

Power. Precision. Performance.

The 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 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 Metcal UltraFine™ Hand-piece features a new generation of extremely fine diameter cartridges in a slim profile handle. Both of these hand-piece designs advance manual dexterity and ergonomics resulting in productivity gains and operator comfort. All Hand-pieces are forward and backward compatible, and all STTC cartridges tips will function with both MX-500 and MX-5000 Systems.

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. The MX-5000 is 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 has been restored, can the MX-5000 be restarted and soldering operations can be resumed.

Metcal Gives You Choices

The 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" (Programmable sleep from 10 to 120min): 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 **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.

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.

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.

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 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 **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.

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 cartridge geometries are available [see pages 8 & 9].



MX-5000 Soldering Hand-pieces
a. MX-RM3E
b. MX-H1-AV
c. MX-H2-UF



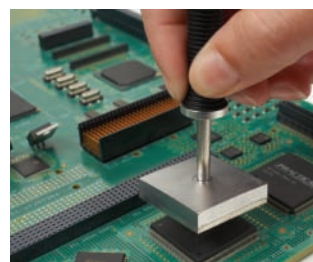
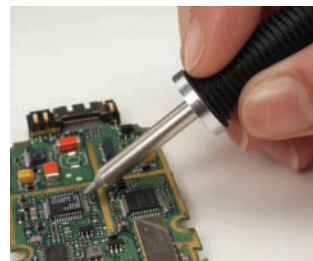
MX-PTZ Precision Tweezers Hand-piece
also compatible with MX-500 System.



MX-DS1 Desoldering Hand-piece also
compatible with MX-500 System



Metcal TipSaver™ Workstand
with or without sponge



MX-5020 UltraFine™ Soldering System

The MX-5020 includes the new Metcal UltraFine™ Soldering Hand-piece. Using the all-new UFTC cartridges, the hand-piece is a specialty 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.



New 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-PTZ Tweezer 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-DS1 Desoldering Hand-piece

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.

SYSTEMS CONFIGURATION GUIDE								
PART NUMBER	MX-PS5000 Power Supply	Hand-pieces				TipSaver™ Workstands		
		MX-H1-AV Advanced™ Hand-piece	MX-H2-UF UltraFine™ Hand-piece	MX-PTZ Precision Tweezers	MX-DS1 Desoldering Gun	MX-W1AV TipSaver™ Workstand for Advanced™ & Ultra-Fine™ Hand-pieces	MX-W4PT TipSaver™ Workstand for Precision Tweezers	MX-W5DS TipSaver™ Workstand for Desoldering Gun
MX-5010	✓	✓				✓		
MX-5020	✓		✓			✓		
MX-5041	✓	✓		✓		✓	✓	
MX-5050	✓				✓			✓
MX-5051	✓	✓			✓	✓		✓

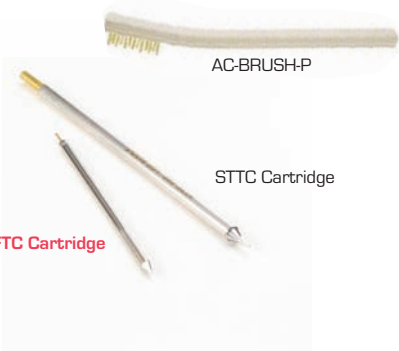
All systems include: power supply, appropriate hand-pieces and workstands, power cord, cartridge removal pad, sponge, brass tip cleaning pad, user guide. MX-H1-AV and MX-H2-UF Hand-pieces include three grips per hand-piece.



Three grips available
a. MX-H1GR
b. MX-H1GKG
c. MX-H1GS



MX-H2-UF
New UltraFine™ Hand-piece
[4.75", 120mm long]



MX-H1-AV
Advanced™ Hand-piece
[6.75", 171mm long]

AC-BRUSH-P

STTC Cartridge

New UFTC Cartridge