METCAL MX-5000

Soldering, Desoldering and Rework System



Power. Precision. Performance.

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METCAL

Power. Precision. Performance.

Today, the main challenges for hand soldering and rework are driven by three factors. First, the need for more heat with lead-free and high thermal demand boards. Second, the need for higher levels of precision with increasingly smaller components. And finally, the need for greater control with components and substrates that require limited exposure to high temperatures.

The new MX-5000 Soldering, Desoldering and Rework System is the next generation of the trusted Metcal Soldering Systems that enable increased productivity and process control for a wide range of applications. Building on the renowned strengths of its popular MX-500 predecessor, the new MX-5000 Series increases output power, adds process feedback, and improves application flexibility with new hand-pieces.

More power. With nearly double the power of its predecessor, the MX-5000 time-to-recovery increases production rates and throughput. The challenges of high mass components, multilayered boards and lead-free solders are seamlessly matched.

Improved ergonomics. The MX-5000 Series offers two new soldering hand-pieces. The Metcal Advanced™ Hand-piece for soldering and rework provides a cooler, lighter weight and more comfortable feel for the operator. And, the new Metcal UltraFine™ Hand-piece features a new generation of extremely fine diameter cartridges in a slim profiled handle. Both of these hand-piece designs advance manual dexterity and ergonomics resulting in productivity gains and operator comfort.

Greater process control. SmartHeat® Technology in every MX-5000 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.





Metcal Gives You Choices

The new MX-5000 Series provides users with a wide range of choices to address conduction soldering and rework processes. At the core of each system is a microprocessor controlled power supply that provides more power, the highest level of precision and advanced user features for greater process control.

It has a built-in power indication meter with digital display and bar graph that dynamically 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.

The system has four mode indications: "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 feature allows a supervisor to set the desired time to cut off power to the hand-piece.



Hand-pieces: Comfort and Productivity

The four hand-pieces available for the MX-5000 will make the task at hand seem effortless. The new **Metcal Advanced™ Soldering Hand-piece** (MX-H1-AV) is a general purpose tool for single task soldering, touch-up soldering, Surface Mount Device (SMD) rework, and pad clean-up. This hand-piece uniquely offers users a choice of three interchangeable grips to meet operator preferences for comfort and feel, ultimately resulting in higher levels of productivity. The Metcal Advanced™ Hand-piece uses the highly popular STTC and SMTC Series cartridges.



MX-5000 Soldering Hand-pieces

A new speciality tool, the **Metcal UltraFine™ Hand-piece**, is designed for very fine soldering on mini and micro components. The new series of UFTC cartridges include geometries as small as 0.2 mm (.0078"). A slim handle and cool-to-the-touch feel and, like the Metcal Advanced™ Hand-piece, its interchangeable grips, promote operator acceptance and productivity.



Precision Tweezers Hand-piece

For efficient and ergonomic removal of discreet and SOIC components, the **Precision Tweezers Hand-piece** will increase productivity with greater removal speed and increased precision. The tweezers, using the PTTC Series of cartridges, are able to rework devices as small as 0201 by combining fine-tip soldering cartridges and a multiple axis hand-piece adjustability to achieve proper tip alignment.



Desoldering Hand-piece (DS1)

The high power **Desoldering Hand-piece, MX-DS1**, is designed for plated-through-hole component desoldering. The easy-to-grip handle allows the task to be completed quickly and comfortably. This "shop-air" hand tool, in combination with the new MX-5000 Series power supply, provides unprecedented thermal performance on difficult ground planes and other high-mass applications.

Workstand: Improved Tip Life, More User Options, Increased Ergonomics

The new **Metcal 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.



Metcal TipSaver™ Workstand with or without sponge

The TipSaver™ Workstand gives users a choice for configuration with soft, coiled brass tip cleaner or with both the brass cleaner and the traditional sponge holder. Many users prefer the brass-only option, as this reduces the potential to introduce contaminants to the tip, which can occur with poorly maintained sponges.

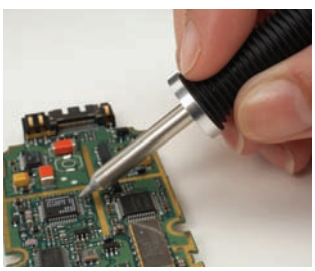
This new workstand has an adjustable angle cradle that allows operators to select and lock the angle for tool placement in the holder to meet their preference. This can positively impact ergonomics and productivity.



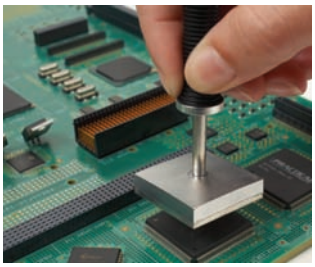
Systems Configurations and Recommended Applications

MX-5010 Soldering and Rework System

The MX-5010 is configured with the Metcal Advanced™ Hand-piece. This system is 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. For these applications, STTC Series (see pages 6 & 7) soldering cartridges are offered in dozens of geometries and sizes.



In addition, the MX-5010 can be used for conduction rework of SMDs when using SMTC Series soldering cartridges with such geometries as: blade, tunnel and quad styles that provide exact part fit up. Even more, the high power MX-5010 System is ideally suited for quickly and efficiently heating high-mass tips in this range, increasing operator throughput. A variety of SMTC soldering cartridges (see pages 8 & 9) geometries are available.





MX-5020 UltraFine™ Soldering System

The MX-5020 includes the Metcal UltraFine™ Soldering Hand-piece. Using the all-new UFTC cartridges, the hand-piece is a speciality tool for soldering and touch-up of very small components, restricted access or high density component packaging on a PCB.

The new range of UFTC cartridges (see page 10) feature tip geometries of 0.2 mm (.0078") to 1.2 mm (.047"). With their relatively small geometries and low mass, as compared to the STTC Series, these are suited for low-mass or small part soldering.



MX-5020 System with UltraFine™ Hand-piece

MX-5041 Precision Tweezers, Soldering and Rework System

The MX-5041 combines both the Metcal 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. When switching hand-pieces, tips reach operating temperature in seconds by simply pressing the Output Selector/Command Button.



MX-5041 System with MX-PTZ Hand-piece

MX-5050 Plated-Through-Hole Component Desoldering System

Users challenged by very large ground planes or lead-free solders, when desoldering through-hole devices, now have a new, high-power solution with the Metcal MX-5050. With constant temperature and variable power, the system safely and rapidly responds to the thermal load demands of the application. The exceptional power of the MX-5050 System's power supply coupled with the high mass STDC desoldering cartridges (see page 10) provide assurance for fast, high quality results.

MX-5051 Soldering, Desoldering and Rework System

For unmatched rework versatility, the MX-5051 addresses through-hole desoldering, general soldering, and SMD rework applications. The system includes two hand-pieces. The Metcal Advanced™ Hand-piece with a selection of soldering and SMD rework cartridges and the Metcal MX-DS1 Desoldering hand-piece for through-hole desoldering. This configuration is ideal for mixed technology boards and provides the greatest versatility for addressing soldering and rework tasks.

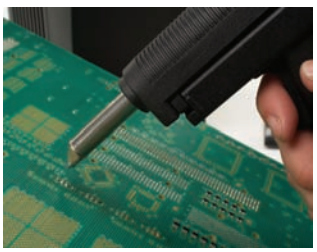


MX-5050 System with MX-DS1 Desoldering Hand-piece

SYSTEMS CONFIGURATION GUIDE

PART NUMBER	MX-PS5000 Power Supply	Hand-pieces				TipSaver™ 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-5010	✔	✔				✔		
MX-5020	✔		✔			✔		
MX-5041	✔	✔		✔		✔	✔	
MX-5050	✔				✔			✔
MX-5051	✔	✔			✔	✔		✔

All systems include: power supply, appropriate hand-pieces and workstands, power cord, cartridge removal pad, sponge, brass tip cleaning pad, user guide. MX-H1-AV and MX-H2-UF Hand-pieces include three grips per hand-piece.



Fast, efficient through-hole desoldering



Advanced™ Hand-piece



UltraFine™ Hand-piece

PART NUMBER	DESCRIPTION
Power Supply	
MX-PS5000	Power supply, 100 to 240 VAC input, dual switched port, LCD display
Note: power supply includes AC power cord and User Guide	
Hand-pieces and Grips	
MX-H1-AV	Metcal Advanced™ Hand-piece with cord, soldering and rework, three grips included
MX-H1GR	Grip Metcal Advanced™ Hand-piece with black sleeve in *ring* pattern
MX-H1GK	Grip Metcal Advanced™ Hand-piece with black sleeve in *knob* pattern
MX-H1GS	Grip Metcal Advanced™ Hand-piece with black *scallop* pattern
MX-H1-GSR-5	Sleeve, green, for Metcal Advanced™ Hand-piece grip, ring pattern, set of 5
MX-H2-UF	Metcal UltraFine™ Hand-piece with cord, fine soldering, three grips included
MX-H2GR	Grip Metcal UltraFine™ Hand-piece with black sleeve in *ring* pattern
MX-H2GK	Grip Metcal UltraFine™ Hand-piece, with black sleeve in *knob* pattern
MX-H2GS	Grip Metcal UltraFine™ Hand-piece with black sleeve in *scallop* pattern
MX-H2-GSR-5	Sleeve, green, for Metcal UltraFine™ Hand-piece grip, ring pattern, set of 5
MX-PTZ	Metcal Precision Tweezers, SMD rework
MX-DS1	Metcal Desoldering Hand-piece
AC-CP1	Accessory: cartridge removal pad, Metcal logo
Note: cartridges not included with hand-pieces	
Workstands and Accessories	
MX-W1AV	Metcal TipSaver™ Workstand, for Metcal Advanced™ and UltraFine™ Hand-pieces
MX-W1CR	Cradle for Metcal TipSaver™ Workstand, Metcal Advanced™ and UltraFine™ Hand-pieces, includes knobs
MX-W4PT	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
AC-Y10	Accessory: yellow sponge, package of ten
AC-BP	Accessory: brass pad, package of ten
Note: cartridges not included with hand-pieces	

Note: Users of the MX-500 System that have either an MX-RM3E Hand-piece or MX-TALON Tweezer-Action Hand-piece can still use these hand-pieces with the MX-5000 System. However, for improved operator comfort and ergonomics, the new Metcal Advanced™ Hand-piece (STTC and SMTC cartridges) and the MX-PTZ Precision Tweezers are highly recommended.

UPGRADE KITS GUIDE: HAND-PIECE AND WORKSTAND							
	Hand-pieces				Workstands		
PART NUMBER	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				✔			✔

Upgrade kits include a hand-piece and workstand. Upgrade kits are a recommended option when adding a hand-piece to ensure that the appropriate Auto-Sleep Workstand is used.



Hand-piece Selection Guide

The MX-5000 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.



Hand-pieces

MX-H2-UF
Metcal
UltraFine™
Hand-piece

MX-H1-AV
Metcal
Advanced™
Hand-piece

MX-PTZ
Metcal
Precision
Tweezer
Hand-piece

MX-DS1
Metcal
Desoldering
Hand-piece

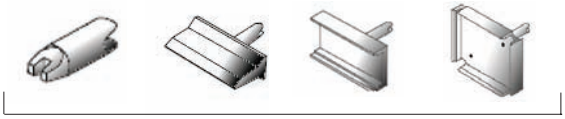
Tips



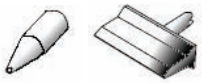
UFTC



STTC



SMTC



PTTC



STDC

Note: The MX-RM3E Rework Hand-piece and the MX-TALON Hand-piece from the MX-500 range are not recommended for use with the MX-5000 System, but they are available and compatible with the MX-5000 System.

Tip Temperature, Code and Series References

All Metcal tip cartridges are identified by letters indicating the type (UFTC, STTC, SMTC, PTTC. TATC or STDC) and digits. The first digit refers to the temperature series and the subsequent digits describe the tip cartridge geometry.

CARTRIDGES PART NUMBER CODE SYSTEM					
Type	**Temperature designation**			**Geometry**	
STTC –	**x**			**36**	
Cartridge Series		500	600	700	800
		Temperature Designations where x =			
STTC		5	0	1	8
SMTC		5	0	1	8
UFTC		n/a	n/a	7	n/a
PTTC		n/a	6	7	8
STDC		n/a	0	7*	8

Where * shown = 1
n/a = not applicable

Optimizing Results with Proper Geometry Selection

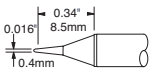
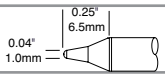
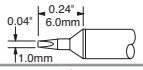
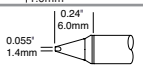
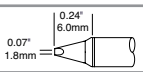
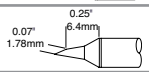
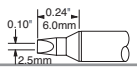
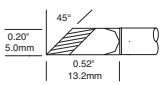
Selecting the correct cartridge geometry is extremely important to ensure high levels of heat transfer efficiency. To optimize the soldering process and to take better advantage of your soldering system's available power, always consider using tip geometries with the largest possible contact area. While long, small diameter, pointed tips are attractive for limited access to components, they may not promote heat transfer to the soldering joint as well as short, blunt-faced geometries.

This guide shows the selection of cartridges available for the Metcal MX-5000 Soldering, Desoldering and Rework Systems. Metcal offers a comprehensive range of cartridges for production soldering, touch-up soldering, pad clean-up, SMD component, and through-hole desoldering.

STTC Cartridges provide a wide range of soldering geometrics for through-hole and SMD rework. For use with the MX-RM3E and the Metcal Advanced™ Hand-piece (MX-H1-AV).

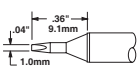
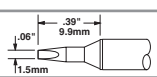
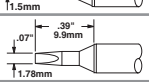
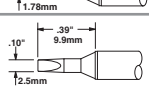
STTC Power Cartridges

Power cartridges are optimized for power delivery, ideal for high thermal demand applications including lead-free soldering processes and high mass substrates and components. These cartridges are designed with tip geometries to promote thermal transfer resulting in significant performance improvement.

STTC-x45P	Cartridge, Conical, 0.4mm (0.016")	
STTC-x01P	Cartridge, Conical, 1mm (0.04")	
STTC-x25P	Cartridge, Chisel, 1mm (0.04"), 30°	
STTC-x38P	Cartridge, Chisel, 1.5mm (0.06"), 30°	
STTC-x37P	Cartridge, Chisel, 1.78mm (0.07"), 30°	
STTC-x47P	Cartridge, Bevel, 1.78mm (0.07"), 60°	
STTC-x36P	Cartridge, Chisel, 2.5mm (0.1"), 30°	
STTC-x173P	Cartridge, Knife, 5mm (0.2")	

The following tips should be selected based on the work area to be soldered. Where possible the tip selected should deliver maximum contact to the work area and have as short a taper as possible for good thermal transfer. Long tapered and bent tips should only be selected where accessibility is limited.

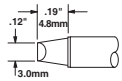
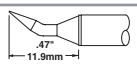
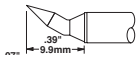
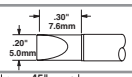
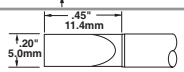
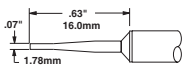
Chisel Cartridges NOTE: where indicated with an *, there is a power cartridge version which can improve performance.

STTC-x25*	Cartridge, Chisel, 1mm (0.04"), 30°	
STTC-x38*	Cartridge, Chisel, 1.35mm (0.053"), 30°	
STTC-x37*	Cartridge, Chisel, 1.78mm (0.07"), 30°	
STTC-x36*	Cartridge, Chisel, 2.5mm (0.1"), 30°	

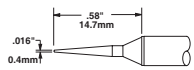
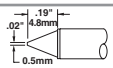
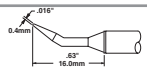
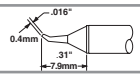
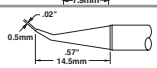
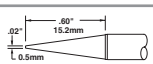
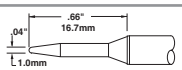
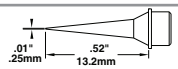
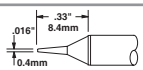
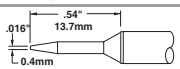
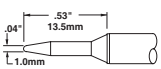


Cartridges for Metcal Advanced™ Hand-piece

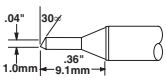
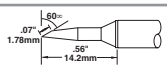
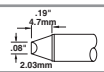
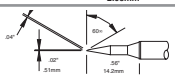
Chisel Cartridges

STTC-x13	Cartridge, Chisel, 3mm (0.12"), 90°	
STTC-x99	Cartridge, Chisel, Bent, 1.5mm (0.06"), 30°	
STTC-x98	Cartridge, Chisel, Bent, 1.78mm (0.07"), 30°	
STTC-x17	Cartridge, Chisel, 5mm (0.2"), 30°	
STTC-x65	Cartridge, Chisel, Long, 5mm (0.2")	
STTC-x42	Cartridge, Chisel, Long, 1.78mm (0.07"), 60°	

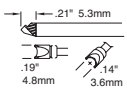
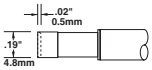
Conical Cartridges NOTE: where indicated with an *, there is a power cartridge version which can improve performance.

STTC-x45*	Cartridge, Conical, 0.4mm (0.016")	
STTC-x16	Cartridge, Conical, 0.5mm (0.02")	
STTC-x40	Cartridge, Conical, Bent, 0.4mm (0.016"), 30°	
STTC-x26	Cartridge, Conical, Bent, 0.4mm (0.016"), 30°	
STTC-x44	Cartridge, Conical, Bent, 0.5mm (0.02"), 30°	
STTC-x43	Cartridge, Conical, 0.5mm (0.02")	
STTC-x07	Cartridge, Conical, Long, 1mm (0.04")	
STTC-x90	Cartridge, Conical, 0.25mm (0.01")	
STTC-x22	Cartridge, Conical, 0.4mm (0.016")	
STTC-x06	Cartridge, Conical, 0.4mm (0.016")	
STTC-x01*	Cartridge, Conical, 1mm (0.04")	

Bevel Cartridges NOTE: where indicated with an *, there is a power cartridge version which can improve performance.

STTC-x24	Cartridge, Bevel, 1mm (0.04"), 30°	
STTC-x47*	Cartridge, Bevel, 1.78mm (0.07"), 60°	
STTC-x14	Cartridge, Bevel, 2mm (0.08"), 45°	
STTC-x46	Cartridge, Bevel, Long, 1mm (0.04"), 60°	

Speciality Cartridges

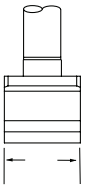
Co-Axial	STTC-x97	Cartridge, Co-Axial, 3.6mm (0.14")	
Heat Stake	STTC-x70	Cartridge, Heat Stake, 4.8mm (0.19")	

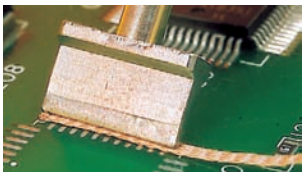
SMTC Cartridges provide a wide range of options to address specialized soldering and rework applications inclusing BGA pad cleaning blades, drag hoof, knife tips as well as a slot tunnel and quad cartridges for the most popular PLCC, SOIC and SOP devices. For use with the Metcal Advanced™ Hand-piece (MX-H1-AV).

Blade Cartridges

Blade cartridges are designed to allow effective and quick cleaning of PCB pads. This range of blade geometries is highly effective for utilizing the available power of the MX-5010 Systems. Metcal's SmartHeat® Technology enables a dynamic and exceptionally fast response to load demands resulting in a virtually risk-free pad cleaning process.

SMTC-x64	Cartridge, Blade, 5mm (0.2")
SMTC-x60	Cartridge, Blade, 10mm (0.4")
SMTC-x61	Cartridge, Blade, 15.75mm (0.62")
SMTC-x62	Cartridge, Blade, 22mm (0.86")
SMTC-x63	Dual Heater Blade, 45.46mm (1.79")

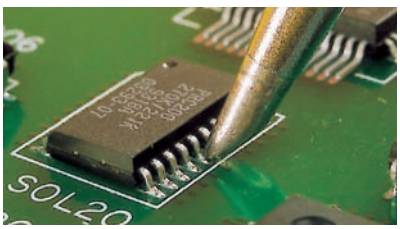




Hoof Tip Cartridges

With solder deposited on the face of the hoof tip, users can gently drag the tip across an array of leads resulting in fast and effectively formed solder connections. These geometries are ideal for multi-lead soldering of J-lead or gull wing components. Smaller diameter tips such as the SMTC-x167 allow for multi-lead soldering in confined spaces. Of special note, hoof tips have a large contact area and enhance heat transfer. Consider these for high thermal demand applications.

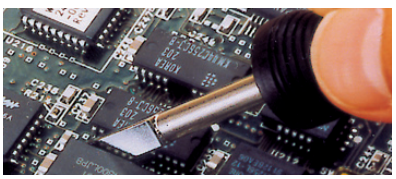
SMTC-x175	Cartridge, Hoof, 0.89mm (0.035"), 60°
SMTC-x174	Cartridge, Hoof, Long, 1.1mm (0.04"), 60°
SMTC-x167	Cartridge, Hoof, 1.5mm (0.06"), 60°
SMTC-x169	Cartridge, Hoof, Long, 2mm (0.08"), 60°
SMTC-x170	Cartridge, Hoof, Long, 3mm (0.12"), 60°
SMTC-x147	Cartridge, Hoof, 3.3mm (0.13"), 60°



Knife, Conical and Hook Cartridges

Knife tip cartridges for multi-lead soldering allows users to quickly and easily solder lead arrays rather than point-to-point soldering. Knife tips are particularly suited to soldering of J-leaded components such as PLCCs and DRAMs.

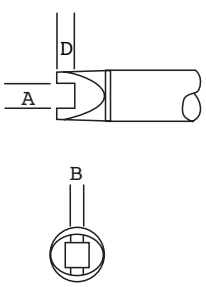
SMTC-x172	Cartridge, Hook, Long, 0.5mm (0.02")
SMTC-x171	Cartridge, Conical, Bent, 0.76mm (0.03")
SMTC-x161	Cartridge, Knife, Thin Tin Length, 4.8mm (0.18")
SMTC-x173	Cartridge, Knife, Wide Tin Length, 4.8mm (0.18")



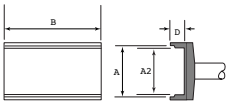
Slot Cartridges

Metcal offers a range of slot cartridges for successful removal of discrete and passive devices. Simply select the cartridge which best suits the lead width of the component. With slot cartridges it is possible to use a slightly larger cartridge and fill the void with solder to successfully remove components with slightly smaller footprints.

		Dim A mm (")	Dim B mm (")	Dim D mm (")
SMTC-x05	Cartridge, Slot, SOT-32	1.7 (0.068)	2.5 (0.100)	1.27 (0.050)
SMTC-x96	Cartridge, Slot, Chip 0402, 0603	1.8 (0.070)	1 (0.040)	1 (0.040)
SMTC-x01	Cartridge, Slot, Chip 0805	2.3 (0.090)	1.3 (0.050)	1.8 (0.070)
SMTC-x02	Cartridge, Slot, Chip 1206, 1210	3.6 (0.140)	1.5 (0.060)	1.8 (0.070)
SMTC-x03	Cartridge, Slot, Chip 1808, 1812	4.8 (0.190)	2 (0.080)	1.9 (0.075)



Cartridges for Metcal Advanced™ Hand-piece

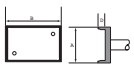


Tunnel Cartridges

Tunnel and socket cartridges are used for the removal of multi-lead, two-sided components such as SOICs, SOJs and TSOPs.
Note: The quad, tunnel and socket cartridges are component specific. The relevant components to be removed are quoted in the item descriptions. If a range of different components are removed regularly then PTTC Tweezers should be considered.

Item	Description	Dim A mm (")	Dim A2 mm (")	Dim B mm (")	Dim D mm (")
SMTC-x42	Cartridge, Tunnel, SOIC-32	13.21 (0.520)	13.21 (0.520)	20.45 (0.805)	3.18 (0.125)
SMTC-x06	Cartridge, Tunnel, SOIC-14, 16	5.08 (0.200)	5.08 (0.200)	10.16 (0.400)	2.30 (0.90)
SMTC-x04	Cartridge, Tunnel, SOIC-8	5.08 (0.200)	5.08 (0.200)	4.32 (0.170)	2.30 (0.90)
SMTC-x142	Cartridge, Tunnel, SOIC-14	5.18 (0.204)	5.18 (0.204)	8.90 (0.350)	2.50 (0.100)
SMTC-x20	Cartridge, Tunnel, SOMC-16	6.86 (0.270)	6.86 (0.270)	11.18 (0.440)	2.30 (0.090)
SMTC-x138	Cartridge, Tunnel, SOP-20	6.86 (0.270)	6.86 (0.270)	7.24 (0.285)	2.50 (0.100)
SMTC-x124	Cartridge, Tunnel, SOJ-16	8.13 (0.320)	8.13 (0.320)	11.94 (0.470)	6.86 (0.270)
SMTC-x47	Cartridge, Tunnel, DPAK	8.50 (0.335)	8.50 (0.335)	6.35 (0.250)	5.00 (0.200)
SMTC-x26	Cartridge, Tunnel, SOJ-28, SOM-36	8.64 (0.340)	8.00 (0.315)	18.80 (0.740)	1.88 (0.074)
SMTC-x10	Cartridge, Tunnel, SOIC-20	9.53 (0.375)	9.53 (0.375)	13.20 (0.520)	3.20 (0.125)
SMTC-x09	Cartridge, Tunnel, SOIC-24	9.53 (0.375)	9.53 (0.375)	15.75 (0.620)	3.20 (0.125)
SMTC-x07	Cartridge, Tunnel, SOIC-28	9.53 (0.375)	9.53 (0.375)	18.30 (0.720)	3.20 (0.125)
SMTC-x107	Cartridge, Tunnel, SO-8	9.65 (0.380)	8.10 (0.320)	19.00 (0.750)	6.10 (0.240)
SMTC-x40	Cartridge, Tunnel, SOJ-40. SOM-32	11.43 (0.450)	10.40 (0.410)	25.90 (1.02)	1.90 (0.075)
SMTC-x83	Cartridge, Tunnel, SOP-44	14.35 (0.565)	12.95 (0.510)	27.18 (1.07)	2.70 (0.105)

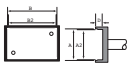
Socket Cartridges



Item	Description	Dim A mm (")	Dim B mm (")	Dim D mm (")
SMTC-x109	Cartridge, Socket, PLCC-32	11.58 (0.456)	14.12 (0.556)	3.05 (0.120)
SMTC-x144	Cartridge, Socket, PLCC-20	9.14 (0.360)	9.14 (0.360)	2.91 (0.115)

Quad Cartridges

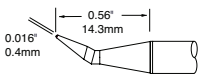
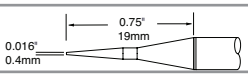
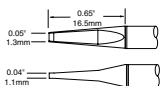
Four-sided devices such as QFP and PLCC can be removed using the following.

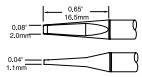
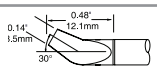
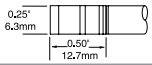
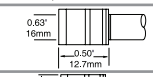
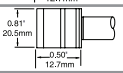
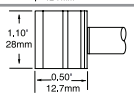


Item	Description	Dim A2 mm (")	Dim A mm (")	Dim B2 mm (")	Dim B mm (")	Dim D mm (")
SMTC-x118	Cartridge, Quad, VQFP-100	14.48 (0.570)	15.49 (0.610)	14.48 (0.570)	15.49 (0.610)	2.79 (0.110)
SMTC-x12	Cartridge, Quad, PLCC-20	9.14 (0.360)	10.16 (0.400)	9.14 (0.360)	10.16 (0.400)	3.80 (0.150)
SMTC-x120	Cartridge, Quad, SQFP-64	11.18 (0.440)	11.18 (0.440)	11.18 (0.440)	11.18 (0.440)	2.54 (0.100)
SMTC-x121	Cartridge, Quad, SQFP-48	8.38 (0.330)	8.38 (0.330)	8.38 (0.330)	8.38 (0.330)	2.54 (0.100)
SMTC-x13	Cartridge, Quad, PLCC-28	11.56 (0.455)	12.70 (0.500)	11.58 (0.455)	12.70 (0.500)	3.80 (0.150)
SMTC-x14	Cartridge, Quad, PLCC-44	16.76 (0.660)	17.78 (0.700)	16.76 (0.660)	17.78 (0.700)	3.80 (0.150)
SMTC-x159	Cartridge, Quad, TQFP-44	11.18 (0.440)	12.19 (0.480)	12.19 (0.480)	13.21 (0.520)	2.79 (0.110)
SMTC-x16	Cartridge, Quad, PLCC-32	11.43 (0.450)	12.70 (0.500)	13.97 (0.550)	15.24 (0.600)	3.81 (0.150)
SMTC-x17	Cartridge, Quad, PLCC-52	19.30 (0.760)	20.32 (0.800)	19.30 (0.760)	20.32 (0.800)	3.81 (0.150)
SMTC-x21	Cartridge, Quad, QFP-44	16.13 (0.635)	16.13 (0.635)	16.13 (0.635)	16.13 (0.635)	3.30 (0.130)

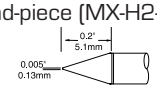
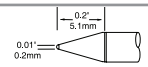
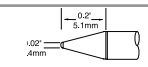
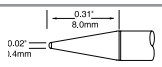
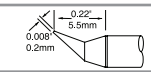
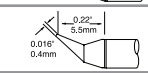
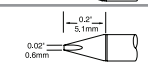
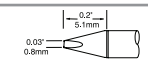
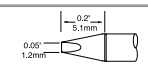
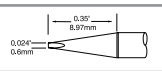
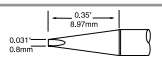
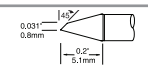
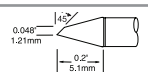
PTTC Tweezer Cartridges for use with the MX-PTZ Hand-piece

The MX-PTZ Precision Tweezers Hand-piece provides an efficient and ergonomic resource to users for removal and replacement of chip and SOIC packages. Especially with larger tip geometries, where heat volume is required for an efficient process, the MX-5000 System offers exceptional speed and control over the rework process.

PTTC-x01B*	Cartridge, Tweezer, Bent, 0.4mm (0.016") Pair	
PTTC-x01	Cartridge, Tweezer, Conical, 0.4mm (0.016") Pair	
PTTC-x02	Cartridge, Tweezer, Blade, 1.27mm (0.05") Pair	

PTTC-x03	Cartridge, Tweezer, Blade, 2mm (0.08") Pair	
PTTC-x08B	Cartridge, Tweezer, 3.2mm (0.12"), Pair	
PTTC-x04	Cartridge, Tweezer, Blade, 6.35mm (0.25") Pair	
PTTC-x05	Cartridge, Tweezer, Blade, 15.75mm (0.62") Pair	
PTTC-x06	Cartridge, Tweezer, Blade, 20.6mm (0.8") Pair	
PTTC-x07	Cartridge, Tweezer, Blade, 28mm (1.1") Pair	

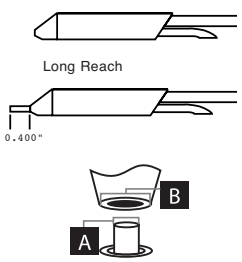
UFTC UltraFine™ Tip Cartridges for use with the Metcal UltraFine™ Hand-piece (MX-H2-UF)

UFTC-xCN01	UltraFine™ Tip Cartridge, Conical 0.13mm x 5.1mm (0.005" x 0.2")	
UFTC-xCN02	UltraFine™ Tip Cartridge, Conical 0.2mm x 5mm (0.01" x 0.2")	
UFTC-xCN04	UltraFine™ Tip Cartridge, Conical 0.4mm x 5mm (0.02" x 0.2")	
UFTC-xCNL04	UltraFine™ Tip Cartridge, Conical, Long 0.4mm x 9mm (0.02" x 0.31")	
UFTC-xCNB02	UltraFine™ Tip Cartridge, Conical, Bent 0.2mm x 5.5mm (0.01" x 0.22")	
UFTC-xCNB04	UltraFine™ Tip Cartridge, Conical, Bent 0.4mm x 5.5mm (0.02" x 0.22")	
UFTC-xCH06	UltraFine™ Tip Cartridge, Chisel 0.6mm x 5.1mm (0.024" x 0.2")	
UFTC-xCH08	UltraFine™ Tip Cartridge, Chisel 0.8mm x 5.1mm (0.03" x 0.2")	
UFTC-xCH12	UltraFine™ Tip Cartridge, Chisel 1.2mm x 5mm (0.05" x 0.2")	
UFTC-xCHL06	UltraFine™ Tip Cartridge, Chisel, Long 0.6mm x 9mm (0.024" x 0.35")	
UFTC-xCHL08	UltraFine™ Tip Cartridge, Chisel, Long 0.8mm x 9mm (0.03" x 0.35")	
UFTC-xDRH408	UltraFine™ Tip Cartridge, Hoof, Micro 0.8mm x 5.1mm (0.03" x 0.2")	
UFTC-xDRH412	UltraFine™ Tip Cartridge, Hoof, Micro 1.2mm x 5.1mm (0.048" x 0.2")	

STDC Desolder Cartridges

The Metcal MX-DS1 Desoldering Hand-piece provides exceptional ability for safely desoldering through-hole components. The high-mass STDC cartridges store a high volume of heat while maintaining a non-damaging constant temperature. Coupled with the MX-5000 power supply, heat is rapidly replenished, dynamically responding to the load conditions.

		ø A mm (")	ø B mm (")
STDC-x02	Cartridge, Desolder	0.64mm (0.025")	1.40mm (.055")
STDC-x03	Cartridge, Desolder	0.76mm (0.076")	1.68mm (.066")
STDC-x04	Cartridge, Desolder	1.02mm (0.04")	1.78mm (.070")
STDC-x05	Cartridge, Desolder	1.27mm (0.05")	2.03mm (.080")
STDC-x06	Cartridge, Desolder	1.52mm (0.06")	2.29mm (.090")
STDC-x07	Cartridge, Desolder	2.41mm (0.095")	3.18mm (.125")
STDC-x03L	Cartridge, Desolder Long Reach	0.76mm (0.03")	1.68mm (.066")
STDC-x04L	Cartridge, Desolder Long Reach	1.02mm (0.04")	1.79mm (.070")
STDC-X05L	Cartridge, Desolder Long Reach	1.27mm (0.05")	2.03mm (.080")





MX-5000 SERIES SYSTEM SPECIFICATIONS

Ambient Operating Temperature	10 - 40°C
Maximum Enclosure Temperature	55°C
Input Line Voltage	100 - 240 VAC, grounded circuit
Input Line Frequency	50/60 Hz
Power Consumption	125W
Output Power (Max.)	80 Watts max. Per channel at 22°C ambient temperature
Output Frequency	13.56 MHz
Power Cord 3-Wire	183 cm (72") SJT
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=122 cm (48"), burn proof, ESD safe
Hand-piece Connector	F connector
Workstand Dimensions w x d x h	8.6 cm (3.4") x 19.1 cm (7.5") x 8.3 cm (3.3")
Weight of the power supply	7.4 lbs (3.35 kg)
Weight of the workstand	1.05 lbs (.476 kg)

Worldwide

Headquarters
OK International
12151 Monarch Street
Garden Grove, CA 92841
USA
Tel: 1-714-799-9910
Fax: 1-714-799-9533

Asia

China
OK Electronics (Beijing) Co., Ltd
North Wing No.1 Building
Ke Chuang 3rd Street, 17
Beijing Economic & Technical
Developing Zone
Beijing, 100023
P. R. China
Tel: +86-10-87300320
Fax: +86-10-87300340
okchina@okinternational.com

OK Electronics Suzhou Office
Room 511, Donghuan Mansion,
NO.328
Donghuan Road
Suzhou, 215123
P.R.China
Tel: +86-512-62570281
Fax: +86-512-62570280

Japan
OK International Japan Co.
5-3-1 Heiwajima, Ota-ku
Tokyo 143-0006
Japan
Tel: +81-3-5753-0085
Fax: +81-3-3765-8855

Singapore
OK International (Sales Support)
1 Temasek Avenue
#27-01 Millenia Tower
Singapore 039192
Tel: +65 67263914
Mobile: +65 9798 4443/
+65 94874276

OK Electronics Shanghai Office
A-23D, The Regalia Building, NO.29
XiangCheng Rd, PuDong New Area.
ShangHai, 200122
P.R.China
Tel: +86-21-50810076
Fax: +86-21-50810477

OK Electronics Shenzhen Office
A-12F1, Haiwang Bldg.
Nanhai Av., Nanshan Section
Shenzhen, 518054
P.R.China
Tel: +86-755-26647448
Fax: +86-755-26647449

India
Division of Dover India Pvt. Ltd.
1 Shreya Apartment
1015/4 Shivaji Nagar
Pune 400016
India
Tel: +91-9821852474

Taiwan
4Fl., No. 48, Lane 86, Sec. 2,
Xin-Yi Rd.
Taipei City 10641,
Taiwan
Tel/Fax: +886 (2) 2327-8986

Europe

U.K.
OK International Ltd.
Eagle Close, Chandlers Ford
Hampshire, SO53 4NF
U.K.
Tel: +44 (0) 23 8048 9100
Fax: +44 (0) 23 8048 9109
europe@okinternational.com

Germany
OK International GmbH
Frankfurter Strasse 75
D-65239 Hochheim
Germany
Tel: +49 (0) 6146-83776-0
Fax: +49 (0) 6146-83776-22
d-info@okinternational.com

Italy
OK International
a division of Dover Italy Srl
Strada Statale 11 - No. 28,
20010 Vittuone (Milano)
Italy
Tel: +39 02 9025161
Fax: +39 02 90111147
info@okinternational.it

France
OK International SAS
Rue de la Saône
ZAC de Folliouses-les Echêts
01706 Miribel Cedex
France
Tel: +33 (0)4 72 26 20 30
Fax: +33 (0)4 72 26 20 35
fr-info@okinternational.com

okinternational

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www.metcal.com