METCAL

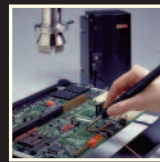*Precision Systems for the Electronics Bench*

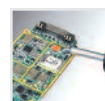## SOLDERING, DESOLDERING AND REWORK SYSTEMS

METCAL

Since 1982, OK International's Metcal brand has been the industry's single source of high-performance, precision systems for the electronics bench. Always ahead of the competition, Metcal's soldering/desoldering stations, BGA/CSP/QFP rework equipment and fume extraction systems continue to set the standard for reliability, flexibility and cost-effective performance.

By listening to customers, focusing on their specific needs and working as their technology partner, we continue the quest for excellence, economy and innovation – aimed at helping each customer meet increasingly complex electronics manufacturing challenges.

Contents

SmartHeat® Technology

The Metcal Difference

In production environments where a single component can cost hundreds of dollars and rework and repair can sometimes be more costly than the components involved, process control is vital. Metcal improves product quality, increases productivity and reduces manufacturing costs with its patented SmartHeat® technology. As SmartHeat® maintains a constant tip temperature, automatically delivering the exact amount of power required for the task, consistent results are guaranteed and component/PCB damage is virtually eliminated. Metcal's SmartHeat® systems offer task-specific versatility with no limits, no barriers and absolutely no compromise.
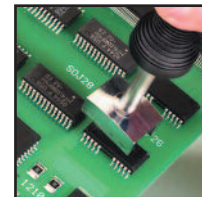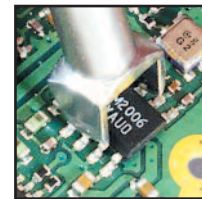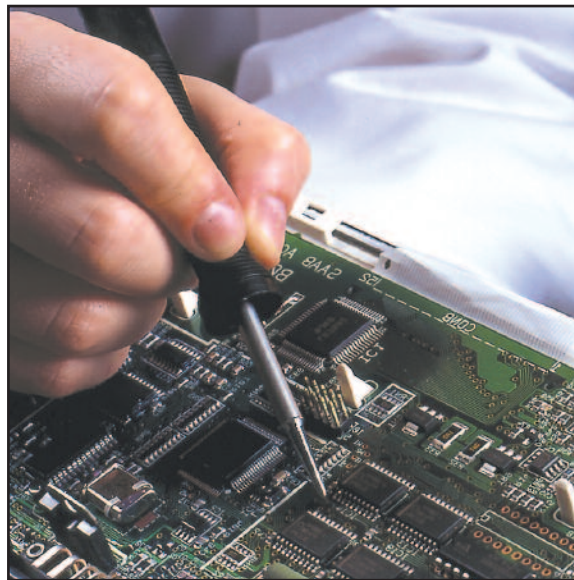
What Is SmartHeat®?

Unlike conventional soldering irons, SmartHeat® administers heat directly from the heater to the joint. Metcal tip cartridges detect the thermal load and instantly adjust the power in order to deliver the right amount of heat precisely where it is needed. If the tip cools while transferring heat to a joint, SmartHeat® immediately responds by safely increasing the power to maintain a constant tip temperature. As a result, operators are relieved of the responsibility of regulating the tip temperature, thus eliminating the risk of thermal damage to the component or to the PCB.

SmartHeat® soldering systems comprise three basic elements: a high frequency power supply, a tip cartridge and a hand-piece. The cartridge contains the solder tip, a heater and the wire coil.

When the temperature of the heater (a copper bar coated with a magnetised iron/nickel alloy) reaches a certain level (its Curie Point), it stops absorbing energy and the temperature becomes
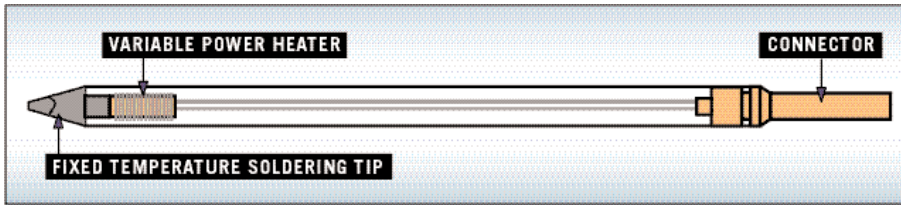
constant. Energy from the power supply feeds a steady current to the coil. This creates an electrical field from which the heater absorbs energy, turns it into heat and transfers it to the iron/nickel alloy. When soldering has drawn heat from the heater to the extent that the tip begins to cool, the alloy reacts by taking on more energy in order to reheat the tip. In this way, SmartHeat® self-regulates the tip temperature to within ±1.1°C of a set point regardless of thermal load and without any need for adjustment.

Trouble-Free Tip Replacement

The heat-resistant pad supplied with the unit allows you to easily insert and remove the tip cartridge. The simplicity of this process ensures there is no loss of productivity, no need for additional tools and no reason for two soldering systems to be heating at the same time.

The SmartHeat® Route To Lead-Free Hand Soldering

Switching to lead-free hand soldering does not necessarily mean that you will have to invest in new equipment or adjust your existing process. As SmartHeat's variable power and fixed temperature guarantee a repeatable tip temperature under a wide variety of thermal loads, the system can easily adapt to meet the higher temperatures demanded by lead-free applications without any need for modification.

No Calibration Required For Easy ISO 9000 Compliance

To define the parameters for soldering with a SmartHeat® system, simply record the tip cartridge part number. As the heater's alloy dictates the temperature, calibration is not required. Indeed, there are no dials, buttons or calibration tools, typical of other systems, with which you can adjust SmartHeat's temperature. This avoids all risk of unauthorised operator intervention. Throughout the cartridge's lifetime, temperature drift is less than a few degrees. A letter to confirm SmartHeat's self-calibration capacity is available on request.
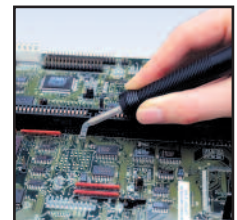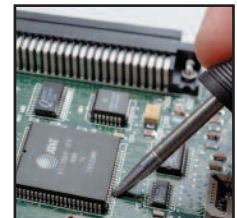
MX–500

Soldering, Desoldering & Rework System

Industry Standard, Soldering, Desoldering And Rework System

Metcal's MX-500 Soldering, Desoldering & Rework System is the benchmark against which other soldering, desoldering and rework systems are measured. Flexible, fast and powerful, the MX-500 Soldering, Desoldering & Rework System raises bench-top conduction soldering to a new level of process control, productivity and throughput.

Higher Throughput At Lower Temperatures

Unlike conventional soldering/rework systems that rely on stored energy, Metcal systems use SmartHeat® for direct power on demand. Despite its capacity to work at lower, safer temperatures, SmartHeat® still delivers the fastest temperature recovery, joint-to-joint, in the industry.

Versatility Without Compromise

Metcal's MX-500 Soldering, Desoldering & Rework System handles both SMT and through-hole soldering/rework with one power supply at the bench. With two switchable outputs, the system can be adapted to your exact needs, using two of the three tools available (soldering iron, Talon® tweezers, desolder gun) to configure the most powerful bench-top soldering/rework system on the market. In addition, the MX-500 Soldering, Desoldering & Rework System's power supply has an automatic shut-off, which helps maximise tip cartridge life, and a standard four year warranty.

Unrivalled Comfort And Simplicity

The short tip-to-grip distance, characteristic of the Metcal hand-piece, improves process precision, especially for fine-pitch applications. The easy-squeeze design of Metcal's Talon® tweezers has been ergonomically designed for superior performance, unmatched comfort and optimum control.

MX-500S SMT SOLDERING/REWORK SYSTEM

Part No.	Description
MX-500S-11	Two Port 100/120 VAC, Solder System
MX-500S-21	Two Port 220/240 VAC, Solder System
INCLUDES	
MX-500P	Two Port Switchable Power Supply with Power Cord*
MX-RM3E	Rework Hand-Piece with Cord
MX-WS4	MX Workstand with YS3 Sponge
AC-YS3	Sponge
AC-CP2	Cartridge Removal Pad

MX-500TS SMT REWORK/TALON® SYSTEM

MX-500TS-11	Two Port 100/120 VAC, Solder/Talon® System
MX-500TS-21	Two Port 220/240 VAC, Solder/Talon® System
INCLUDES	
MX-500P	Two Port Switchable Power Supply with Power Cord
MX-TALON	Talon® Hand-Piece with Cord
MX-WS5	DS1/Talon® Workstand with YS3 Sponge
MX-RM3E	Rework Hand-Piece with Cord
MX-WS4	MX Workstand with YS3 Sponge
AC-YS3	Sponge (2)
AC-CP2	Cartridge Removal Pad (2)

TALON® UPGRADE KITS

MX-TALON-01	Talon® Upgrade Kit
INCLUDES	
MX-TALON	Talon® Hand-Piece with Cord
MX-WS5	DS1/Talon® Workstand with YS3 Sponge
AC-YS3	Sponge
AC-CP2	Cartridge Removal Pad

Tip cartridges sold separately for all systems.

MX-500

Soldering, Desoldering & Rework System

Pistol Grip SMT Desoldering/Rework System

The MX-500DS Desoldering/Rework System converts shop air into a powerful Venturi vacuum to clean through-holes quickly and efficiently. Paper solder collection liners within the hand-piece barrel are easy to maintain and are an improvement upon traditional glass tubes.

Please note: The MX-500DS Desoldering/Rework System requires shop air for desoldering. If shop air is not available, Metcal recommends the SP440 Self-Contained Desoldering System.

MX-500DS SMT DESOLDERING/REWORK SYSTEM

Part No.	Description
MX-500DS-11	Two Port 100/120 VAC, Desolder/Solder System
MX-500DS-21	Two Port 220/240 VAC, Desolder/Solder System

INCLUDES

MX-500P	Two Port Switchable Power Supply with Power Cord
MX-DS1	Desoldering Hand-Piece
MX-RM3E	Rework Hand-Piece with Cord
MX-RM8E	Desoldering Cord
MX-DAH4	ESD Air Hose with Fitting
MX-WS5	DS1/Talon® Workstand with YS3 Sponge
AC-YS3	Sponge (2)
AC-CP2	Cartridge Removal Pad (2)
AC-CB1	Cleaning Brush
AC-CB2	Tube Cleaning Brush
MX-DCF1	Chamber Liner and Filter Pack
AC-TC	Desoldering Tip Cleaner
MX-WS4	MX Workstand with YS3 Sponge

DESOLDER UPGRADE KIT

MX-D001	Desolder Upgrade Kit

INCLUDES

MX-DS1	Desoldering Hand-Piece
MX-RM8E	Desoldering Cord
MX-DAH4	ESD Air Hose with Fitting
MX-WS5	DS1/Talon® Workstand with YS3 Sponge
AC-YS3	Sponge
AC-CP2	Cartridge Removal Pad
AC-CB1	Cleaning Brush
AC-CB2	Tube Cleaning Brush
MX-DCF1	Chamber Liner and Filter Pack
AC-TC	Desoldering Tip Cleaner

Tip cartridges sold separately for all systems.
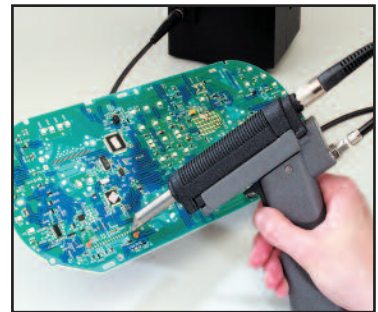
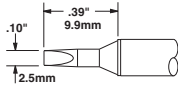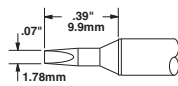# STTC Soldering Tip Cartridges

STTC soldering tip cartridges are for use with the MX and the STSS soldering/rework hand-pieces only. They cannot be used with the SP systems, the Talon® or desoldering hand-pieces.
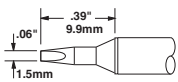
FREQUENTLY USED TIP CARTRIDGES

STTC-X36*   Chisel 30° .10" (2.5mm)

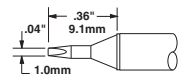For medium to heavy load joints requiring extra reach.

STTC-X37*   Chisel 30° .07"(1.78mm)

For a wide variety of tasks. If you are choosing the first tip for your Metcal system, the STTC-037 is ideal.

STTC-X38*   Chisel 30° .06" (1.5mm)

A finer version of the STTC-037. Ideal for medium to light through-hole and general surface mount touch-up.

STTC-X25   Chisel 30° .04" (1.0mm)

Good for a variety of light soldering tasks. Looking for a surface mount touch-up tip? The STTC-025 should be your first choice.
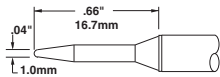
STTC-X07   Conical Sharp .04" (1.0mm)

General-purpose SMT and through-hole tip when access is limited.
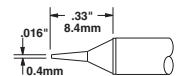
STTC-X22   Conical Sharp .016" (0.4mm)

Sharp tip cartridges for soldering SMT components or fine wire applications (not for general through-hole tasks).
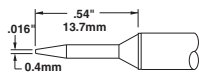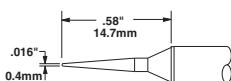

STTC-X06   Conical Sharp .016" (0.4mm)

For limited access SMT rework.
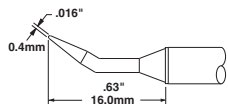
STTC-X40   Sharp Bent 30° .016" (0.4mm)

Tip for soldering SMT components. The bend makes it much easier to work on small circuits and PLCCs.

STTC-X45   Bevel 60° .016" (0.4mm)

An extended length fine tip for surface mount or fine wire applications (not for general through-hole tasks).
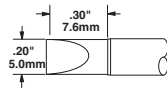

For Lead Free STTC Power tip enhancements, please see page 20.

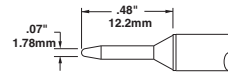**500 SERIES X=5   600 SERIES X=0   700 SERIES X=1   800 SERIES X=8, WHEN FOLLOWED BY AN ***

MX Tips

STTC-X17*
Extra Large Chisel
.20" (5.0mm)

.30"
7.6mm
.20"
5.0mm

STTC-X02
Conical Sharp
.07" (1.78mm)

.48"
12.2mm
.07"
1.78mm
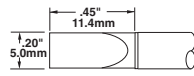
STTC-X65
Large Chisel
.20" (5.0mm)

.45"
11.4mm
.20"
5.0mm
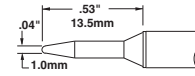
STTC-X01
Conical Sharp
.04" (1.0mm)

.53"
13.5mm
.04"
1.0mm
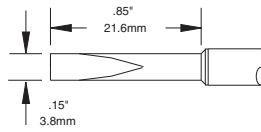
STTC-X20
Long Reach
Chisel 12°
.15" (3.8mm)

.85"
21.6mm
.15"
3.8mm
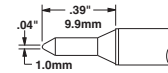
STTC-X31
Conical Sharp
.04" (1.0mm)

.39"
9.9mm
.04"
1.0mm
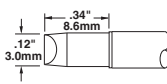
STTC-X03*
Chisel 90°
.12" (3.0mm)

.34"
8.6mm
.12"
3.0mm
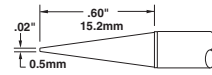
STTC-X43
Conical Sharp
.02" (0.5mm)

.60"
15.2mm
.02"
0.5mm
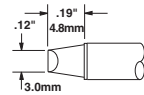
STTC-X13
Chisel 90°
.12" (3.0mm)

.19"
4.8mm
.12"
3.0mm
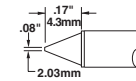
STTC-X12
Conical
.08" (2.03mm)

.17"
4.3mm
.08"
2.03mm
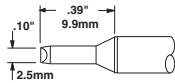
STTC-X33
Chisel 90°
.10" (2.5mm)

.39"
9.9mm
.10"
2.5mm
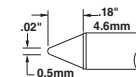
STTC-X11
Conical
.02" (0.5mm)

.18"
4.6mm
.02"
0.5mm
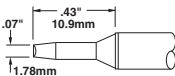
STTC-X04
Chisel 90°
.07" (1.78mm)

.43"
10.9mm
.07"
1.78mm
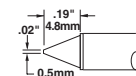
STTC-X16
Conical
.02" (0.5mm)

.19"
4.8mm
.02"
0.5mm
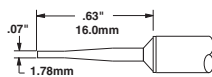
STTC-X42
Long Reach Chisel 60°
.07" (1.78mm)

.63"
16.0mm
.07"
1.78mm
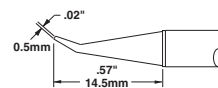
STTC-X44
Sharp Bent 30°
.02" (0.5mm)

.02"
0.5mm
.57"
14.5mm
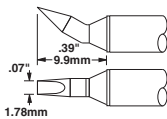
STTC-X98
Chisel Bent 30°
.07" (1.78mm)

.39"
9.9mm
.07"
1.78mm
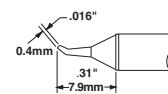
STTC-X26
Sharp Bent 30°
.016" (0.4mm)

.016"
0.4mm
.31"
7.9mm
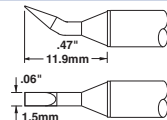
STTC-X99
Chisel Bent 30°
.06" (1.5mm)

.47"
11.9mm
.06"
1.5mm
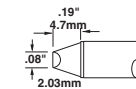
STTC-X14
Bevel 45°
.08" (2.03mm)

.19"
4.7mm
.08"
2.03mm
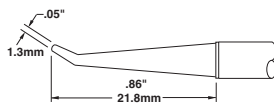
STTC-X41
Chisel 30°
.05" (1.3mm)

.05"
1.3mm
.86"
21.8mm
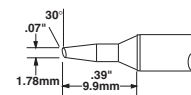
STTC-X35
Bevel 30°
.07" (1.78mm)

30°
.07"
1.78mm
.39"
9.9mm
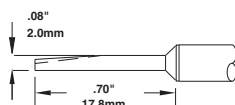
STTC-X83
Conical Grooved
.08" (2.0mm)

.08"
2.0mm
.70"
17.8mm
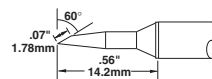
STTC-X47
Bevel 60°
.07" (1.78mm)

60°
.07"
1.78mm
.56"
14.2mm
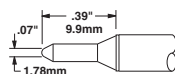
STTC-X32
Conical Sharp
.07" (1.78mm)

.39"
9.9mm
.07"
1.78mm
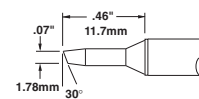
STTC-X05
Bevel 30°
.07" (1.78mm)

.46"
11.7mm
.07"
1.78mm
30°

page
08

OTHER STANDARD TIP CARTRIDGES
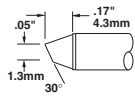
STTC-X15
Bevel 30°
.05" (1.3mm)
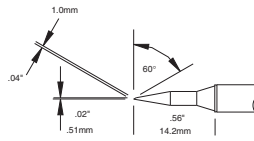
STTC-X46
Long Reach
Bevel 60°
.04" (1.0mm)
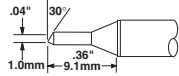
STTC-X24
Bevel 30°
.04" (1.0mm)
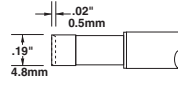
STTC-X70
Heat Staking
.19" (4.8mm)
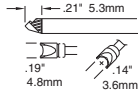
STTC-X97
Groved Semi-Rigid
Coax

500 SERIES X=5   600 SERIES X=0   700 SERIES X=1   800 SERIES X=8, WHEN FOLLOWED BY AN *

SRTC ROBOTIC TIP CARTRIDGES

For use with robotic applications and MX-RM5E or MX-RM8E handles only. Similar to STTC tip cartridges, however, SRTC Robotic Tip Cartridges have a shaft length of 3.15" (80mm) and, therefore, are not compatible with the MX-RM3E handle.
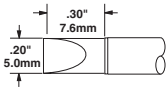
SRTC-X17*
Extra Large Chisel
.20" (5.0mm)
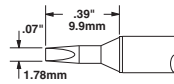
SRTC-X37
Chisel 30°
.07" (1.78mm)
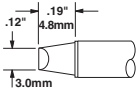
SRTC-X13
Chisel 90°
.12" (3.0mm)
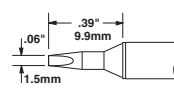
SRTC-X38
Chisel 30°
.06" (1.5mm)
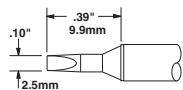
SRTC-X36
Chisel 30°
.10" (2.5mm)
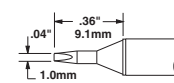
SRTC-X25
Chisel 30°
.04" (1.0mm)

600 SERIES X=6   700 SERIES X=7   800 SERIES X=8, WHEN FOLLOWED BY AN *

PTTB BONDING TIP CARTRIDGES

For use in low temperature plastic bonding applications, these aluminium tips can be used with all available MX handles.
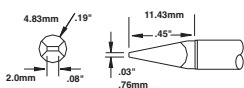
PTTB-501
Bonding Tip
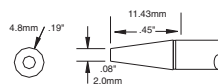
PTTB-503
Bonding Tip
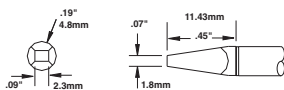
PTTB-502
Bonding Tip
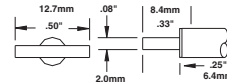
PTTB-504
Bonding Tip

STDC
Desoldering System Tip Cartridges

Depending on available access, choose one of two desoldering tip cartridge configurations: standard STDC or long reach STDC. Like all Metcal tip cartridges, STDC changeover takes just a few seconds. When desoldering through-hole components, on thermally demanding PCBs, always use the correct geometry for the task. This may mean choosing an 800 series (high temperature) tip.

STANDARD TIP CARTRIDGES

Part No.	DIAMETERS IN INCHES (mm)	
	A	B
STDC-X02	.025 (0.64)	.055 (1.40)
STDC-X03	.030 (0.76)	.066 (1.68)
STDC-X04	.040 (1.02)	.070 (1.78)
STDC-X05	.050 (1.27)	.080 (2.03)
STDC-X06	.060 (1.52)	.090 (2.29)
STDC-X07	.095 (2.41)	.125 (3.18)

600 SERIES X=0   700 SERIES X=1   800 SERIES X=8

LONG REACH TIP CARTRIDGES

Part No.	A	B
STDC-X03L	.030 (0.76)	.066 (1.68)
STDC-X04L	.040 (1.02)	.070 (1.79)
STDC-X05L	.050 (1.27)	.080 (2.03)

700 SERIES X=7   800 SERIES X=8
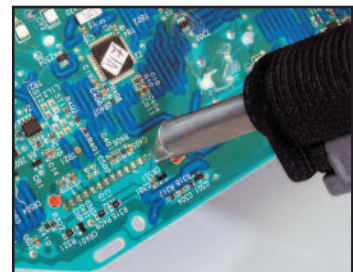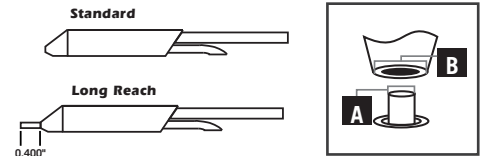
TATC
Talon® Tip Cartridges

Designed for the removal of all discrete and SO symmetrical components. TATC tip cartridges for Talon® hand-pieces are always sold in pairs. Due to its shape and design, by simply rotating the Talon®, a single TATC cartridge can remove a 28 pin SOIC, a tantalum or an 0603 chip capacitor without changing tips. Metcal's new Viper Tip is shown in the main photograph below.

Part No.	Description
TATC-X01	Fine Point Tip .20" (5.08mm)
TATC-X02	Blades Tip .25" (6.35mm)
TATC-X03	Blades Tip .62" (15.75mm)
TATC-X04	Blades Tip .81" (20.57mm)
TATC-X05	TSOP 32 Tip
TATC-X06	Blades Tip 1.1" (27.94mm)
TATC-X08	Angled Viper Tip .05" (1.27mm)

500 SERIES X=5   600 SERIES X=6
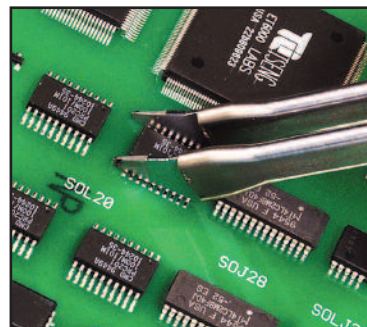
SMT Rework Tip Cartridges SMTC

Designed for reworking SMT components, SMTC tip cartridges do it all – assembly, removal and cleaning. The SMTC range includes slot, tunnel and quad tip cartridges. The SMTC range also includes hoof tips for drag soldering, blade tips to remove residual solder from pads, and knife tips for multi-lead soldering of PLCCs in tight places.

Please note: SMTC soldering tip cartridges are for use with the MX-RM3E soldering/rework hand-pieces for STSS/MX systems only. They cannot be used with SP systems, Talon® hand-pieces or desolder hand-pieces.
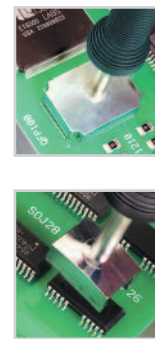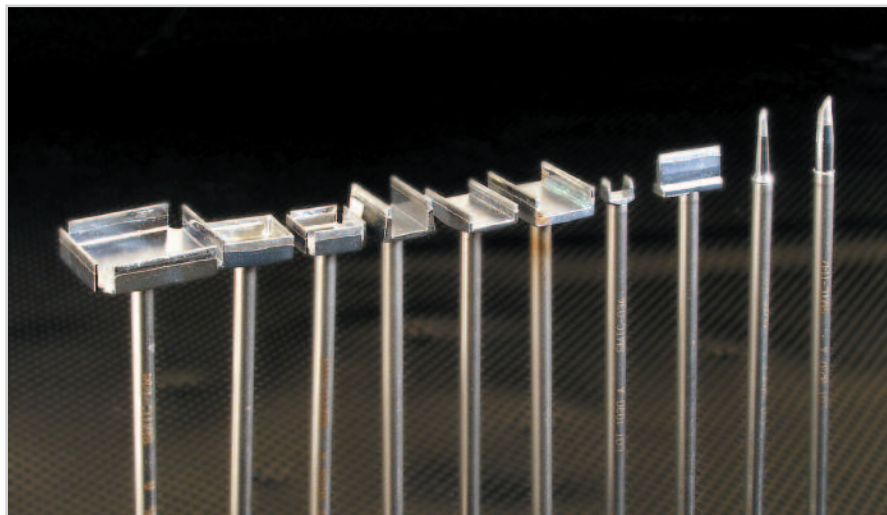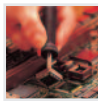
SLOT TIP CARTRIDGES
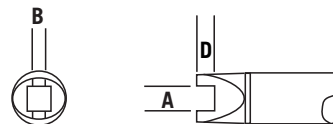
SMT TYPE	DIMENSIONS IN INCHES (mm)			Part No.
	A	B	D	
Chip 0805	.090 (2.29)	.050 (1.27)	.070 (1.79)	SMTC-**X**01
Chip 1206, 1210	.140 (3.56)	.060 (1.52)	.070 (1.79)	SMTC-**X**02
Chip 1808, 1812	.190 (4.83)	.080 (2.03)	.075 (1.91)	SMTC-**X**03
Chip, Box A (EIA SOPM-3224)	.135 (3.43)	.080 (2.03)	.120 (3.05)	SMTC-**X**35
Chip, Box B (EIA SOPM-3528)	.150 (3.81)	.095 (2.41)	.100 (2.54)	SMTC-**X**32
Melf, Box B (EIA SOPM-4532)	.190 (4.83)	.110 (2.79)	.160 (4.06)	SMTC-**X**36
Chip, Box C (EIA SOPM-6032)	.250 (6.35)	.095 (2.41)	.130 (3.30)	SMTC-**X**33*
Chip, Box D (EIA SOPM-7246)	.300 (7.62)	.100 (2.54)	.140 (3.56)	SMTC-**X**34*
SOT-23	.068 (1.73)	.100 (2.54)	.050 (1.27)	SMTC-**X**05
SOT-89	.110 (2.80)	.250 (6.35)	.080 (2.03)	SMTC-**X**08
Chip 0402, 0603, 0805 (angled)	.080 (2.03)	.050 (1.27)	.060 (1.52)	SMTC-**X**88
Chip 0402, 0603	.070 (1.78)	.040 (1.02)	.040 (1.02)	SMTC-**X**96

500 SERIES X=5   600 SERIES X=0   700 SERIES X=1   *=NOT AVAILABLE FOR 500 SERIES
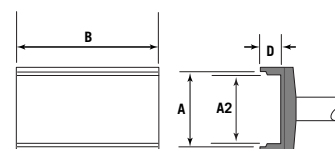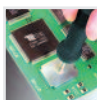
TUNNEL TIP CARTRIDGES FOR DUAL IN-LINE PACKAGES

| SMT TYPE	DIMENSIONS IN INCHES (mm)				Part No.
	A2	A	B	D	
DPAC	.335 (8.51)	.335 (8.51)	.250 (6.35)	.200 (5.08)	SMTC-**X**47
SO-8	.320 (8.13)	.380 (9.65)	.750 (19.05)	.240 (6.10)	SMTC-**X**107
SO-16	.330 (8.38)	.330 (8.38)	.475 (12.07)	.230 (5.84)	SMTC-**X**46*
SO-8	.335 (8.51)	.335 (8.51)	.665 (16.90)	.250 (6.35)	SMTC-**X**68**
SOIC-8	.200 (5.08)	.200 (5.08	.170 (4.32)	.090 (2.29)	SMTC-**X**04
SOIC-14,-16	.200 (5.08)	.200 (5.08)	.400 (10.16)	.090 (2.29)	SMTC-**X**06
SOIC-14	.204 (5.18)	.204 (5.18)	.350 (8.89)	.100 (2.54)	SMTC-**X**142
SOIC-24 (Mini flat pack)	.280 (7.11)	.280 (7.11)	.620 (15.75)	.125 (3.18)	SMTC-**X**77
SOIC-16 (Wide)	.320 (8.13)	.320 (8.13)	.470 (11.94)	.270 (6.86)	SMTC-**X**124
SOIC-20	.375 (9.53)	.375 (9.53)	.520 (13.21)	.125 (3.18)	SMTC-**X**10
SOIC-24	.375 (9.53)	.375 (9.53)	.620 (15.75)	.125 (3.18)	SMTC-**X**09
SOIC-28, SOL-34	.375 (9.53)	.375 (9.53)	.720 (18.29)	.125 (3.18)	SMTC-**X**07
SOIC-32	.520 (13.21)	.520 (13.21)	.805 (20.45)	.170 (4.32)	SMTC-**X**42
SOJ-28, SOM-36	.315 (8.00)	.340 (8.64)	.740 (18.80)	.074 (1.88)	SMTC-**X**26
SOJ-32, 34	.315 (8.00)	.340 (8.64)	.840 (21.34)	.125 (3.18)	SMTC-**X**140
SOJ-40, SOM-32	.410 (10.41)	.450 (11.43)	1.020 (25.91)	.075 (1.91)	SMTC-**X**40
SOJ-42	.410 (10.41)	.450 (11.43)	1.070 (27.18)	.125 (3.18)	SMTC-**X**148
SOMC-14,-16, DB-20	.270 (6.86)	.270 (6.86)	.440 (11.18)	.090 (2.29)	SMTC-**X**20
SOP-20	.270 (6.86)	.270 (6.86)	.285 (7.24)	.100 (2.54)	SMTC-**X**138
SOP-28	.420 (10.67)	.420 (10.67)	.720 (18.29)	.125 (3.18)	SMTC-**X**39
SOP-40	.460 (11.68)	.510 (12.95)	1.000 (25.4)	.125 (3.18)	SMTC-**X**134*
SOP-44	.510 (12.95)	.565 (14.35)	1.070 (27.18)	.105 (2.67)	SMTC-**X**83
TSOP-28	.470 (11.94)	.505 (12.83)	.320 (8.13)	.065 (1.65)	SMTC-**X**95
TSOP-40	.730 (18.54)	.760 (19.30)	.400 (10.16)	.120 (3.05)	SMTC-**X**154
TSOP-56	.730 (18.54)	.760 (19.30)	.556 (14.12)	.120 (3.05)	SMTC-**X**162
TSOP-32	.730 (18.54)	.760 (19.30)	.320 (8.13)	.120 (3.05)	SMTC-**X**84**

600 SERIES X=0   700 SERIES X=1   *=NOT AVAILABLE FOR 600 SERIES
**=NOT AVAILABLE FOR 700 SERIES
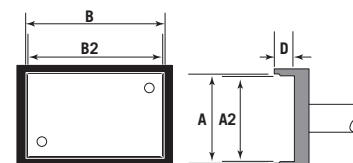
QUAD TIP CARTRIDGES FOR PLCC

SMT TYPE	A2	A	B2	B	D	Part No.
PLCC 18	.300 (7.62)	.330 (8.38)	.500 (12.70)	.530 (13.46)	.150 (3.81)	SMTC-**X**11
PLCC 20	.360 (9.14)	.400 (10.16)	.360 (9.14)	.400 (10.16)	.150 (3.81)	SMTC-**X**12
PLCC 28	.370 (9.40)	.410 (10.41)	.570 (14.48)	.610 (15.49)	.150 (3.81)	SMTC-**X**103
PLCC 32	.450 (11.43)	.500 (12.70)	.550 (13.97)	.600 (15.24)	.150 (3.81)	SMTC-**X**16
PLCC 28	.455 (11.56)	.500 (12.70)	.455 (11.58)	.500 (12.70)	.150 (3.81)	SMTC-**X**13
PLCC 44	.660 (16.76)	.700 (17.78)	.660 (16.76)	.700 (17.78)	.150 (3.81)	SMTC-**X**14
PLCC 68	.960 (24.38)	.995 (25.27)	.960 (24.38)	.995 (25.27)	.220 (5.59)	SMTC-**X**18*
PLCC 68 dual•	.960 (24.38)	.995 (25.27)	.960 (24.38)	.995 (25.27)	.220 (5.59)	SMTC-**X**28
PLCC 84 dual•	1.165 (29.59)	1.195 (30.35)	1.165 (29.59)	1.195 (30.35)	.220 (5.59)	SMTC-**X**29
PLCC 52	.760 (19.30)	.800 (20.32)	.760 (19.30)	.800 (20.32)	.150 (3.81)	SMTC-**X**17*
PLCC 84	1.165 (29.59)	1.195 (30.35)	1.165 (29.59)	1.195 (30.35)	.220 (5.59)	SMTC-**X**19*

600 SERIES X=0   700 SERIES X=1   FOR ALL QUADS USE 700 SERIES TIP CARTRIDGES
*=NOT AVAILABLE FOR 600 SERIES

Please note: •**Dual tip cartridges require two power supply units and two hand-pieces. A Dual Hand-Piece Support (MX-DHS) is also recommended.**
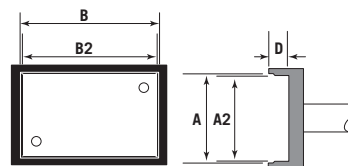
QUAD TIP CARTRIDGES FOR QFP

SMT TYPE	A2	A	B	B2	D	Part No.
			DIMENSIONS IN INCHES (mm)			
SQFP 48 (EIAJ)	.330 (8.38)	.330 (8.38)	.330 (8.38)	.330 (8.38)	.100 (2.54)	SMTC-**X**121
SQFP 64 (EIAJ)	.440 (11.18)	.440 (11.18)	.440 (11.18)	.440 (11.18)	.100 (2.54)	SMTC-**X**120
TQFP 44	.440 (11.18)	.480 (12.19)	.480 (12.19)	.520 (13.21)	.110 (2.79)	SMTC-**X**159
TQFP 80	.485 (12.32)	.525 (13.34)	.485 (12.32)	.525 (13.34)	.110 (2.79)	SMTC-**X**132
QFP 48	.550 (13.97)	.550 (13.97)	.550 (13.97)	.550 (13.97)	.130 (3.30)	SMTC-**X**115
VQFP 100 (EIAJ)	.570 (14.48)	.610 (15.49)	.570 (14.48)	.610 (15.49)	.110 (2.79)	SMTC-**X**118
QFP 128 (3.2 mm fp)	.620 (15.75)	.620 (15.75)	.860 (21.84)	.860 (21.84)	.130 (3.30)	SMTC-**X**133
QFP 44	.635 (16.13)	.635 (16.13)	.635 (16.13)	.635 (16.13)	.130 (3.30)	SMTC-**X**21
QFP 100 (rectangular)	.650 (16.51)	.650 (16.51)	.885 (22.48)	.885 (22.48)	.130 (3.30)	SMTC-**X**43
QFP 64, 80	.675 (17.15)	.675 (17.15)	.910 (23.11)	.910 (23.11)	.130 (3.30)	SMTC-**X**15
QFP 100	.805 (20.45)	.805 (20.45)	.805 (20.45)	.805 (20.45)	.190 (4.83)	SMTC-**X**45*
QFP 144	.805 (20.45)	.840 (21.34)	.805 (20.45)	.840 (21.34)	.075 (1.91)	SMTC-**X**122
QFP 132	.985 (25.02)	1.020 (25.91)	.985 (25.02)	1.020 (25.91)	.125 (3.18)	SMTC-**X**86
QFP 100 (square)	1.040 (26.42)	1.040 (26.42)	1.040 (26.42)	1.040 (26.42)	.130 (3.30)	SMTC-**X**44*
QFP 208 DUAL•	1.125 (28.58)	1.770 (44.96)	1.125 (28.58)	1.170 (44.96)	.114 (2.90)	SMTC-**X**81
QFP 120,160 DUAL•	1.165 (29.59)	1.200 (30.48)	1.165 (29.59)	1.200 (30.48)	.120 (3.05)	SMTC-**X**48
PQFP 240 DUAL•	1.290 (32.77)	1.330 (33.78)	1.290 (32.77)	1.330 (33.78)	.110 (2.79)	SMTC-**X**125
QFP 304 DUAL•	1.600 (40.64)	1.650 (41.91)	1.650 (41.91)	1.600 (40.64)	.200 (5.08)	SMTC-**X**158**

600 SERIES X=0   700 SERIES X=1   FOR ALL QUADS USE 700 SERIES TIP CARTRIDGES
***= NOT RECOMMENDED FOR 600 SERIES   **= NOT AVAILABLE FOR 600 SERIES**

Please Note: •Dual tip cartridges require two power supply units and two hand-pieces. A Dual Hand-Piece Support (MX-DHS) is also recommended.
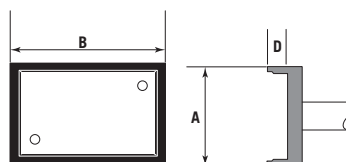
SOCKET TIP CARTRIDGES (TIP INSIDE SOCKET)

SMD COMPONENT	A	B	D	Part No.	Recommended Part No.
PLCC-20 SOCKET	.360 (9.14)	.360 (9.14)	.115 (2.91)	SMTC-**X**144	SMTC-1144
PLCC-32 SOCKET	.456 (11.58)	.556 (14.12)	.120 (3.05)	SMTC-**X**109	SMTC-1109
PLCC-84 SOCKET DUAL•	1.160 (40.64)	1.160 (40.64)	.115 (2.91)	SMTC-**X**145	SMTC-1145

600 SERIES X=0   700 SERIES X=1   FOR ALL QUADS USE 700 SERIES TIP CARTRIDGES

Please Note: •Dual tip cartridges require two power supply units and two hand-pieces. A Dual Hand-Piece Support (MX-DHS) is also recommended.
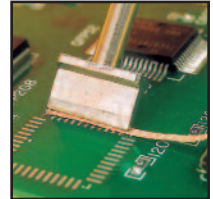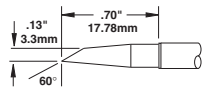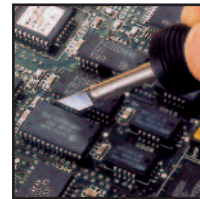
BLADE TIP CARTRIDGES

SMTC-X110**
Blade
Dual Heater Quad
1.55" (39.37mm)

SMTC-X62
Blade
0.870" (22.10mm)
Long

SMTC-X61
Blade
0.620" (15.75mm)
Long

SMTC-X60
Blade
0.410" (10.41mm)
Long

500 SERIES X=5   600 SERIES X=0   700 SERIES X=1   800 SERIES X=8

**=NOT AVAILABLE FOR 500 OR 800 SERIES

HOOF AND KNIFE TIP CARTRIDGES FOR DRAG SOLDERING
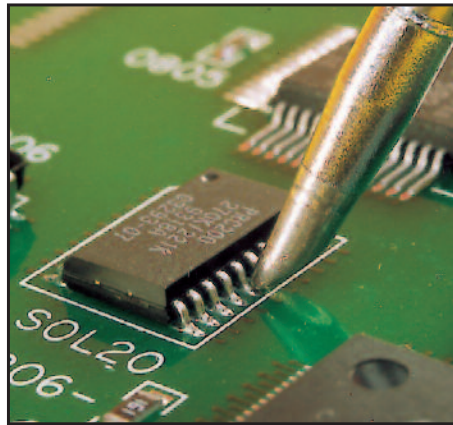
SMTC-X147*
Hoof
.13" 3.3mm · .70" 17.78mm · 60°
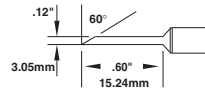
SMTC-X170*
Long Reach Hoof
.12" · 60° · 3.05mm · .60" 15.24mm
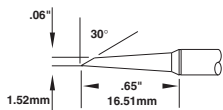
SMTC-X167**
Mini-Hoof
.06" · 30° · 1.52mm · .65" 16.51mm
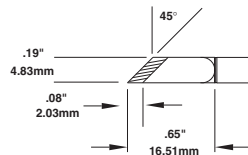
SMTC-X161*
Knife
(Tinned Area, .08"
2.03mm)
45° · .19" 4.83mm · .08" 2.03mm · .65" 16.51mm
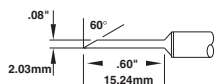
SMTC-X169**
Long Reach Hoof
.08" · 60° · 2.03mm · .60" 15.24mm
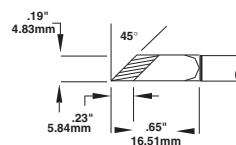
SMTC-X173
Knife
(Increased Tinned Area,
.23" 5.84mm)
.19" 4.83mm · 45° · .23" 5.84mm · .65" 16.51mm

500 SERIES X=5   600 SERIES X=0   700 SERIES X=1   800 SERIES X=8

*=NOT AVAILABLE FOR 800 SERIES   **=NOT AVAILABLE FOR 500 OR 800 SERIES
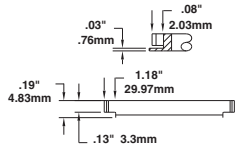
SMTC-X98**
SMT Connector
28 Pin

.08"
2.03mm
.03"
.76mm
1.18"
29.97mm
.19"
4.83mm
.13" 3.3mm

SMTC-X136**
Hot Plate
.425" sq. (10.8mm sq.)

.08"
2.03mm
.425" sq.
10.80mm sq.

SMTC-X100
Micro XMT
Small Package
Co-Axial Tip

.19"
4.83mm
.19"
4.83mm
.14"
3.56mm
.09"
2.89mm

500 SERIES X=5   600 SERIES X=0   700 SERIES X=1   800 SERIES X=8

**=NOT AVAILABLE FOR 500 OR 800 SERIES

Microfine Rework Tip Cartridges

The Microfine rework tip cartridge series is designed for reworking 0201 and 0402 or microfine components in tight spaces with the help of a microscope. This series includes tips that can be used to remove 0402 and 0201 components from th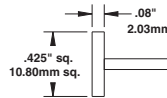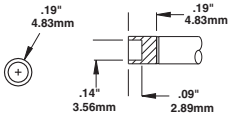e topside approach or can also be used for multi-lead drag soldering on micro PLCC and QFP components with access problems. Depending on your application, one of these tips will meet your micro component rework needs.

.03"
.76mm
30°
0.65"
16.51mm
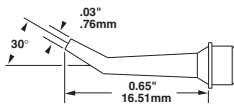
SMTC-X171
Use to remove 0201 and 0402 components from a "topside" angle. This design increases microscope viewing when reworking/removing micro chip capacitors/components.

.02"
.51mm
30°
.60"
15.24mm
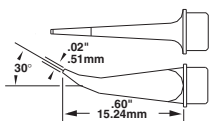
SMTC-X172
Designed for fine drag soldering and point-to-point soldering. This tip increases access between components and allows for lead to lead or solder bridge clean-up.

60°
.045"
1.14mm
.65"
16.51mm
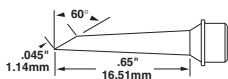
SMTC-X174
Long reach micro hoof tip designed with a smaller surface area than the mini-hoof for optimal drag soldering of components in tight spots.

60°
.035"
.89mm
.45"
11.43mm
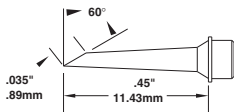
SMTC-X175
Micro-hoof tip designed with a smaller surface area than the mini-hoof for drag soldering of small/micro leaded components.

.01"
.25mm
.52"
13.2mm
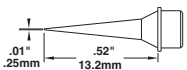
STTC-X90
Microfine tip designed for soldering and touch-up of micro components such as 0201s and 0402s.

500 SERIES X=5   600 SERIES X=0   700 SERIES X=1   800 SERIES X=8

MX-Tips

MX-500
Accessories & Spare Parts

HAND-PIECES AND CORDS

Part No.	Description
A MX-RM3E	ESD Solder Handle W/CP2 for MX-500 Systems
B MX-RM6E	ESD Long Reach Solder Handle W/CP2 for MX-500
C MX-TALON	Talon® Hand-Piece with Cord
D MX-DS1	Desolder Hand-Piece
E MX-RM8E	DS1 Desolder Cord
F MX-DAH4	ESD Air Hose, standard with fitting
MX-RM5E	Standard Robotic Cable, 1-piece, 6' (1.83m)**
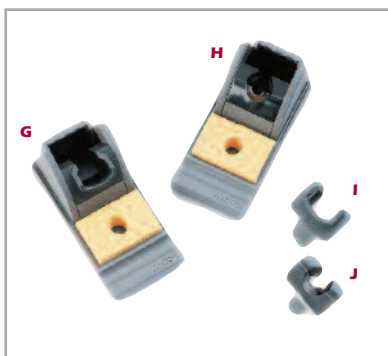
WORKSTAND ITEMS

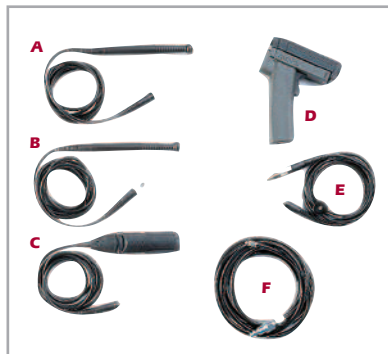|	
G MX-WS5	DS1/Talon® Workstand with YS3 Sponge
H MX-WS4	MX Workstand with YS3 Sponge
I MX-WSC5	Talon® Cradle
J MX-WSC4	MX-RM3E / 6E Cradle
AC-YS1-P	WS1 Sponge (1.7" x 2.7" x 1.0") (Pack of 50)**
AC-YS3-P	MX, SP & DP Workstand Sponge (Pack of 50)**
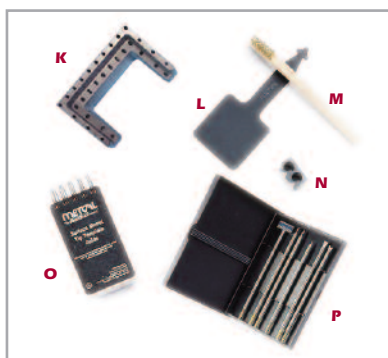
MISCELLANEOUS ACCESSORIES

K AC-TSTAND	Tip Stand
L AC-CP2	Cartridge Removal Pad
M AC-BRUSH-P	Soft Brass Brush Cleaner (Pack of 6)
N MX-DHS	Dual Handle Support (use with dual heater SMTCs)
O STSS-TEMPLATE	SMTC Tip Selection Template
P AC-TCASE	Tip Case for STTC/SSC (holds 10 tips)*
MX-FX2	Fume Extraction Tube and Clamp**

* Tips not included ** Not shown

DESOLDERING ACCESSORIES

Q	**MX-DCF1**	DS1 Filter Pack: 15 chamber liners, 6 fume filters
	MX-DCF1L	DS1 Chamber Liners (Pack of 40)**
	MX-DCF1F	DS1 Fume Filters (Pack of 20)**
R	**MX-DAR1**	Air Regulator and Filter with Fittings
S	**AC-TC-P**	Desolder Tip Cleaner (Pack of 12)
T	**AC-CB1-P**	Desolder Chamber Cleaning Brush (Pack of 25)
U	**AC-CB2-P**	Desolder Tube Cleaning Brush (Pack of 6)
V	**MX-DVC1**	Venturi Cartridge for Desolder Gun
W	**MX-DSL1**	DS1 Chamber Seal
X	**MX-DSL2**	DS1 Cartridge Seal
Y	**MX-DSB**	Desolder Gun Swivel Bushing
	MX-DLA	Desolder Gun Latch Adjustment (Pack of 10)*

* Not shown
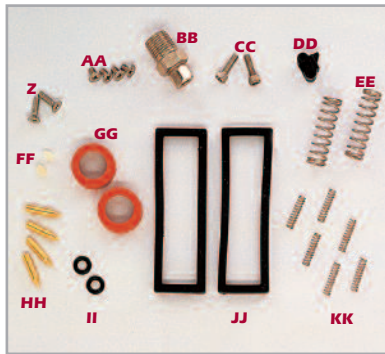
DESOLDERING MAINTENANCE KIT

	MX-DMK1	DS1 Maintenance Kit

INCLUDES

Z		Long Phillips Screws (Pack of 2)**
AA		Short Phillips Screws (Pack of 4)**
BB	**MX-DSB**	Desolder Gun Swivel Bushing
CC		Hex Screws (Pack of 2)**
DD	**MX-DLA**	Desolder Gun Latch Adjustment (Pack of 10)
EE		Large Springs (Pack of 2)**
FF		Nylon Screws (Pack of 2)**
GG	**MX-DSL2**	DS1 Cartridge Seal (Pack of 2)
HH		Hinge Pins (Pack of 4)**
II		O-Rings (Pack of 2)**
JJ	**MX-DSL1**	DS1 Chamber Seal (Pack of 2)
KK		Small Springs (Pack of 6)**
	MX-DUC	DS1 Upper Chamber (Type II Desolder Tool only)*

* Not shown ** Not sold separately

OTHER SYSTEM COMPONENTS

POWER SUPPLY AND POWER METER

|	
MX-500P-11	Two Port 100/120 VAC Power Supply
MX-500P-21	Two Port 220/240 VAC Power Supply
MX-NPM	Net Power Meter

SP200 Soldering System

Economical Soldering System Cuts Costs, Not Corners

The SP200 Soldering System is the most cost-effective and easiest to use compact soldering system available today

For flawless soldering, technicians need only select the correct tip cartridge, insert it into the hand-piece and switch on. As the unit works at a lower temperature than a conventional iron and requires no calibration, operators always apply the correct level of thermal energy needed to produce solder joints of the highest quality without risking component or PCB damage.

In addition, the system's design is extremely reliable, with very few parts that ever need repairing, ensuring that the SP200 Soldering System is practically maintenance-free.

Metcal's SP200 Soldering System, for through-hole soldering and SMT touch-up, is designed to perfectly complement our MX-500 Soldering, Desoldering & Rework System.
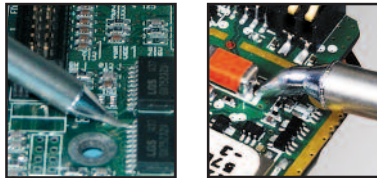
SP200 SOLDERING SYSTEM

System Includes Power Supply With Power Cord*, Hand-Piece With Cord, Workstand With Sponge And Cartridge Removal Pad

Part No.	Description
SP200-11	115 VAC Soldering System
SP200-21	220/240 VAC Soldering System

ACCESSORIES & SPARE PARTS
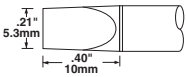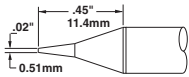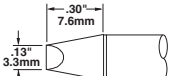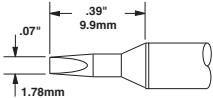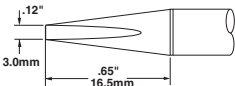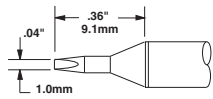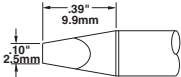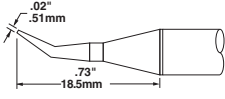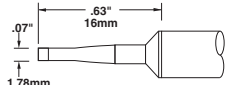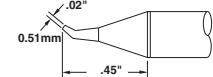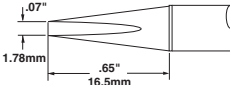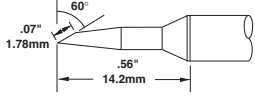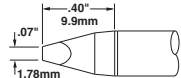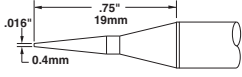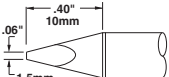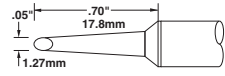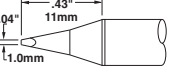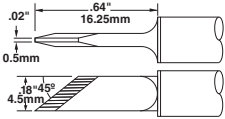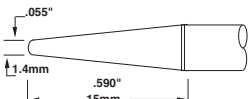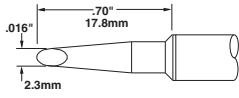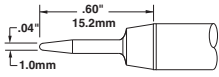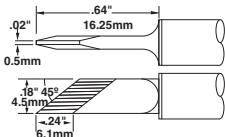
SP-PW1-10	Power Supply 115 VAC with Power Cord
SP-PW1-20	Power Supply 220/240 VAC with Power Cord
AC-CP2	Cartridge Removal Pad
AC-YS3-P	Workstand Sponge (Pack of 50)
AC-BRUSH-P	Soft Brass Brush Cleaner (Pack of 6)
AC-TCASE	Tip Case (holds 10 tips)*
AC-TSTAND	Tip Stand
SP-HC1	ESD Solder Handle W/CP2 for SP200 Systems
SP-OR	O-Ring Replacement Kit
SP-WSK1	SP Workstand with YS3 Sponge
SP-CRADLE	Universal Cradle

*Tips not included

Tip Cartridges For Soldering Applications

The SP200 Soldering System's tip cartridges are designed to suit a wide range of soldering applications. For optimum performance, operators should select the tip that allows maximum contact with the work surface. We suggest that you start with a 600 series tip cartridge.

SP200 SOLDER TIP CARTRIDGES

SSC-X17A Extra Large Chisel .21" (5.3mm)	**SSC-X22A** Conical Sharp .02" (0.51mm)
SSC-X13A Chisel 90° .13" (3.3mm)	**SSC-X72A** Conical Chisel .07" (1.78mm)
SSC-X46A Long Reach Chisel .12" (3.0mm)	**SSC-X71A** Conical Chisel .04" (1.0mm)
SSC-X36A Chisel 30° .10" (2.5mm)	**SSC-X54A*** Sharp Bent 30° .02" (0.51mm)
SSC-X42A Long Reach Chisel 60° .07" (1.78mm)	**SSC-X26A** Sharp Bent 30° .02" (0.51mm)
SSC-X70A Long Chisel .07" (1.78mm)	**SSC-X47A** Bevel 60° .07" (1.78mm)
SSC-X37A Chisel 30° .07" (1.78mm)	**SSC-X45A** Bevel 60° .016" (0.4mm)
SSC-X38A Chisel 30° .06" (1.5mm)	**SSC-X67A** Drag Soldering Tip (Mini-Hoof)
SSC-X25A Chisel 30° .04" (1.0mm)	**SSC-X61A** Drag Soldering Tip (Knife)
SSC-X74A Conical Sharp .055" (1.4mm)	**SSC-X39A** Drag Soldering Tip (Hoof)
SSC-X01A Conical Sharp .04" (1.0mm)	**SSC-X73A** Drag Soldering Tip (Increased Tinned Area, .24" 6.1mm)

500 SERIES X=5   600 SERIES X=6   700 SERIES X=7

*=NOT AVAILABLE FOR 500 SERIES

Lead Free Upgrades

To help you convert your current lines to lead-free, we have released a range of product enhancements for your existing MX-500 and SP200 Soldering Systems as you make the transition to lead-free soldering.

Workstand Upgrade and Identification Kits

The new Auto-sleep Workstands help increase tip life by allowing the tip cartridge to idle at a lower temperature, thereby reducing oxidation. The Auto-sleep Workstands are also available with green tip cradle inserts to easily identify lead-free stations. In addition, green bands that clip onto tip cartridges, identifying them as being used for lead-free processes, are available.

Part No.	Description
PS-WSAS	Auto-sleep Workstand for SP200 Soldering Systems
PS-WSAS-G	Auto-sleep Workstand for SP200 Soldering Systems with Green Cradle
MFR-WSAS	Auto-sleep Workstand for MX-500 s Soldering Systems
MFR-WSAS-G	Auto-sleep Workstand for MX-500 Soldering Systems with Green Cradle
AC-CK2	Green Cartridge Identification Rings for STTC Cartridges (Pack 50)
AC-CK3	Green Cartridge Identification Rings for SSC Cartridges (Pack 50)

Power Tip Enhancements

All SSC Tip Cartridges, for the SP200 Soldering System, have been upgraded with a new, high power coil assembly that delivers additional power to demanding solder joints, without the need to increase temperature (see page 19).

Additionally, a new range of STTC Tips for the MX-500 Series with optimized tip geometries has been developed. These tips are specially designed to deliver heat more efficiently for common hand soldering applications. The new STTC Tips are listed below
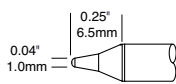
STTC-101P
Conical Sharp
.04" (1mm)
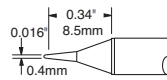
STTC-145P
Conical
.016" (0.4mm)
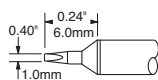
STTC-125P
Chisel 30°
.04" (1mm)

STTC-147P
Bevel 60°
.07" (1.78mm)
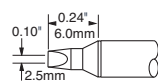
STTC-136P
Chisel 30°
.10" (2.5mm)
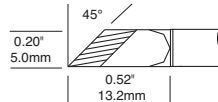
STTC-1173P
Knife
.22" (5.0mm)
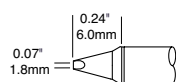
STTC-137P
Chisel 30°
.07" (1.8mm)

NOTE THAT THESE NEW TIPS ARE ONLY AVAILABLE WITH THE 700 SERIES HEATER.

QX2 Convection Rework System

Convection Rework Made Easy

The QX2 Convection Rework System combines sophisticated process control and wide-ranging capabilities with a user-friendly, ergonomic design to speed and simplify the rework process. With its constant temperature and variable power, the QX2 Convection Rework System minimizes the risk of thermal damage, providing a safe environment for delicate components and substrates.

In comparison with other convection systems, the simplicity and power of this machine is clear Simplified push-button controls and advanced automation reduce the need for extended operator training while greatly reducing the likelihood of human error. Older convection systems are difficult to operate and require extensive user training. This is not the case with the QX2 Convection Rework System. Even its initial set-up is a fast and easy process, requiring no special tools.

Please note: The QX2 Convection Rework System is shown below alongside a Metcal BVX-100 Fume Extraction System which is available separately
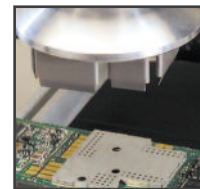
Precise Nozzles Increase Flexibility

A wide range of focused convection nozzles is available for the QX2 Convection Rework System. These direct heat precisely where it is needed. With Metcal's quick-release system, these nozzles can be changed in seconds, for unsurpassed speed and flexibility

QX2

Streamlined Operation

The QX2 Convection Rework System's vacuum pick-up gently removes components after reflow. The time of each removal cycle is stored and displayed as a guide to help operators quickly establish a minimum time for component placement. The system then automatically turns off the heat to minimise the risk of thermal shock to adjacent components or to the PCB itself. An integrated under-board pre-heater is also available to prevent the warping of large boards during rework.

Operators can fine-tune the power by adjusting the airflow rate, but to minimise thermal stress, the system automatically sustains the heater exhaust temperature while maintaining a consistently low set point temperature. To accommodate any process change, including the use of new soldering alloys, the manufacturing engineer can easily reprogram this set temperature.

Advanced Process Control

The system's digital controller clearly displays critical parameters during operation while its automated functions reduce process variability. Its expanded level of process control provides superior quality of operation and final product, with less scrap and greater throughput.
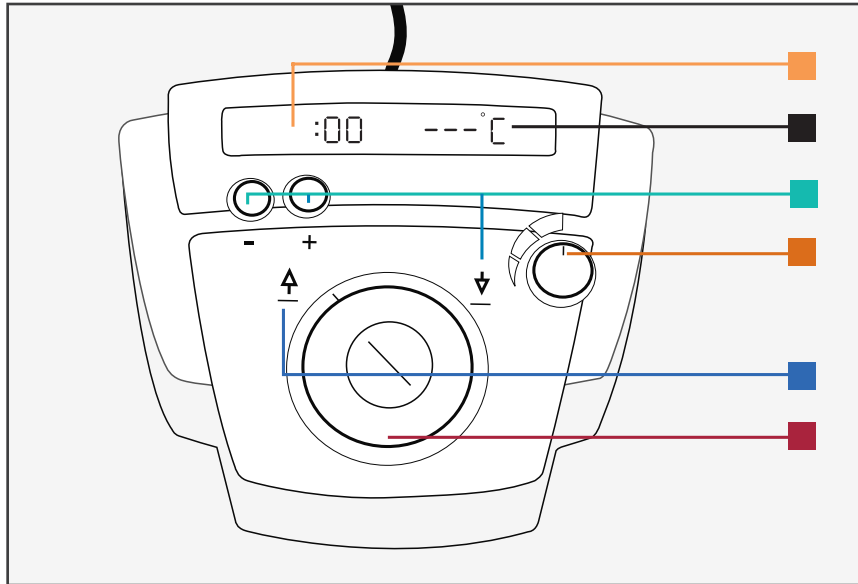
Remote Controller Functions

Timer: By counting up during removal and down during attachment, the timer removes subjective guesswork from the rework process.

Temperature Display: Displays the temperature of the heater exhaust or the temperature measured by an auxiliary thermocouple in either °F or °C. The heater exhaust temperature is preset at 662ºF (350°C) and may be reset by the process engineer to anywhere between 482ºF (250°C) and 842ºF (450°C) by entering an unlock code.

Attach Mode: This mode reflows a new component to the PCB. By adjusting the time stored in Remove mode with the **+ -** keys, you can ensure an appropriate reflow time, which may be adjusted on the fly if desired.

Airflow Selector: The airflow selector determines the rate at which thermal energy is transferred to the component.

Remove Mode: This mode activates the vacuum pick-up, which applies a gentle upward force to the component. When component lift off is sensed, the heater is automatically turned off

Start/Stop Button: Pressing the Start/Stop button initiates or ends the Remove or Attach cycle. In Remove mode, stopping the cycle also shuts off the vacuum, to release components after lift off
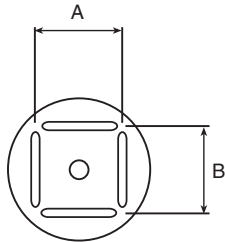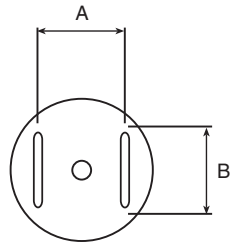
QX2 Convection Rework Nozzles

Metcal has a comprehensive range of nozzles for the QX2 Convection Rework System. For non-standard components we offer a custom nozzle program. Please contact your local Metcal representative for more information about custom nozzles.

STANDARD NOZZLE RANGE

DIMENSIONS IN INCHES (mm)

Part No.	Component Types	A	B
NZ-D1113	Nozzle Dual	0.43 (11)	0.51 (13)
NZ-D1116	Nozzle Dual (for SOL 28)	0.43 (11)	0.63 (16)
NZ-D1420	Nozzle Dual	0.55 (14)	0.79 (20)
NZ-D2109	Nozzle Dual	0.83 (21)	0.35 (09)
NZ-D2113	Nozzle Dual	0.83 (21)	0.51 (13)
NZ-Q11	Nozzle Quad (for PLCC 20)	0.43 (11)	0.43 (11)
NZ-Q13	Nozzle Quad (for PLCC 28)	0.51 (13)	0.51 (13)
NZ-Q1415	Nozzle Quad	0.55 (14)	0.60 (15)
NZ-Q17	Nozzle Quad	0.67 (17)	0.67 (17)
NZ-Q18	Nozzle Quad (for QFP 80)	0.71 (18)	0.71 (18)
NZ-Q19	Nozzle Quad (for PLCC 44)	0.75 (19)	0.75 (19)
NZ-Q1925	Nozzle Quad (for QFP 100)	0.75 (19)	0.98 (25)
NZ-Q22	Nozzle Quad	0.87 (22)	0.87 (22)
NZ-Q23	Nozzle Quad	0.91 (23)	0.91 (23)
NZ-Q27	Nozzle Quad (for PLCC 68)	1.06 (27)	1.06 (27)
NZ-Q28	Nozzle Quad	1.10 (28)	1.10 (28)
NZ-Q32	Nozzle Quad (for PLCC 84, QFP 208)	1.26 (32)	1.26 (32)
NZ-Q33	Nozzle Quad (for QFP 120/128/144/160)	1.30 (33)	1.30 (33)
NZ-Q35	Nozzle Quad	1.38 (35)	1.38 (35)
NZ-Q38	Nozzle Quad	1.50 (38)	1.50 (38)
NZ-Q43	Nozzle Quad	1.70 (43)	1.70 (43)

Box Reflow Nozzles

In addition to our broad range of standard nozzles, we also offer a range of box reflow nozzles designed for the removal of shielding cans, connectors and other square components.
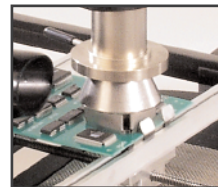
BOX REFLOW NOZZLES

INTERNAL DIMENSIONS IN INCHES (mm)
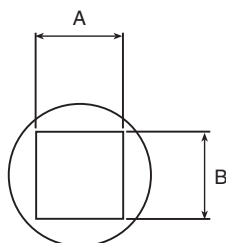
Part No.	Component Types	A	B
NZ-B23	Nozzle Box	0.91 (23)	0.91 (23)
NZ-B27	Nozzle Box	1.06 (27)	1.06 (27)
NZ-B33	Nozzle Box	1.30 (33)	1.30 (33)
NZ-B35	Nozzle Box	1.38 (35)	1.38 (35)
NZ-B40	Nozzle Box	1.57 (40)	1.57 (40)
NZ-B44	Nozzle Box	1.73 (44)	1.73 (44)

QX2

QX2 Convection Rework System

TECHNICAL SPECIFICATIONS

	QX2-S-11	QX2-S-21
Input Voltage	90-132 VAC, 50/60 Hz	220-260 VAC, 50/60 Hz
Convection System		
Heater	550 W	550 W
Rated Current	5 Amps	2.5 Amps
Airflow	20-50 l/min	20-50 l/min
Source Temperature		
(Default Set Point)	662°F	350°C
Source Temperature Range	482°F - 842°F	250°C - 450°C
Pre-Heater		
Heater	950 W	950 W
Rated Current	8.5 Amps	4.5 Amps
Heating Surface	6" x 6"	152mm x 152mm
Board Temperature Range	194°F - 248°F	90°C - 120°C
Board Holder		
Minimum Board Size	2" x 2"	50mm x 50mm
Maximum Board Size	14" x 18"	360mm x 460mm
Weights		
Convection Rework System	18 lb	8.2 kg
Board Holder	5.5 lb	2.5 kg
Pre-Heater	6.4 lb	2.9 kg
Outer Dimensions (W x D x H)		
Convection Rework System		
(Operating)	11.5" x 20.5" x 14.2"	292mm x 521mm x 361mm
(Stored)	11.5" x 16.8" x 21.0"	292mm x 427mm x 533mm
Board Holder	20.5" x 15.0" x 5.0"	521mm x 381mm x 127mm
Pre-Heater	8.2" x 15.5" x 2.5"	208mm x 394mm x 64mm

FEATURES

Vacuum	Self-contained
Operator	Moveable controller with:
	• Start/Stop button
	• Airflow control
	• Time control
	• LCD display
	• Remove/attach control
Component Removal	Automatic component lift off and heater shut off
Component Attachment	Manual, timer controlled
Nozzle Attachment/Removal	Push on, quick-release
Other	Auxiliary thermocouple port for component temperature monitoring

SYSTEMS

QX2-S-11
115V Convection Rework System

QX2-SBH-11
115V Convection Rework System
with Board Holder

QX2-SBP-11
115V Convection Rework System
with Board Holder & Pre-Heater

QX2-S-21
230V Convection Rework System

QX2-SBH-21
230V Convection Rework System
with Board Holder

QX2-SBP-21
230V Convection Rework System
with Board Holder & Pre-Heater

115V CONVECTION REWORK SYSTEM INCLUDES:

QX2-P-11	Power Supply, 115V
QX2-CT	QX2 Controller
AC-WT	Work Tray
AC-RP	Nozzle Removal Pad
AC-CC1	QX2 Controller Cable
AC-CC2	Pre-Heater Control Cable
AC-VC	Vacuum Cup Kit

230V CONVECTION REWORK SYSTEM INCLUDES:

QX2-P-21	Power Supply 230V
QX2-CT	QX2 Controller
AC-WT	Work Tray
AC-RP	Nozzle Removal Pad
AC-CC1	QX2 Controller Cable
AC-CC2	Pre-Heater Control Cable
AC-VC	Vacuum Cup Kit

ACCESSORIES

AC-BH	Board Holder
AC-BP-11	Board Holder/Pre-Heater Kit 115V
AC-BP-21	Board Holder/Pre-Heater Kit 230V
AC-PH-11	Pre-Heater 115V
AC-PH-21	Pre-Heater 230V
AC-BS	Board Support

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