110)	Chip Box B EIA SOPM-4532
		SMTC-503 SMTC-003 SMTC-103	4.83 (.190)	1.91 (.075)	2.03 (.080)	Chip 1812

TUNNEL			A	A2	D	B	SMT TYPE
		SMTC-004 SMTC-104	5.08 (.20)	5.08 (.20)	2.3 (.90)	4.32 (.17)	SOIC-8
		SMTC-006 SMTC-106	5.08 (.20)	5.08 (.20)	2.3 (.90)	10.16 (.40)	SOIC-14, 16
		SMTC-0142 SMTC-1142	5.18 (.204)	5.18 (.204)	2.54 (.100)	8.89 (.350)	SOIC-14
		SMTC-047 SMTC-147	8.51 (.335)	8.51 (.335)	5.08 (.200)	6.35 (.250)	DPAC
		SMTC-126	8.64 (.340)	8.0 (.315)	1.88 (.074)	18.8 (.740)	SOJ-28, SOM-32
		SMTC-007 SMTC-107	9.53 (.375)	9.53 (.375)	3.20 (.125)	18.3 (.720)	SOIC-28
		SMTC-009 SMTC-109	9.53 (.375)	9.53 (.375)	3.18 (.125)	15.75 (.620)	SOIC-24
		SMTC-010 SMTC-110	9.53 (.375)	9.53 (.375)	3.20 (.125)	13.20 (.520)	SOIC-20
		SMTC-040 SMTC-140	11.43 (.450)	10.40 (.410)	1.90 (.075)	25.9 (1.02)	SOJ-40, SOM-32

5 = 500 Series & 0 = 600 Series for temperature sensitive applications. 1 = 700 Series for most standard applications.

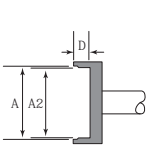
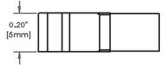
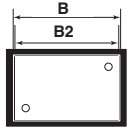
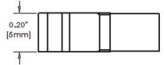
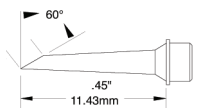
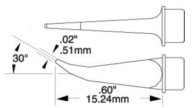
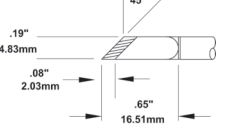
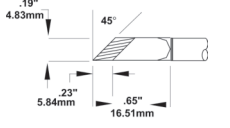


# SMTC Rework Cartridges



## SMTC REWORK CARTRIDGES

Compatible with: MX-500, MX-5000 and MX-5200 Systems / MX-RM3E and MX-H1-AV hand-pieces. All dimensions shown are in mm (inches)

QUAD			A	A2	D	B	B2	SMT TYPE	BLADE			A	BLADE TYPE
		SMTC-0121	8.38	8.38	2.54	8.38	8.38	SQFP 48 (EIGA)			SMTC-064	5mm (.20")	Short
		SMTC-1121	(.330)	(.330)	(.100)	(.330)	(.330)				SMTC-164	(.20")	
		SMTC-0112	10.16	9.14	3.80	10.16	9.14	PLCC 20			SMTC-560	10mm (.40")	Long
		SMTC-1112	(.400)	(.360)	(.150)	(.400)	(.360)				SMTC-060		
		SMTC-0120	11.18	11.18	2.54	11.18	11.18	SQFP 64 (EIGA)			SMTC-160		
		SMTC-1120	(.440)	(.440)	(.100)	(.440)	(.440)				SMTC-860		
		SMTC-1159	12.19	11.18	2.79	13.21	12.19	TQFP 44			SMTC-561	15.75mm (.62")	Long
		SMTC-013	12.70	11.56	3.80	12.70	11.56	PLCC 28			SMTC-061		
		SMTC-113	(.500)	(.455)	(.150)	(.500)	(.455)				SMTC-161		
		SMTC-116	12.70	11.43	3.80	15.24	13.97	PLCC 32			SMTC-861		
			(.500)	(.450)	(.150)	(.600)	(.550)				SMTC-562	22mm (.86")	Long
		SMTC-1132	13.34	12.32	2.79	13.34	12.32	TQFP 80			SMTC-062		
			(.525)	(.485)	(.110)	(.525)	(.485)				SMTC-162		
		SMTC-0118	15.49	14.48	2.79	15.49	14.48	VQFP 100 (EIGA)			SMTC-862		
		SMTC-1118	(.610)	(.570)	(.110)	(.610)	(.570)						
		SMTC-043	16.51	16.51	3.30	22.48	22.48	QFP 100 Rectangular					
		SMTC-143	(.650)	(.650)	(.130)	(.885)	(.885)						
		SMTC-014	17.78	16.76	3.80	17.78	16.76	PLCC 44					
		SMTC-114	(.700)	(.660)	(.150)	(.700)	(.660)						
HOOF		SMTC-5175									SMTC-5172		
		SMTC-0175									SMTC-0172		
		SMTC-1175									SMTC-1172		
		SMTC-8175									SMTC-8172		
		SMTC-5174											
		SMTC-0174											
		SMTC-1174											
		SMTC-8174											
		SMTC-5167											
		SMTC-0167											
KNIFE		SMTC-5169									SMTC-5161		
		SMTC-0169									SMTC-0161		
		SMTC-1169									SMTC-1161		
		SMTC-0183											
		SMTC-1183											
		SMTC-8183											
		SMTC-0170									SMTC-5173		
		SMTC-1170									SMTC-1173		
		SMTC-8173									SMTC-8173		
		SMTC-5147									STTC-1173P		
		SMTC-0147									STTC-8173P		
		SMTC-1147											
		SMTC-8147											

5 = 500 Series & 0 = 600 Series for temperature sensitive applications. 1 = 700 Series for most standard applications.  
8 = 800 Series for Ceramic and high thermal demand applications.

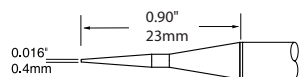
# PTTC Tweezer Cartridges

## TATC Talon Cartridges

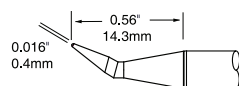
Compatible with: MX-5000 and  
MX-5200 Systems and MX-PTZ  
Precision Tweezers hand-piece

### PTTC TWEEZER CARTRIDGES

CONICAL

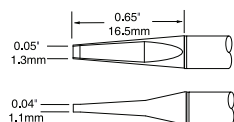


PTTC-601  
PTTC-701  
PTTC-801

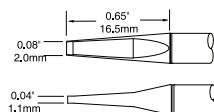


PTTC-701B  
PTTC-801B

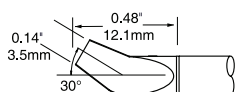
BLADE



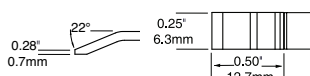
PTTC-602  
PTTC-702  
PTTC-802



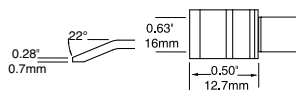
PTTC-603  
PTTC-703  
PTTC-803



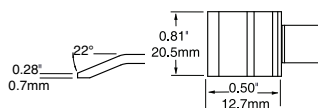
PTTC-608B  
PTTC-708B  
PTTC-808B



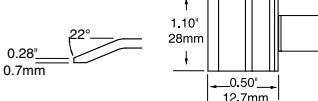
PTTC-604  
PTTC-704  
PTTC-804



PTTC-605  
PTTC-705  
PTTC-805



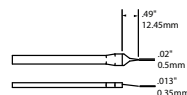
PTTC-606  
PTTC-706  
PTTC-806



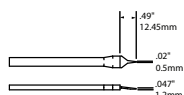
PTTC-607  
PTTC-707  
PTTC-807

### TATC TALON CARTRIDGES

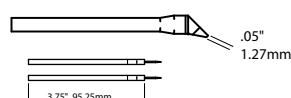
Compatible with: MX-500 Systems  
and MX-Talon hand-piece



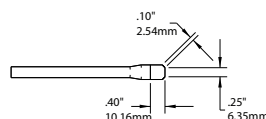
TATC-609



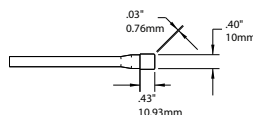
TATC-601



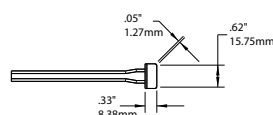
TATC-608



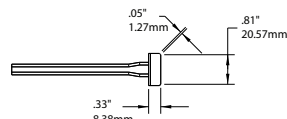
TATC-602



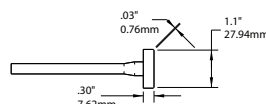
TATC-605



TATC-603



TATC-604



TATC-606

6 = 600 Series for temperature sensitive applications. 7 = 700 Series for most standard applications.  
8 = 800 Series for Ceramic and high thermal demand applications.

# STDC Desolder Cartridges

Compatible with: MX-500 MX-5000 and MX-5200 Systems, MX-DS1 Desoldering hand-piece  
All dimensions shown are in mm (inches)

## STDC DESOLDER CARTRIDGES



Standard



Long Reach

	A	B	C	TYPE
STDC-102 STDC-802	0.64 (.025)	1.40 (.055)	11.43 (.45)	Standard
STDC-103 STDC-803	0.76 (.029)	1.68 (.066)	11.17 (.44)	Standard
STDC-104 STDC-804	1.02 (.04)	1.78 (.07)	10.92 (.43)	Standard
STDC-105 STDC-805	1.27 (.05)	2.03 (.08)	10.66 (.42)	Standard
STDC-106 STDC-806	1.52 (.06)	2.29 (.09)	10.41 (.41)	Standard
STDC-107 STDC-807	2.41 (.09)	3.18 (.12)	9.14 (.36)	Standard
STDC-703L STDC-803L	0.76 (.03)	1.68 (.06)	21.33 (.84)	Long Reach
STDC-704L STDC-804L	1.02 (.04)	1.79 (.07)	21.08 (.83)	Long Reach
STDC-705L STDC-805L	1.27 (.05)	2.03 (.08)	20.82 (.82)	Long Reach

1 = 700 Series (standard length) and 7 = 700 Series (long reach) for most standard applications.  
8 = 800 Series for Ceramic and high thermal demand applications.

# SSC Soldering Cartridges

Compatible with: Previous SP200 System and new MFR-1160 & MFR-1161 Systems with MFR-H6-SSC Hand-piece

SSC SOLDERING CARTRIDGES		Compatible with: Previous SP200 System and new MFR-1161 & MFR-1161 Systems with MFR-H6-SSC Hand-piece			
CHISEL		SSC-671A SSC-771A	CONICAL		SSC-690A SSC-790A
		SSC-625A SSC-725A			SSC-645A SSC-745A
		SSC-638A SSC-738A			SSC-622A SSC-722A
		SSC-637A SSC-737A			SSC-626A SSC-726A
		SSC-672A SSC-772A			SSC-654A SSC-754A
		SSC-642A SSC-742A			SSC-601A SSC-701A
		SSC-670A SSC-770A			SSC-674A SSC-774A
HOOF		SSC-636A SSC-736A		SSC-667A SSC-767A	
		SSC-613A SSC-713A		SSC-639A SSC-739A	
	KNIFE		SSC-646A SSC-746A		SSC-661A SSC-761A
		SSC-617A SSC-717A		SSC-673A SSC-773A	
BEVEL			SSC-647A SSC-747A		

6 = 600 Series for temperature sensitive applications - 7 = 700 Series for most standard applications.



# MFR-2200 Series Dual Output

## Simultaneous Soldering & Rework Systems



The MFR-2200 Series features dual output capability allowing users to select operation of one hand-piece or two hand-pieces **simultaneously**.

The MFR-2200 Systems below offer a choice of three hand-pieces, however two additional hand-pieces including the desoldering option are also available as upgrade kits (see pages 21 & 23).

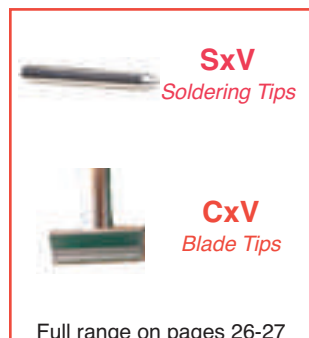
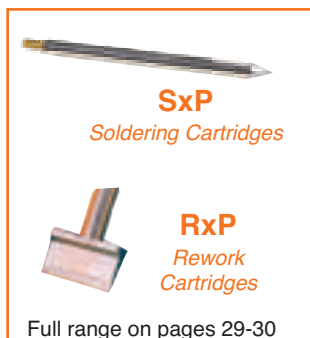


Systems	MFR-PS2200 Power Supply	MFR-H1-SC2 Soldering Cartridge Hand-piece	MFR-H2-ST2 Soldering Tip Hand-piece	MFR-H4-TW Tweezer Hand-piece	WS1 Universal Soldering Workstand	MFR-WSPT Tweezer Workstand
Picture Reference		1	2	3		
MFR-2210	1	1			1	
MFR-2220	1		1		1	
MFR-2240	1			1		1
MFR-2211	1	2			2	
MFR-2222	1		2		2	
MFR-2241	1	1		1	1	1

### NEW STYLE MFR Tip and Cartridge Hand-pieces.



**Slimmer grip for added  
comfort and handling.**



# MFR-1100 Series Single Output

## Soldering & Rework Systems



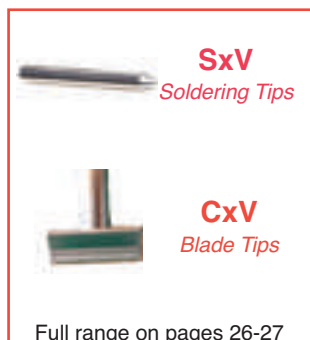
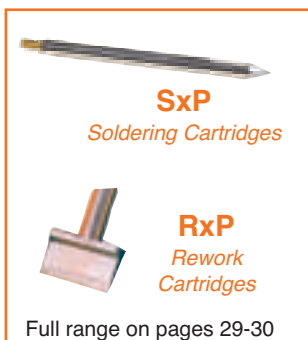
The MFR-1100 Single Output Series is designed to minimize your training investment, maximize application solutions and increase productivity.

This Series is compact and **versatile** and can be used with either a soldering tip, cartridge or tweezers hand-piece. A shop air desoldering option is also available as an upgrade kit (see pages 21 & 23).



Systems	MFR-PS1100 Power Supply	MFR-H1-SC2 Soldering Cartridge Hand-piece	MFR-H2-ST2 Soldering Tip Hand-piece	MFR-H4-TW Tweezer Hand-piece	MFR-H6-SSC SSC Cartridge Hand-piece	WS1 Soldering Workstand	MFR-WSPT Tweezer Workstand	WS2 Soldering Workstand
Picture Reference		1	2	3	4	5		6
MFR-1110	1	1				1		
MFR-1120	1		1			1		
MFR-1140	1			1			1	
MFR-1160	1				1			1
MFR-1161	1	1			1	1		1

Note: The MFR-1160 replaces the Metcal SP200 Soldering System. The MFR-H6-SSC hand-piece accepts the same SSC cartridges.



# MFR-1100 & MFR-2200 Series

## Soldering & Rework Systems



MFR-2200 and MFR-1100 series



MFR-2200, MFR-1100 and MFR-1300 series (shown on page 14)

### Key Features & Benefits

- ▶ SmartHeat® Technology provides exceptional power for high thermal demand applications
- ▶ Single or Dual simultaneous outputs allow for single or dual hand-piece use
- ▶ Five hand-pieces available for increased application solutions for soldering, desoldering (upgrade kit) and rework on one system
- ▶ Each hand-piece has a comprehensive range of cartridges or tips for maximum flexibility
- ▶ Ergonomic hand-pieces for operator safety and comfort

### Other Accessories Available:

<b>MFR-CA3</b>	Coil Assembly for Tip Hand-piece (MFR-H2-ST2)
<b>WS1G</b>	Auto-sleep Workstand, Green
<b>MFR-PM70</b>	Power Meter
<b>AC-CP2</b>	Cartridge / Tip Removal Pad
<b>AC-BP</b>	Brass Pad (for Workstand) - Pack of 10

### Technical Specifications

Power Supply	MFR-1100	MFR-2200
Ambient Operating Temperature	10 - 40°C (50°F - 104°F)	10 - 40°C (50°F - 104°F)
Maximum Enclosure Temperature	55°C (131°F)	55°C (131°F)
Input Line Voltage	100 - 240 VAC	100 - 240 VAC
Power Consumption	70 Watts maximum	130 Watts maximum
Input Line Frequency	50/60 Hz grounded circuit *	50/60 Hz grounded circuit *
Output Power	60 Watts at 22°C *	60 Watts at 22°C per output (2 outputs)*
Output Frequency	450 KHz	450 KHz
Power Cord (3-wire)	183 cm 18/3 SJT	183 cm 18/3 SJT
Dimensions (approx.) W x D x H	90mm (3.5") x 142mm (5.6") x 197mm (7.8")	170mm (7") x 200mm (8") x 152.5mm (6")
Weight	2.3kg (5.05 lbs)	2.97 kg ( 6.55 lbs)
Surface Resistivity	10 <sup>5</sup> -10 <sup>9</sup> Ohms	10 <sup>5</sup> -10 <sup>9</sup> Ohms
Certification / Marking	cTUVus, CE	cTUVus, CE

### Soldering Handle and Coil Assembly

Tip-to-Ground Potential	< 2 mV RMS	< 2 mV RMS
Tip-to-Ground Resistance	<2 ohms	<2 ohms
Idle Temperature Repeatability	± 1.1°C (2°F) in still air	± 1.1°C (2°F) in still air
Handle Cord Assembly Length	122 cm – burn proof, ESD safe	122 cm – burn proof, ESD safe
Connector	8-pin circular DIN	8-pin circular DIN
Workstand W x D x H	100 mm (4") x 200 mm (8") x 100 mm (4")	100 mm (4") x 200 mm (8") x 100 mm (4")
Workstand Weight	0.69 kg (1.51 lbs)	0.69 kg (1.51 lbs)

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

# MFR-1150 Single Output

## Soldering & Desoldering Systems with Venturi

The MFR-1150 Desolder System with Venturi Workstand provides a compact and easy **shop air option**.

### Key Features & Benefits

- ▶ Venturi workstand
- ▶ 2 in 1 Desolder hand-piece (Pistol or Pencil)
- ▶ **MFR-H5-DS & MFR-WSDSX are compatible for use with all MFR systems (available under MFR-UK5 upgrade kit)**
- ▶ Uses DxP desolder cartridges and replaceable coil assembly (MFR-HDCA)

Part No.	Description
<b>MFR-1150</b>	Complete System
<i>Includes:</i>	
<b>MFR-PS1100</b>	Power Supply
<b>MFR-H5-DS</b>	Desolder hand-piece
<b>MFR-WSDSX</b>	Workstand with venturi box for desolder hand-piece
<b>MFR-FTKIT</b>	Fittings and air hose kit
<b>AC-TC</b>	Desolder tip cleaner tool

### Technical Specifications

MFR-PS1100 Power Supply	
Input Line Voltage	100-240 VAC
Power Consumption	65 Watts max.
Input Line Frequency	50/60Hz *
Output Power	60 Watts Max *
Output Frequency	450 KHz
Dimensions W x D x H	90mm x 200mm x 152.5mm (3.5" x 8" x 6")

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

MFR-1150 System	
Idle Tip temperature stability	+/- 1.1°C (2°F) in still air
Ambient Operating Temperature	10 - 40°C (50 - 104°F)
Maximum Enclosure Temperature	55°C (131°F)
Tip to ground Potential	<2mV
Tip to ground resistance	<2 Ohms
Surface resistivity	10 <sup>5</sup> – 10 <sup>9</sup> Ohm
Approvals	cTUVus, CE



**MFR-UK5 Upgrade Kit**  
Compatible with all MFR  
Series Power Supplies

MFR-H5-DS Desolder Hand-piece	
Power Cord (3-wire)	183cm (72")
Solder Hand-piece cable length	152 cm (60"), burn proof, ESD safe
Hand piece connector	8 pin power connector

MFR-WSDSX Workstand	
Input voltage	24V
Input power	15W
Workstand dimensions	100mm x 200mm x 140mm (4" x 8" x 5.5")
Noise level	< 55 dB
Recommended Air pressure input	550kPa (80PSI) - Shop air only
Vacuum suction force	0.85 bar (25" Hg)



**DxP**  
Desoldering Tips

Full range on page 31



Collection chamber replacement



Remove grip for Pencil config.



# MFR-1300 Dual Switchable Output

## Soldering & Desoldering Systems with Internal Air

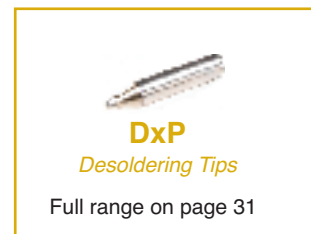
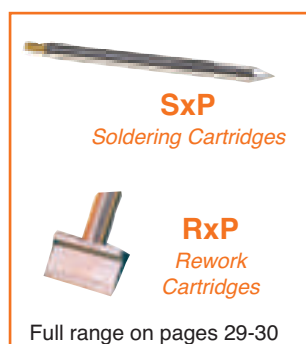
The MFR-1300 Desoldering and Rework System features a innovative desoldering hand-piece and a power supply with an **internal pump** providing 0.7 bar of vacuum suction force making through-hole desoldering easy.

### Key Features & Benefits

- ▶ Self-contained powerful vacuum pump
- ▶ 2 in 1 ergonomic and flexible hand-piece
- ▶ Recyclable collection chamber with increased capacity
- ▶ Quick and easy change collection chamber
- ▶ Dual switchable output
- ▶ Powered by Smartheat® Technology
- ▶ Compatible with previous MFR Desolder range



Part No.	Description
<b>MFR-1350</b>	Desolder System with Internal Pump*
<b>MFR-1351</b>	Solder / Desolder System with Internal Pump**
<i>Includes:</i>	
<b>MFR-PS1300</b>	Power Supply
<b>MFR-H5-DS</b>	Desolder hand-piece*
<b>MFR-H1-SC2</b>	Solder Cartridge hand-piece*
<b>MFR-WSDSU</b>	Workstand for Desolder hand-piece*
<b>WS1</b>	Workstand for Solder hand-piece*



### Technical Specifications

	<b>MFR-1350/51</b>
Input Line Voltage	100-240 VAC
Input Line Frequency	50/60Hz
Power Consumption	110 Watts max. (Power Supply MFR-PS1300)
<b>Output Power</b>	<b>60 Watts Max *</b>
<b>Output Frequency</b>	<b>450 KHz *</b>
Idle Tip temperature stability	+/- 1.1°C (2°F) in still air
Ambient Operating Temperature	10 - 40°C (50 - 104°F)
Maximum Enclosure Temperature	55°C (131°F)
Noise level	< 55 dB
Vacuum suction force	0.7 bar (21in Hg at Vacuum pump at sea level)
Power Cord (3-wire)	183cm (72")
Desolder Hand-piece cable length	152 cm (60"), burn proof, ESD safe
Solder Hand-piece cable length	122 cm (48"), burn proof, ESD safe
Hand piece connector	8 pin power connector
Tip to ground Potential	<2mV
Tip to ground resistance	<2 Ohms
Surface Resistivity	10 <sup>5</sup> – 10 <sup>9</sup> Ohms
Approvals	cTUVus, CE
Dimensions (approx.) W x D x H	170mm x 200mm x 152.5mm (7" x 8" x 6")
Workstand dimensions	100mm x 200mm x 100mm (4" x 8" x 4")

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



Pencil



Pistol

# Accessories and Spare Parts

For MFR and PS Series

## Hand-pieces and replacement coils

PS-HC3		Soldering Handle with PS-CA3 Coil Assembly (PS-900)
PS-H3	1	Soldering Handle without Coil Assembly (PS-900)
PS-CA3	2	Coil Assembly for PS-HC3 / PS-H3 Hand-piece (PS-900)
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
AC-PTP-1		Rubber tip cleaning pad insert* (1)
AC-PTP-3		Rubber tip cleaning pad insert* (3)
AC-PTP-10		Rubber tip cleaning pad insert* (10)

\* 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-DS) 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 (MFR-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
WS2G		Green Solder Workstand (PS-900)
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 OKi Cartridges (Pack of 50)
AC-CK3		Green Identification Ring for SSC Cartridges (Pack of 50)
AC-CK4	14	Green Identification Ring for OKi 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
PS-PM900		Power Meter for PS-900
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

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

14

13

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# PS-900 Production Soldering



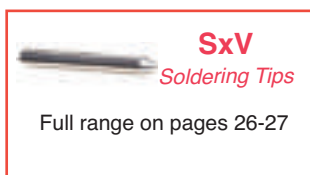
The PS-900 provides power and exceptional SmartHeat thermal control in a **small benchtop footprint**.

## Key Features & Benefits

- ▶ SmartHeat® temperature control
- ▶ Ergonomic, lightweight handle
- ▶ Rugged cast aluminum housing
- ▶ Added plating thickness to tips
- ▶ Low cost, quick-change heater coil

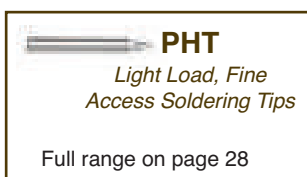


Part No.	Description
<b>PS-900</b>	Complete System
<i>Includes:</i>	
<b>PS-PW900</b>	1 Power Supply
<b>PS-HC3</b>	2 Hand-piece (PS-H3) and Coil Assembly (PS-CA3)
<b>WS2-NS</b>	3 Workstand, Black
<b>SFV-CH15A</b>	6 Economical and Affordable Chisel Solder Tip 1.5mm (.06")
<i>Other Accessories Available:</i>	
<b>PS-H3</b>	4 Hand-piece only, NO PS-CA3 Coil Assembly
<b>PS-CA3</b>	5 Coil Assembly for SxV Soldering Tips and CxV Blade Tips ONLY
<b>WS2</b>	Auto-sleep Workstand, Black
<b>WS2G</b>	Auto-sleep Workstand, Green
<b>AC-CP2</b>	Tip Removal Pad



## ONLY AVAILABLE ON PS-900 SYSTEM AND FOR USE WITH PHT TIPS

<b>PS-CA1</b>	7 Coil Assembly for PHT Soldering Tips ONLY
<b>PS-HC1</b>	Hand-piece (PS-H3) and Coil Assembly (PS-CA1)
<b>PS-H3</b>	8 Hand-piece only, NO PS-CA1 Coil Assembly





# PS-900 Production Soldering

## Technical Specifications

### Power Supply

Ambient Operating Temperature	10 - 40°C
Maximum Enclosure Temperature	65°C
Input Line Voltage	100 - 240 VAC
Power Consumption	90 Watts max.
Input Line Frequency	50/60 Hz *
Output Power	60 Watts max.*
Output Frequency	450 KHz
Power Cord (3-wire)	183 cm 18/3 SJT
Dimensions W x D x H	80 x 160 x 115 mm (3.1" x 6.3" x 4.5")

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

### Soldering Handle and Coil Assembly

Tip-to-Ground Potential	< 2 mV
Tip-to-Ground Resistance	< 2 ohms
Idle Temperature Repeatability	± 1.1°C in still air
Handle Cord Assembly Length	122 cm – burn proof, ESD safe
Connector	3-pin power connector
Overall length (with tip)	230 mm (9.06") with standard tips
Grip diameter	13 mm (0.51")
Tip to grip	58 mm (2.28")
Tip shaft diameter	8.0 mm (0.31")
Tip length	82 mm (3.23") to 93 mm (3.66") (typical)
Workstand W x D x H	105 x 175 x 90 mm (4.1" x 6.9" x 3.5")



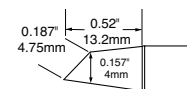
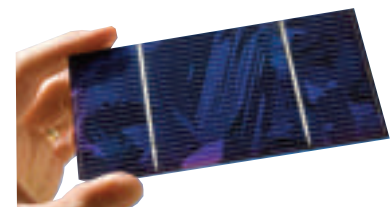
Tip Soldering Hand-Piece with PS-CA3 Coil Assembly

## PS-900-Solar



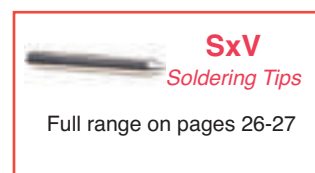
### Key Features & Benefits

- ▶ Superior photo voltaic tabbing and buss soldering
- ▶ SmartHeat reduces thermal stress on solar cells
- ▶ Reduces the likelihood of micro-cracking
- ▶ Produces a controlled, high quality solder joint
- ▶ Calibration-free system
- ▶ Specially designed STV-DRH440A hoof tip for high performance



**STV-DRH440A**  
Hoof Tip 4mm (.157")

Part No.	Includes
PS-900-Solar	PS-PW900 Power Supply, PS-900-PC9 Hand-piece with long cord (274cm / 9ft) & <b>PS-CA3 Coil Assembly</b> , STV-DRH440A soldering tip, WS2-NS Workstand, AC-CP2 tip removal pad





# SxV Soldering 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		SxV SOLDERING TIPS	
CHISEL	 <b>NEW</b>	SFV-CH10A STV-CH10A SCV-CH10A	CHISEL
		SFV-CH10AR STV-CH10AR SCV-CH10AR	
		SFV-CH10 STV-CH10 SCV-CH10	
	 <b>NEW</b>	SFV-CH15A STV-CH15A SCV-CH15A	
		SFV-CH15AR STV-CH15AR SCV-CH15AR	
		SFV-CHB15 STV-CHB15 SCV-CHB15	
		SFV-CH18AR STV-CH18AR SCV-CH18AR	
		SFV-CH20 STV-CH20 SCV-CH20	
	 <b>NEW</b>	SFV-CH24A STV-CH24A SCV-CH24A	
		SFV-CH25AR STV-CH25AR SCV-CH25AR	
CONICAL		SFV-CH25 STV-CH25 SCV-CH25	CONICAL
		SFV-CH30AR STV-CH30AR SCV-CH30AR	
	 <b>NEW</b>	SFV-CH50A STV-CH50A SCV-CH50A	
		SFV-CH50AR STV-CH50AR SCV-CH50AR	
		SFV-CH50 STV-CH50 SCV-CH50	
		SFV-CNL03AR STV-CNL03AR SCV-CNL03AR	
	 <b>NEW</b>	SFV-CNB04A STV-CNB04A SCV-CNB04A	
	 <b>NEW</b>	SFV-CN05A STV-CN05A SCV-CN05A	
		SFV-CNB04AR STV-CNB04AR SCV-CNB04AR	
		SFV-CNL04 STV-CNL04 SCV-CNL04	

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

# SxV Soldering 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

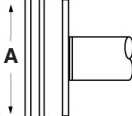
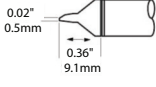
CONICAL

SxV SOLDERING TIPS	
	SFV-CN05AR STV-CN05AR SCV-CN05AR
	SFV-CN05 STV-CN05 SCV-CN05
	SFV-CNB05 STV-CNB05 SCV-CNB05
	SFV-CNL10A STV-CNL10A SCV-CNL10A
	SFV-CNL10AR STV-CNL10AR SCV-CNL10AR
	SFV-CNL10 STV-CNL10 SCV-CNL10
	SFV-CNL14 STV-CNL14 SCV-CNL14
	SFV-DRH20 STV-DRH20 SCV-DRH20
	SFV-CNL20 STV-CNL20 SCV-CNL20
	SFV-WV20 STV-WV20 SCV-WV20
	SFV-DRK45A STV-DRK45A SCV-DRK45A
	SFV-DRK50 STV-DRK50 SCV-DRK50

KNIFE

HOOF

	SFV-DRH420AR STV-DRH420AR SCV-DRH420AR
	SFV-DRH20CP STV-DRH20CP SCV-DRH20CP
	SFV-DRH430AR STV-DRH430AR SCV-DRH430AR
	SFV-DRH630AR STV-DRH630AR SCV-DRH630AR
	SFV-DRH420A STV-DRH420A SCV-DRH420A
	SFV-DRH30CP STV-DRH30CP SCV-DRH30CP
	SFV-DRH440R STV-DRH440R SCV-DRH440R
	SFV-DRH640AR STV-DRH640AR SCV-DRH640AR
	SFV-DRH40CP STV-DRH40CP SCV-DRH40CP
	SFV-DRH440A STV-DRH440A SCV-DRH440A
	SFV-DRK30AR STV-DRK30AR SCV-DRK30AR
	SFV-DRK45AR STV-DRK45AR SCV-DRK45AR

CxV BLADE TIPS		A													
<div><div>NEW</div></div> <table><tr><td>CFV-BL100</td><td>CCV-BL100</td><td>10mm (.40")</td></tr><tr><td>CFV-BL250</td><td>CCV-BL250</td><td>25mm (1")</td></tr><tr><td>CFV-BL350</td><td>CCV-BL350</td><td>35mm (1.4")</td></tr><tr><td>CFV-BL400</td><td>CCV-BL400</td><td>40mm (1.6")</td></tr><tr><td>CFV-BL500</td><td>CCV-BL500</td><td>50mm (2")</td></tr></table>	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")
	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 / Fiber Glass, for most standard applications T = Temperature Sensitive C = Ceramic for high thermal demand applications.

# PHT Soldering Tips



## PHT SOLDERING TIPS

Compatible with: PS-800, PS-800E and PS-900 Systems and PS-CA1 Coil Assembly

CHISEL		PHT-750315 PHT-650315	CONICAL		PHT-753035 PHT-653035
		PHT-750325 PHT-650325			PHT-752057 PHT-652057
		PHT-750326 PHT-650326			PHT-753067 PHT-653067
		PHT-750335 PHT-650335	HOOF		PHT-753077 PHT-653077
		PHT-751355 PHT-651355			PHT-754627 PHT-654627
		PHT-751367 PHT-651367			PHT-754667 PHT-654667
CONICAL		PHT-751384 PHT-651384			PHT-754687 PHT-654687
		PHT-752017 PHT-652017			PHT-754487F PHT-654487F
		PHT-752327 PHT-652327			PHT-654497 PHT-754497
		PHT-752035 PHT-652035			PHT-654697
		PHT-752335 PHT-652335	KNIFE		PHT-755437 PHT-655437
		PHT-752337 PHT-652337			PHT-755477 PHT-655477

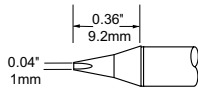
75 = 750 Series for most standard applications - 65 = 650 Series for temperature sensitive applications

# SxP Soldering & Rework Cartridges

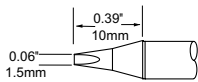
## SxP SOLDERING & REWORK CARTRIDGES

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

CHISEL



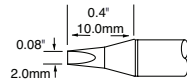
**SFP-CH10**  
**STP-CH10**  
**SCP-CH10**



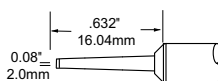
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**STP-CH15**  
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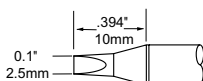
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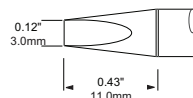
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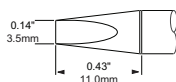
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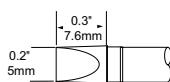
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**SFP-CH30**  
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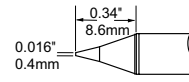


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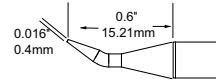


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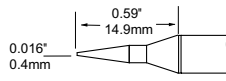
CONICAL



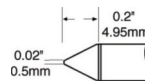
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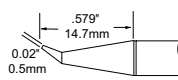
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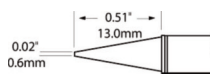
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**SFP-CN05**  
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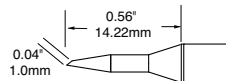


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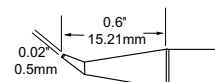


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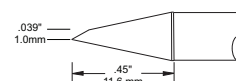
BEVEL



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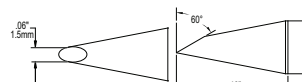
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**STP-DRH05**  
**SCP-DRH05**



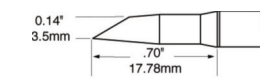
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**STP-DRH610**  
**SCP-DRH610**



**SFP-DRH15**  
**STP-DRH15**  
**SCP-DRH15**

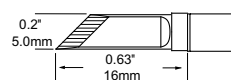


**SFP-DRH615**  
**STP-DRH615**  
**SCP-DRH615**



**SFP-DRH35**  
**STP-DRH35**  
**SCP-DRH35**

KNIFE



**SFP-DRK50**  
**STP-DRK50**  
**SCP-DRK50**

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

# 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)

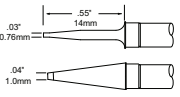
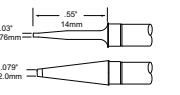
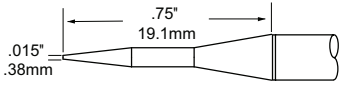
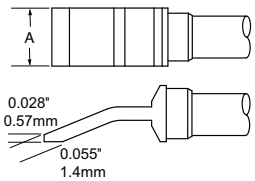
RxP REWORK CARTRIDGES		Compatible with: MFR-H10, MFR-H101, MFR-H103, MFR-H104, MFR-H105, MFR-H106, MFR-H107, MFR-H108, MFR-H109, MFR-H110, MFR-H111, MFR-H112, MFR-H113, MFR-H114, MFR-H115, MFR-H116, MFR-H117, MFR-H118, MFR-H119, MFR-H120, MFR-H121, MFR-H122, MFR-H123, MFR-H124, MFR-H125, MFR-H126, MFR-H127, MFR-H128, MFR-H129, MFR-H130, MFR-H131, MFR-H132, MFR-H133, MFR-H134, MFR-H135, MFR-H136, MFR-H137, MFR-H138, MFR-H139, MFR-H140, MFR-H141, MFR-H142, MFR-H143, MFR-H144, MFR-H145, MFR-H146, MFR-H147, MFR-H148, MFR-H149, MFR-H150, MFR-H151, MFR-H152, MFR-H153, MFR-H154, MFR-H155, MFR-H156, MFR-H157, MFR-H158, MFR-H159, MFR-H160, MFR-H161, MFR-H162, MFR-H163, MFR-H164, MFR-H165, MFR-H166, MFR-H167, MFR-H168, MFR-H169, MFR-H170, MFR-H171, MFR-H172, MFR-H173, MFR-H174, MFR-H175, MFR-H176, MFR-H177, MFR-H178, MFR-H179, MFR-H180, MFR-H181, MFR-H182, MFR-H183, MFR-H184, MFR-H185, MFR-H186, MFR-H187, MFR-H188, MFR-H189, MFR-H190, MFR-H191, MFR-H192, MFR-H193, MFR-H194, MFR-H195, MFR-H196, 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F = FR4 / Fiber Glass, for most standard applications T = Temperature Sensitive C = Ceramic for high thermal demand applications.






# TxP Tweezer Cartridges

## DxP Desoldering Tips

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

Compatible with: MFR-1150, MFR-1350, MFR-1351 systems with MFR-H5-DS hand-piece and previous MFR-DSX, -DSI, -SDX, -SDI Systems with MFR-HDS hand-piece.  
All dimensions shown are in mm (inches)

DxP DESOLDERING TIPS		A	B	TYPE
  <b>Standard</b>	DFP-CN2 DCP-CN2	0.64 (.025)	1.78 (.070)	Standard
	DFP-CN3 DCP-CN3	0.76 (.030)	2.03 (.080)	Standard
	DFP-CN4 DCP-CN4	1.02 (.040)	2.28 (.090)	Standard
	DFP-CN5 DCP-CN5	1.27 (.050)	2.64 (.104)	Standard
	DFP-CN6 DCP-CN6	1.52 (.060)	2.84 (.112)	Standard
	DFP-CN7 DCP-CN7	2.41 (.095)	3.63 (.143)	Standard
	DFP-CNL3 DCP-CNL3	0.76 (.030)	2.03 (.080)	Long Reach
 <b>Long Reach</b>	DFP-CNL4 DCP-CNL4	1.02 (.040)	2.28 (.090)	Long Reach
	DFP-CNL5 DCP-CNL5	1.27 (.050)	2.64 (.104)	Long Reach

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

# Convection Rework Overview

## SYSTEMS SERIES

M A N U A L   A N D   M O D U L A R   S Y S T E M S



MRS-1100A Modular Rework System



APR Scorpion Rework Systems

F O R   S M A L L   T O   M E D I U M

## HANDHELD SERIES

P R E - H E A T E R S



PCT-1000 Programmable Pre-Heater



PCT-100 Pre-Heater

D I G I T A L

A N A L O G