

# Hand Soldering, Desoldering &

## Single Port



PS-900



MFR-1100 Series

## Dual Port Switchable



MFR-1300 Series

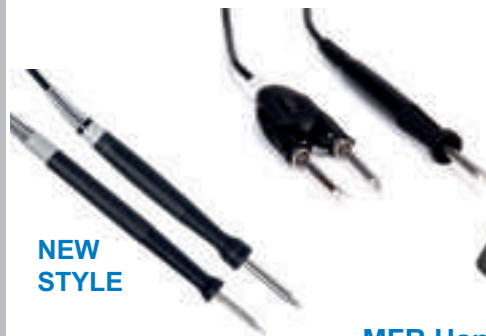


NEW MX-500 Series

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



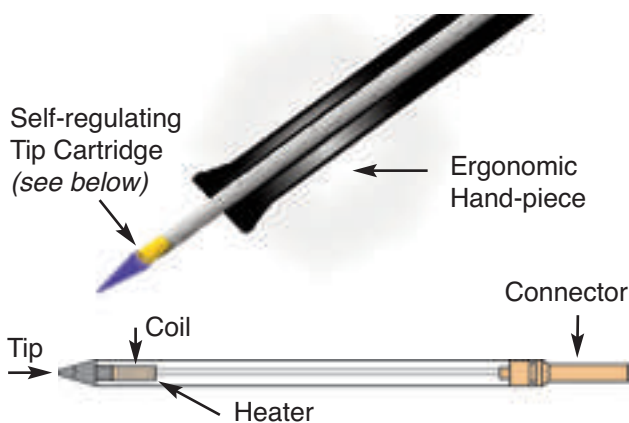
NEW  
STYLE

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 profile 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

#### SYSTEMS WITH TWO HAND-PIECES



**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



**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.

### 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

### POWER SUPPLY WITH NO HAND-PIECE



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



**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

# MX Series Hand-pieces


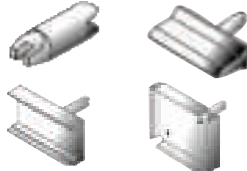


## Soldering, Desoldering & Rework Systems

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

<p><b>MX-RM3E</b> Metcal Hand-piece</p>		<p><b>STTC Soldering Cartridges</b> See pages 10-11.</p>
<p><b>MX-H1-AV</b> Metcal Advanced™ Hand-piece</p>		<p><b>SMTC Rework Cartridges</b> See pages 13-14.</p>
<p><b>MX-H2-UF</b> Metcal UltraFine™ Hand-piece</p>		<p><b>UFTC Ultra Fine Soldering Cartridges.</b> See page 12.</p>
<p><b>MX-PTZ</b> Metcal Precision Tweezer Hand-piece</p>		<p><b>PTTC Tweezer Cartridges.</b> 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.</p>
<p><b>MX-DS1</b> Metcal Desoldering Hand-piece</p>		<p><b>STDC Desoldering Cartridges.</b> See page 16.</p>



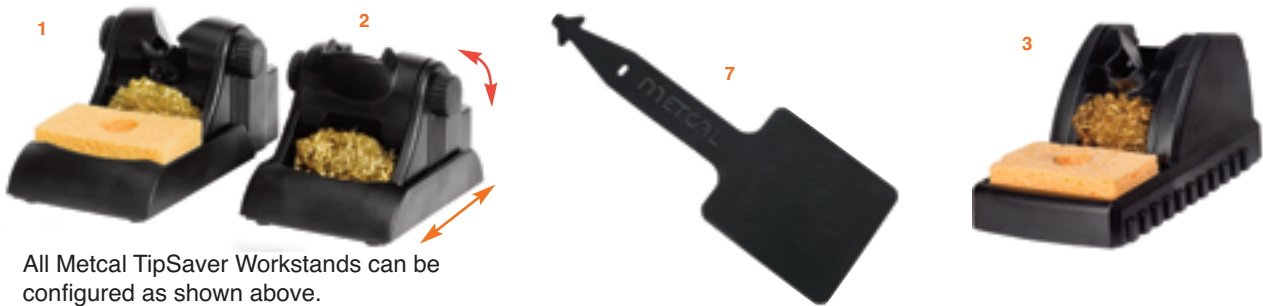
Hand-pieces and Grips		
MX-H1-AV	1	Metcal Advanced™ Hand-piece with cord, soldering and rework, two grips included (see *)
MX-H1GR	2	Grip Metcal Advanced™ Hand-piece with black sleeve in ring pattern (*)
MX-H1GS	3	Grip Metcal Advanced™ Hand-piece with black scallop pattern
MX-H1GKG	4	Grip Metcal Advanced™ 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				✓			✓

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



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.

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

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



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

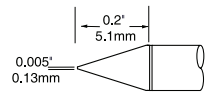
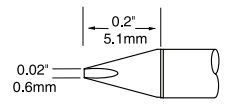
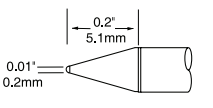
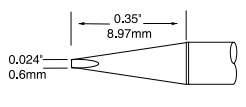
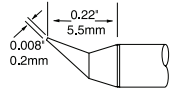
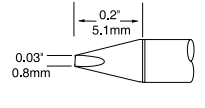
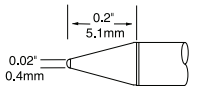
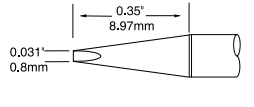
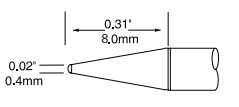
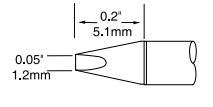
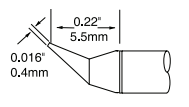
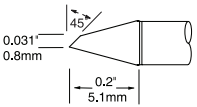
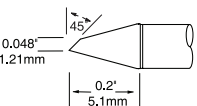
STTC SOLDERING CARTRIDGES							
CONICAL		STTC-506 STTC-006 STTC-106 STTC-806	CONICAL		STTC-507 STTC-007 STTC-107		
		STTC-545 STTC-045 STTC-145 STTC-845			STTC-541 STTC-041 STTC-141 STTC-841		
		STTC-540 STTC-040 STTC-140 STTC-840		BEVEL		STTC-546 STTC-046 STTC-146 STTC-846	
		STTC-511 STTC-011 STTC-111				STTC-147P STTC-847P	
		STTC-516 STTC-016 STTC-116 STTC-816				STTC-535 STTC-035 STTC-135	
		STTC-544 STTC-044 STTC-144 STTC-844				STTC-505 STTC-005 STTC-105	
		STTC-543 STTC-043 STTC-143 STTC-843			CONICAL		STTC-547 STTC-047 STTC-147 STTC-847
		STTC-101P STTC-801P					STTC-531 STTC-031 STTC-131
		STTC-501 STTC-001 STTC-101					

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



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

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

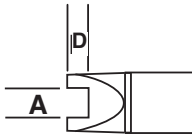
7 = 700 Series for most standard applications

# SMTC Rework Cartridges

## SMTC REWORK CARTRIDGES

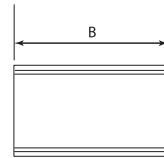
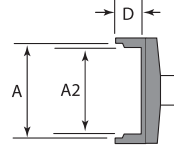
Compatible with: MX-500, MX-5000 and MX-5200 Systems / MX-RM3E and MX-H1-AV hand-pieces  
All dimensions shown are in mm (inches)

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

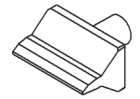
TUNNEL



	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		SMTC-0121	A	A2	D	B	B2	SMT TYPE	BLADE		SMTC-064	A	BLADE TYPE
		SMTC-1121	(.330)	(.330)	(.100)	(.330)	(.330)	(.330)			SQFP 48 (EIJA)	SMTC-164	5mm (.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-0120	11.18	11.18	2.54	11.18	11.18		SQFP 64 (EIJA)		SMTC-061	15.75mm (.62")	Long		
SMTC-1120	(.440)	(.440)	(.100)	(.440)	(.440)								
SMTC-1159	12.19	11.18	2.79	13.21	12.19		TQFP 44						
SMTC-0113	12.70	11.56	3.80	12.70	11.56		PLCC 28		SMTC-562	22mm (.86")	Long		
SMTC-1113	(.500)	(.455)	(.150)	(.500)	(.455)								
SMTC-1116	12.70	11.43	3.80	15.24	13.97		PLCC 32		SMTC-062	22mm (.86")	Long		
SMTC-1132	13.34	12.32	2.79	13.34	12.32								
SMTC-0118	15.49	14.48	2.79	15.49	14.48		VQFP 100 (EIJA)						
SMTC-1118	(.610)	(.570)	(.110)	(.610)	(.570)				SMTC-061	15.75mm (.62")	Long		
SMTC-043	16.51	16.51	3.30	22.48	22.48		QFP 100 Rectangular						
SMTC-143	(.650)	(.650)	(.130)	(.885)	(.885)				SMTC-061	15.75mm (.62")	Long		
SMTC-014	17.78	16.76	3.80	17.78	16.76		PLCC 44						
SMTC-114	(.700)	(.660)	(.150)	(.700)	(.660)								
SMTC-117	20.32	19.30	3.80	20.32	19.30		PLCC 52		SMTC-061	15.75mm (.62")	Long		
SMTC-118	25.27	19.30	3.80	25.27	19.30		PLCC 68						
SMTC-144	26.42	26.42	3.30	26.42	26.42		QFP 100 Square		SMTC-061	15.75mm (.62")	Long		
SMTC-5175													
SMTC-0175													
SMTC-1175													
SMTC-8175													
SMTC-5174													
SMTC-0174													
SMTC-1174													
SMTC-8174													
SMTC-5167													
SMTC-0167													
SMTC-1167													
SMTC-5169													
SMTC-0169													
SMTC-1169													
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SMTC-0170													
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SMTC-5161													
SMTC-0161													
SMTC-1161													
SMTC-5173													
SMTC-1173													
SMTC-8173													
STTC-1173P													
STTC-8173P													

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

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

CONICAL

BLADE

PTTC TWEezer CARTRIDGES	
	<p>PTTC-601 PTTC-701 PTTC-801</p>
	<p>PTTC-701B PTTC-801B</p>
	<p>PTTC-602 PTTC-702 PTTC-802</p>
	<p>PTTC-603 PTTC-703 PTTC-803</p>
	<p>PTTC-608B PTTC-708B PTTC-808B</p>
	<p>PTTC-604 PTTC-704 PTTC-804</p>
	<p>PTTC-605 PTTC-705 PTTC-805</p>
	<p>PTTC-606 PTTC-706 PTTC-806</p>
	<p>PTTC-607 PTTC-707 PTTC-807</p>


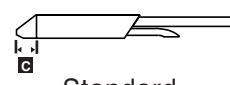
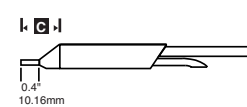
TATC TALON CARTRIDGES	
	<p>TATC-609</p>
	<p>TATC-601</p>
	<p>TATC-608</p>
	<p>TATC-602</p>
	<p>TATC-605</p>
	<p>TATC-603</p>
	<p>TATC-604</p>
	<p>TATC-606</p>

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)

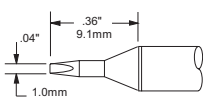
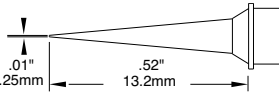
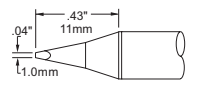
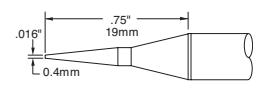
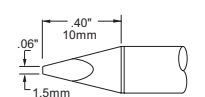
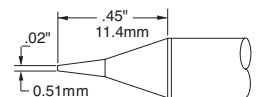
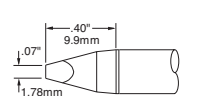
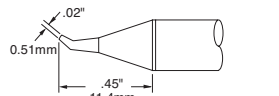
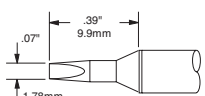
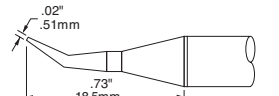
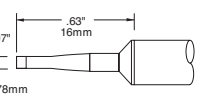
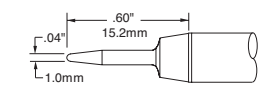
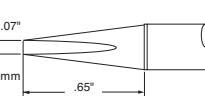
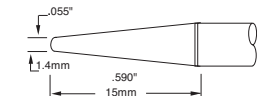
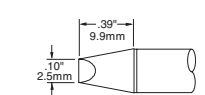
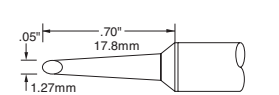
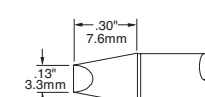
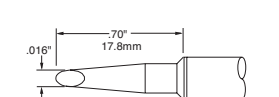
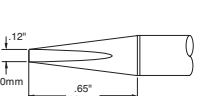
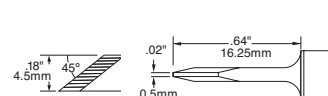

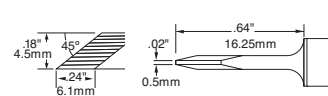
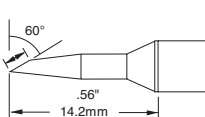
## STDC DESOLDER CARTRIDGES

	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
 <p>Standard</p>	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
 <p>Long Reach</p>	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					
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
		SSC-636A SSC-736A		HOOF	
	SSC-613A SSC-713A		SSC-639A SSC-739A		
BEVEL		SSC-646A SSC-746A	KNIFE		SSC-661A SSC-761A
		SSC-617A SSC-717A			SSC-673A SSC-773A
		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

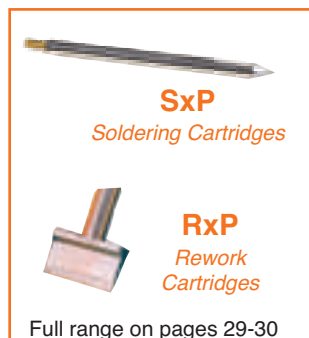
### NEW STYLE MFR Tip and Cartridge Hand-pieces.



MFR-H1-SC2  
Cartridge  
Hand-Piece

MFR-H2-ST2  
Tip Hand-Piece

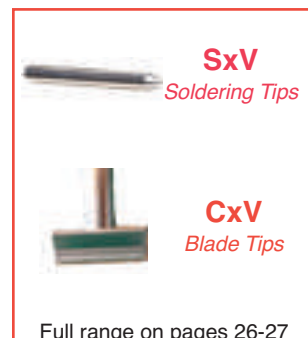
**Slimmer grip for added  
comfort and handling.**



**SxP**  
Soldering Cartridges

**RxP**  
Rework  
Cartridges

Full range on pages 29-30



**SxV**  
Soldering Tips

**CxV**  
Blade Tips

Full range on pages 26-27



**TxP**  
Tweezer  
Cartridges

Full range on page 31

# 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.

**SxP**  
Soldering Cartridges

**RxP**  
Rework Cartridges

Full range on pages 29-30

**SxV**  
Soldering Tips

**CxV**  
Blade Tips

Full range on pages 26-27

**TxP**  
Tweezer Cartridges

Full range on page 31

**SSC**  
Soldering Cartridges  
(Previous SP200 System)

Full range on page 17

# 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

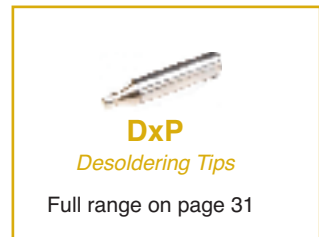
The MFR-1150 Desolder System with Venturi Workstand provides a compact and easy **shop air option**.

### 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

	<b>MFR-PS1100 Power Supply</b>
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 SmartHeat Technology provides greater power. More details at [www.metcal.com/smartheat](http://www.metcal.com/smartheat)



Collection chamber replacement

	<b>MFR-1150 System</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)
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



Remove grip for Pencil config.



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

	<b>MFR-H5-DS Desolder Hand-piece</b>
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

	<b>MFR-WSDSX Workstand</b>
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)

# MFR-1300 Dual Switchable Output

## Soldering & Desoldering Systems with Internal Air

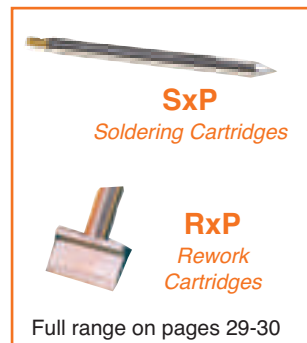
The MFR-1300 Desoldering and Rework System features a innovative desoldering hand-piece and a power supply with an **internal pump** providing 0.7 bar of vacuum suction force making through-hole desoldering easy.

### 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 Smarheat® 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

	MFR-1350/51
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 SmartHeat 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



# 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



**SxV**  
Soldering Tips

Full range on pages 26-27

**CxV**  
Blade Tips

Full range on page 27

## 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



**PHT**  
Light Load, Fine  
Access Soldering Tips

Full range on page 28



# 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")



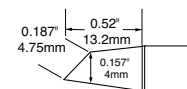
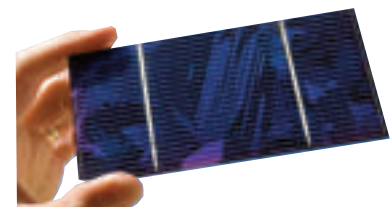
Tip Soldering Hand-Piece with PS-CA3 Coil Assembly

## PS-900-Solar



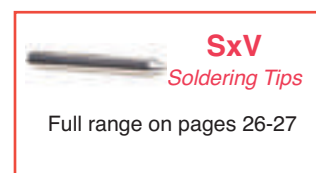
### Key Features & Benefits

- ▶ 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

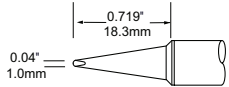
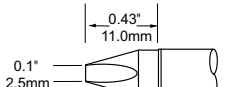
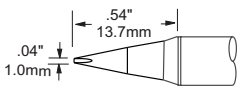
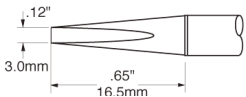
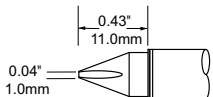
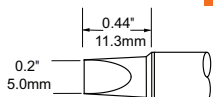
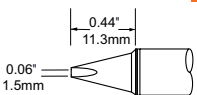
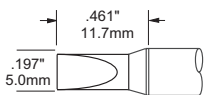
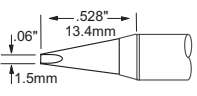
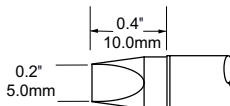
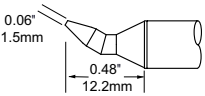
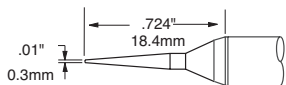
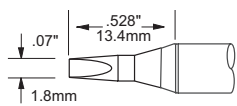
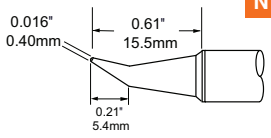
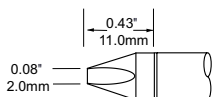
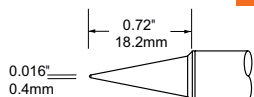
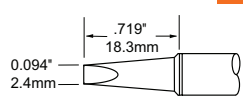
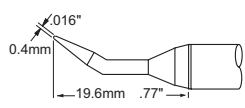
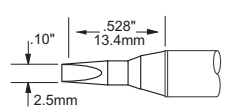
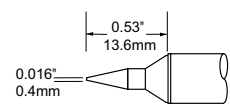




# SxV Soldering Tips



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

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
	<b>NEW</b> 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
	<b>NEW</b> 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
	<b>NEW</b> SFV-DRH440A STV-DRH440A SCV-DRH440A
	SFV-DRK30AR STV-DRK30AR SCV-DRK30AR
	SFV-DRK45AR STV-DRK45AR SCV-DRK45AR

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 / 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

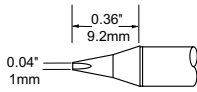
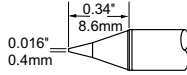
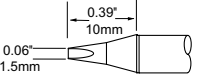

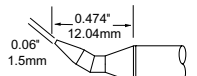
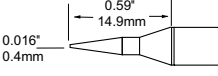
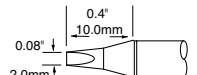
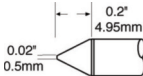
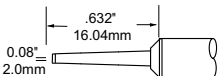
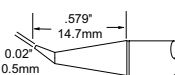
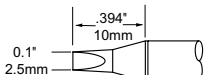
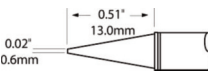
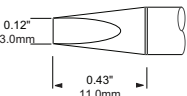
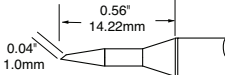
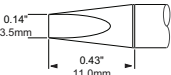
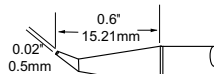
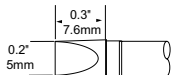
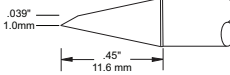
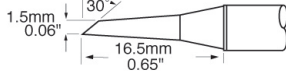
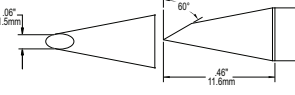
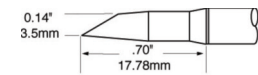
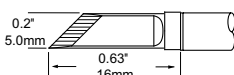
	CHISEL		CONICAL		HOOF		KNIFE
		<p>PHT-750315 PHT-650315</p>		<p>PHT-753035 PHT-653035</p>			
		<p>PHT-750325 PHT-650325</p>		<p>PHT-752057 PHT-652057</p>			
		<p>PHT-750326 PHT-650326</p>		<p>PHT-753067 PHT-653067</p>			
		<p>PHT-750335 PHT-650335</p>		<p>PHT-753077 PHT-653077</p>			
		<p>PHT-751355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

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

# SxP Soldering & Rework Cartridges



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

SxP SOLDERING & REWORK CARTRIDGES					
CHISEL		SFP-CH10 STP-CH10 SCP-CH10	CONICAL		SFP-CN04 STP-CN04 SCP-CN04
		SFP-CH15 STP-CH15 SCP-CH15			SFP-CNB04 STP-CNB04 SCP-CNB04
		SFP-CHB15 STP-CHB15 SCP-CHB15			SFP-CNL04 STP-CNL04 SCP-CNL04
		SFP-CH20 STP-CH20 SCP-CH20			SFP-CN05 STP-CN05 SCP-CN05
		SFP-CHL20 STP-CHL20 SCP-CHL20			SFP-CNB05 STP-CNB05 SCP-CNB05
		SFP-CH25 STP-CH25 SCP-CH25			SFP-CNL06 SCP-CNL06
		SFP-CH30 STP-CH30 SCP-CH30			SFP-BVL10 STP-BVL10 SCP-BVL10
		SFP-CH35 STP-CH35 SCP-CH35			SFP-DRH05 STP-DRH05 SCP-DRH05
		SFP-CH50 STP-CH50 SCP-CH50			SFP-DRH610 STP-DRH610 SCP-DRH610
					SFP-DRH15 STP-DRH15 SCP-DRH15
			SFP-DRH615 STP-DRH615 SCP-DRH615		
			SFP-DRH35 STP-DRH35 SCP-DRH35		
			SFP-DRK50 STP-DRK50 SCP-DRK50		
		KNIFE			

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								
BLADE			<b>A</b>	<b>B</b>	<b>D</b>	<b>SMT TYPE</b>		
		RFP-BL1 RCP-BL1	10 (0.41)	-	-	-		
		RFP-BL2 RCP-BL2	15.6 (0.62)	-	-	-		
TUNNEL		RFP-DL1 RCP-DL1	5.18 (0.204)	10.16 (0.40)	3.22 (0.127)	Tunnel SOIC-14-16		
		RFP-DL2 RCP-DL2	5.18 (0.204)	4.32 (0.17)	2.29 (.09)	Tunnel SOIC-8		
		RFP-DL3 RCP-DL3	6.86 (.270)	11.15 (0.44)	2.29 (.09)	Tunnel SOIC-16		
SLOT		RFP-SL1 RCP-SL1	2.34 (.092)	1.37 (.054)	1.78 (.07)	0805 Chip Package		
		RFP-SL2 RCP-SL2	3.48 (.137)	1.63 (.064)	1.78 (.07)	1206 Chip Package		
QUAD		RFP-QD4 RCP-QD4	12.70 (.500)	11.43 (.450)	3.81 (.150)	15.24 (.600)	13.97 (.550)	PLCC 32
		RFP-QD6 RCP-QD6	17.78 (.700)	16.76 (.660)	3.81 (.150)	17.78 (.700)	16.76 (.660)	PLCC 44
		RFP-QD7 RCP-QD7	25.27 (.995)	24.38 (.960)	5.59 (.220)	25.27 (.995)	24.38 (.960)	PLCC 68
		RFP-QD10 RCP-QD10	20.32 (.800)	19.30 (.760)	3.81 (.150)	20.32 (.800)	19.30 (.760)	PLCC 52
		RFP-QD15 RCP-QD15	13.34 (.525)	12.32 (.485)	2.79 (.110)	13.34 (.525)	12.32 (.485)	TQFP 80
		RFP-QD19 RCP-QD19	16.13 (.635)	16.13 (.635)	3.30 (.130)	16.13 (.635)	16.13 (.635)	QFP 44
		RFP-QD20 RCP-QD20	16.51 (.650)	16.51 (.650)	3.30 (.130)	22.48 (.885)	22.48 (.885)	QFP 100

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")
		TFP-CNP1 TTP-CNP1 TCP-CNP1	Conical 0.4mm x 19.1mm (.015" x .75")
HEAVY DUTY			<b>A</b>
		TFP-BLH40 TTP-BLH40 TCP-BLH40	6.35mm (.25")
		TFP-BLH50 TTP-BLH50 TCP-BLH50	16mm (.62")
	, .057mm tip, .0055" angle, 1.4mm length."/>	TFP-BLH60 TTP-BLH60 TCP-BLH60	20.5mm (.81")
		TFP-BLH70 TTP-BLH70 TCP-BLH70	28mm (1.1")

DxP Desoldering Tips		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)			
		A	B	TYPE	
	<p><b>Standard</b></p>	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
	<p><b>Long Reach</b></p>	DFP-CNL3 DCP-CNL3	0.76 (.030)	2.03 (.080)	Long Reach
		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



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.