

DERING, DESOLDERING AND REWORK SYSTEMS







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rtH	eat <sup>®</sup> Technology	0	2
500	Soldering, Desoldering & Rework System	0	4
	Soldering Tip Cartridges	0	7
	Desoldering Tip Cartridges	1	0
	Rework Tip Cartridges	1	1
	Speciality Tip Cartridges	1	4
	Microfine Rework Tip Cartridges	1	5
	Accessories & Spare Parts	1	6
0 9	Soldering System	1	8
10	Self-Contained Desoldering System	2	0
Сс	nvection Rework System	2	2
·11	60 Hot Air Pencil	2	7

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page 0 1

he heater (a copper bar coated with a magnetized iron/nickel alloy) Curie Point), it stops absorbing energy and the temperature becomes



ower supply feeds a steady current to the coil. This creates an electrical r absorbs energy, turns it into heat and transfers it to the iron/nickel rawn heat from the heater to the extent that the tip begins to cool, the nore energy in order to reheat the tip. In this way, SmartHeat<sup>®</sup> selfure to within  $\pm 1.1^{\circ}$ C of a set point regardless of thermal load and ment.

#### eplacement

and remove the unit and remove the tip this process ensures activity, no need for son for two soldering e same time.



#### ute To Lead-Free Hand Soldering

soldering does not necessarily mean that you will have to invest in new xisting process. As SmartHeat's variable power and fixed temperature emperature under a wide variety of thermal loads, the system can easily emperatures demanded by lead-free applications without any need for

#### uired For Easy ISO 9000 Compliance

r soldering with a SmartHeat<sup>®</sup> system, simply record the tip cartridge 's alloy dictates the temperature, calibration is not required. Indeed, or calibration tools, typical of other systems, with which you can adjust his avoids all risk of unauthorized operator intervention. Throughout the ature drift is less than a few degrees. A letter to confirm SmartHeat's vailable on request.











#### t And Simplicity

ce, characteristic of the Metcal hand-piece, improves process precision, lications. The easy-squeeze design of Metcal's Talon® tweezers has been uperior performance, unmatched comfort and optimum control.

#### **MX-500S SMT SOLDERING/REWORK SYSTEM**

20	VAC,	Solder	System
40	VAC,	Solder	System

nable Power Supply with Power Cord\* iece with Cord

val Pad



#### MX-500TS SMT REWORK/TALON® SYSTEM

20 VAC, Solder/Talon <sup>®</sup> System
40 VAC, Solder/Talon <sup>®</sup> System
nable Power Supply with Power Cord*

ece with Co	ď	
iece with Co	rd	
val Pad (2)		



#### TALON<sup>®</sup> UPGRADE KITS

e Kit
ece with Cord
val Pad
with Switchbox for Older STSS Systems
aco with Cord
ece with Cord val Pad Storage Tray
ece with Cord val Pad Storage Tray

rately from all systems. \*220/240 VAC systems do not include power cords.

MX-500
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### dering Tip Cartridges

are for use with the MX and the STSS soldering/rework hand-pieces only. ne 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 throughhole 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).

#### IES X=0 700 SERIES X=1 800 SERIES X=8, WHEN FOLLOWED BY AN \*

MX Tips
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#### **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

IES X=0 700 SERIES X=1 800 SERIES X=8, WHEN FOLLOWED BY AN \*

#### SRTC ROBOTIC TIP CARTRIDGES

ons and MX-RM5E or MX-RM8E handles only. Similar to STTC tip cartridges, Cartridges have a shaft length of 3.15" (80mm) and, therefore, are not E handle.

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

SRTC-X13 Chisel 90° .12″ (3.0mm)



**SRTC-X38** Chisel 30° .06" (1.5mm)

.07" (1.78mm)

SRTC-X37 Chisel 30°

SRTC-X36 Chisel 30°

.10" (2.5mm)



**SRTC-X25** Chisel 30° .04″ (1.0mm)

ES X = 7 800 SERIES X = 8, when followed by AN \*

#### PTTB BONDING TIP CARTRIDGES

plastic bonding applications, these aluminum tips can be used with all

PTTB-501 Bonding Tip



PTTB-503 Bonding Tip

PTTB-502 Bonding Tip



PTTB-504 Bonding Tip











## SMT Rework Jip Cartridges

IT components, SMTC tip cartridges do it all – assembly, removal and includes slot, tunnel and quad tip cartridges. The SMTC range also soldering, blade tips to remove residual solder from pads, and knife tips PLCCs in tight places.

g tip cartridges are for use with the MX-RM3E soldering/rework hands only. They cannot be used with SP systems, Talon<sup>®</sup> hand-pieces or









Α	В	D	Part No.
.090 (2.29)	.050 (1.27)	.070 (1.79)	SMTC-X01
.140 (3.56)	.060 (1.52)	.070 (1.79)	SMTC-X02
.190 (4.83)	.080 (2.03)	.075 (1.91)	SMTC-X03
.135 (3.43)	.080 (2.03)	.120 (3.05)	SMTC-X35
.150 (3.81)	.095 (2.41)	.100 (2.54)	SMTC-X32
.190 (4.83)	.110 (2.79)	.160 (4.06)	SMTC-X36
.250 (6.35)	.095 (2.41)	.130 (3.30)	SMTC-X33*
.300 (7.62)	.100 (2.54)	.140 (3.56)	SMTC-X34*
.068 (1.73)	.100 (2.54)	.050 (1.27)	SMTC-X05
.110 (2.80)	.250 (6.35)	.080 (2.03)	SMTC-X08
.080 (2.03)	.050 (1.27)	.060 (1.52)	SMTC-X88
.070 (1.78)	.040 (1.02)	.040 (1.02)	SMTC-X96

RIES  $\mathbf{X} = \mathbf{0}$ 

700 SERIES X=1 \*=NOT AVAILABLE FOR 500 SERIES













	DIMENS		ES (mm)			
	A	В	B2	D	Part No.	
381	330 (8 38)	330 (8 38)	330 (8 38)	100 (2.54)	SMTC-¥121	
1.18)	.440 (11.18)	.440 (11.18)	.440 (11.18)	.100 (2.54)	SMTC-X121	
1.18)	.480 (12.19)	.480 (12.19)	.520 (13.21)	.110 (2.79)	SMTC-X159	
2.32)	.525 (13.34)	.485 (12.32)	.525 (13.34)	.110 (2.79)	SMTC-X 132	
3.97)	.550 (13.97)	.550 (13.97)	.550 (13.97)	.130 (3.30)	SMTC-X115	
1.48)	.610 (15.49)	.570 (14.48)	.610 (15.49)	.110 (2.79)	SMTC-X118	
5.75)	.620 (15.75)	.860 (21.84)	.860 (21.84)	. <b>130</b> (3.30)	SMTC-X 133	
5.13)	. <b>635</b> (16.13)	.635 (16.13)	. <b>635</b> (16.13)	. <b>130</b> (3.30)	SMTC-X21	
5.51)	. <b>650</b> (16.51)	.885 (22.48)	.885 (22.48)	. <b>130</b> (3.30)	SMTC-X43	
7.15)	.675 (17.15)	<b>.910</b> (23.11)	<b>.910</b> (23.11)	. <b>130</b> (3.30)	SMTC-X15	
).45)	.805 (20.45)	.805 (20.45)	.805 (20.45)	. <b>190</b> (4.83)	SMTC- <b>X</b> 45*	
).45)	<b>.840</b> (21.34)	.805 (20.45)	.840 (21.34)	.075 (1.91)	SMTC-X 122	
5.02)	1.020 (25.91)	<b>.985</b> (25.02)	1.020 (25.91)	. <b>125</b> (3.18)	SMTC- <b>X</b> 86	
5.42)	1.040 (26.42)	1.040 (26.42)	1.040 (26.42)	. <b>130</b> (3.30)	SMTC-X44*	
3.58)	1.770 (44.96)	1.125 (28.58)	1.170 (44.96)	.114 (2.90)	SMTC-X81	
9.59)	1.200 (30.48)	1.165 (29.59)	1.200 (30.48)	. <b>120</b> (3.05)	SMTC-X48	
2.77)	1.330 (33.78)	1.290 (32.77)	1.330 (33.78)	.110 (2.79)	SMTC- <b>X</b> 125	
0.64)	1.650 (41.91)	1.650 (41.91)	1.600 (40.64)	.200 (5.08)	SMTC-X158**	











page 13

#### IES X=1 FOR ALL QUADS USE 700 SERIES TIP CARTRIDGES 00 SERIES \*\*= NOT AVAILABLE FOR 600 SERIES

s require two power supply units and two hand-pieces. A Dual Hand-Piece mended.



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#### SIDE SOCKET)

				Recommended	
Α	В	D	Part No.	Part No.	
360 (9.14)	.360 (9.14)	.115 (2.91)	SMTC-X144	SMTC-1144	
<b>156</b> (11.58)	.556 (14.12)	.120 (3.05)	SMTC-X109	SMTC-1109	
160 (40.64)	1.160 (40.64)	.115 (2.91)	SMTC-X145	SMTC-1145	

#### IES X = 1 FOR ALL QUADS USE 700 SERIES TIP CARTRIDGES

s require two power supply units and two hand-pieces. A Dual Hand-Piece mended.

#### **OTHER SPECIALITY TIP CARTRIDGES**

2.03mm

SMTC-X136\*\*

.425" sq. (10.8mm sq.)

Hot Plate

#### SMTC-X98\*\*

MT Connector 8 Pin

#### MTC-X100

/licro XMT mall Package Co-Axial Tip

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

DO OR 800 SERIES



artridge series is designed for reworking 0201 and 0402 or microfine with the help of a microscope. This series includes tips that can be used omponents from the topside approach or can also be used for multi-lead LCC and QFP components with access problems. Depending on your ps will meet your micro component rework needs.

#### 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.

#### 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.

#### 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.

#### SMTC-X175

Micro-hoof tip designed with a smaller surface area than the minihoof for drag soldering of small/micro leaded components.

#### STTC-X90

Microfine tip designed for soldering and touch-up of micro components such as 0201s and 0402s.

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











#### **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)
Т	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
х	MX-DSL2	DS1 Cartridge Seal
Y	MX-DSB	Desolder Gun Swivel Bushing













#### DESOLDERING MAINTENANCE KIT

МХ-ДМК1	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		
СС	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)		
нн	Hinge Pins (Pack of 4)***		
11	O-Rings (Pack of 2)***		
JJ MX-DSL1	DS1 Chamber Seal (Pack of 2)		
кк	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 A	ND 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

\*220/240 VAC Power Supply does not include power cord.

17

#### Soldering Applications

i's tip cartridges are designed to suit a wide range of soldering applications. operators should select the tip that allows maximum contact with the work u start with a 600 series tip cartridge.

SP200	SOLDER	тір	CARTRIDGES

S <b>C-X17A</b> xtra Large Chisel 21″ (5.3mm)	.02* 11.4mm	SSC-X22A Conical Sharp .02" (0.51mm)
S <b>C-X13A</b> Thisel 90° 13″ (3.3mm)	.07" 9.9mm 1.78mm	<b>SSC-X72A</b> Conical Chisel .07″ (1.78mm)
S <b>C-X46A</b> ong Reach Chisel 12″ (3.0mm)	.04* 9.1mm	<b>SSC-X71A</b> Conical Chisel .04" (1.0mm)
S <b>C-X36A</b> Chisel 30° 10″ (2.5mm)	.51mm .73* .18.5mm	<b>SSC-X54A</b> Sharp Bent 30° .02″ (0.51mm)
S <b>C-X42A</b> ong Reach Chisel 60 07″ (1.78mm)	0 0.51mm	<b>SSC-X26A</b> Sharp Bent 30° .02″ (0.51mm)
S <b>C-X70A</b> ong Chisel 07" (1.78mm)	.07" 1.78mm 556" 14.2mm	<b>SSC-X47A</b> Bevel 60° .07″ (1.78mm)
S <b>C-X37A</b> Chisel 30° 07″ (1.78mm)	.01575"	<b>SSC-X45A</b> Bevel 60° .016″ (0.4mm)
S <b>C-X38A</b> Chisel 30° 06″ (1.5mm)	.05* <sup>1</sup> +	<b>SSC-X67A</b> Drag Soldering Tip (Mini-Hoof)
S <b>C-X25A</b> Chisel 30° 04″ (1.0mm)	02" +	<b>SSC-X61A</b> Drag Soldering Tip (Knife)
S <b>C-X74A</b> Conical Sharp 055″ (1.4mm)	.016" -70" -17.8mm + - - - - - - - - - - - - -	<b>SSC-X39A</b> Drag Soldering Tip (Hoof)
SC-X01A Conical Sharp	.02* 16.25mm	<b>SSC-X73A</b> Drag Soldering Tip

SP200









page

19

(Increased Tinned

Area, .24" 6.1mm)

IES X = 6 700 SERIES X = 7

04″ (1.0mm)

#### ng And Safety Features

Desoldering System has a number of features, which combine to ensure and cost-effective solution available for self-contained desoldering. The witches off the power supply after a 30-minute redundancy period, thus fe and conserving energy.

s are elements that reflect our dedication to operator and process safety. Desoldering System's ESD cable and vacuum line are burn-proof, which injury and prevents damage to expensive process elements. The unit's der collection chamber renders the former glass cartridges obsolete and cess.

Desoldering System's tips are available in two temperature ranges: 600 ne best results, choose a tip with an interior diameter only slightly larger e component to be desoldered.

#### **SP440 DESOLDERING SYSTEM**

System Includes Power Supply With Power Cord\*, Hand-Piece Assembly, Workstand Kit With Sponge, Tip Cleaners And Cartidge Removal Pad

SP440-11	115 VAC Self-Contained Desoldering System
SP440-21	220/240 VAC Self-Contained Desoldering System*

\*220/240 VAC system does not include power cords

#### **ACCESSORIES & SPARE PARTS**

	SP-PW3-11	Power Supply with Power Cord
	SP-PW3-21	Power Supply with Power Cord*
	DP-DSG2	Hand-Piece Assembly
NGE		(handle, cord, vac line, coil assembly)
	DP-WSK2	SP440 Workstand Kit with YS3 Sponge
HES (mm)	DP-SL3	Front Seal for DSG2
	AC-TC-P	Tip Cleaners (Pack of 12)
	AC-CP2	Cartridge Removal Pad
В	DP-CA2	Coil Assembly
	DP-CC	Solder Collection Chamber for DSG2
55 (1.40)	DP-CF	Filter Pack (12 fume filters, 24 chamber liners)
<b>0</b> (1.52)	DP-LF	Filter Pack (5 inline filters)
70 (1.78)	DP-VB1	Valve Body Assembly (clip, valve, ESD vac. hose)
<b>30</b> (2.03)	DP-VL1	Vacuum Line, ESD
90 (2.29)	DP-WSC2	SP440 Cradle
25 (3.18)	AC-YS3-P	Workstand Sponge (Pack of 50)

IES  $\mathbf{X} = \mathbf{7}$ 

\*220/240 VAC system does not include power cords











### QX2









#### ition

ork System's vacuum pick-up gently removes components after reflow. Arcle is stored and displayed as a guide to help operators quickly establish conent placement. The system then automatically turns off the heat to hal shock to adjacent components or to the PCB itself. An integrated also available to prevent the warping of large boards during rework.

e power by adjusting the airflow rate, but to minimize thermal stress, the ins the heater exhaust temperature while maintaining a consistently low accommodate any process change, including the use of new soldering engineer can easily reprogram this set temperature.

#### ework Nozzles

range of nozzles for the QX2 Convection Rework System. For non-standard om nozzle program. Please contact your local Metcal representative for more ozzles.

#### STANDARD NOZZLE RANGE

	DIM	IMENSIONS IN INCHES (mm)		
Part No.	Component Types	Α	В	
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	0.35 (09)	0.83 (21)	
NZ-D2113	Nozzle Dual	0.51 (13)	0.83 (21)	
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)	<b>0.71</b> (18)	<b>0.71</b> (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 120/128/144/1	60) 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)	

#### S

ange of standard nozzles, we also offer a range of box reflow nozzles f shielding cans, connectors and other square components.





#### **BOX REFLOW NOZZLES**

#### INTERNAL DIMENSIONS IN INCHES (mm)

Part No.	Component Types	A	В
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)	<b>1.38</b> (35)
NZ-B40	Nozzle Box	1.57 (40)	1.57 (40)
NZ-B44	Nozzle Box	1.73 (44)	1.73 (44)

QX2









# - 1160 Hot Air Pencil O

#### Air Rework Station

onvection, Metcal's SMT-1160 Hot Air Pencil is designed for those rework low thermal stress, including SMDs and temperature-sensitive ceramic ct system, with variable temperature flow, can also capably remove SMT

cil is equipped with a broad range of features for assured effectiveness n. These include an ESD-safe housing and hand-piece, variable airflow op temperature control, a nitrogen input facility to suit inert soldering d split, fan and fine nozzle options.

cil's capacity for non-contact soldering avoids alignment disruption and

#### 0 HOT AIR PENCIL

encil Hand-Piece, 3 Piece Nozzle Kit I And Variable Temperature Module

ncil	Rework	Station
ncil	Rework	Station

#### ES & SPARE PARTS

land-Piece
vith Nozzle kit
ature Module
25″ (0.64mm)
7″ x 0.030″ (8.8mm x 0.76mm)
65″ (6.7mm)
28″ (10.9mm)
(includes 16812, 16813, 16846)
mbly SHP-1060A
/ SHP-1060A
orkstand Cradle
01″ (2.57mm)

01" (2.57mm) .080" (2.03mm) 0°, .080" (2.03 mm)





1160	









## Metcal Global Locations

ornia, is home to Metcal's corporate headquarters, and the central location for elopment, manufacturing and administration.

is of customers throughout the world, Metcal has sales, service and distribution America, Asia, and Europe. Drawing on its organizational strengths and industry al's distribution network offers seamless, proactive support and access to the nge of products - around the globe.

nics manufacturing facilities are located, Metcal's network of expertly trained re, to supply essential technical support and advanced process solutions.



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